

REGION H

Water Planning Group



2021 REGIONAL WATER PLAN

VOLUME 2

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Region H Water Planning Group

Prepared for:
Texas Water Development Board

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List of Abbreviations

AMI	Automated Metering Infrastructure
AWWA	American Water Works Association
BAWA	Baytown Area Water Authority
BBASC	Basin and Bay Area Stakeholder Committee
BBEST	Basin and Bay Expert Science Team
BEG	Bureau of Economic Geology
BMP	Best Management Practice
BRA	Brazos River Authority
BWA	Brazosport Water Authority
CCI	Construction Cost Index
cfs	cubic feet per second
CHCRWA	Central Harris County Regional Water Authority
CLCND	Chambers-Liberty Counties Navigation District
CLCWA	Clear Lake City Water Authority
COA	Certificate of Adjudication
COH	City of Houston
CRP	Clean Rivers Program
CRU	Collective Reporting Unit
CWA	Coastal Water Authority
CWSRF	Clean Water State Revolving Fund
DCP	Drought Contingency Plan
DFC	Desired Future Condition
DOR	Drought of Record
DWSRF	Drinking Water State Revolving Fund
EPA	Environmental Protection Agency
FBSD	Fort Bend Subsidence District
FSA	Farm Service Agency
FWSD	Fresh Water Supply District
GAM	Groundwater Availability Model
GCD	Groundwater Conservation District
GCWA	Gulf Coast Water Authority
GMA	Groundwater Management Area
gpcd	gallons per-capita daily
GRP	Groundwater Reduction Plan
HGSD	Harris-Galveston Subsidence District
IFR	Infrastructure Finance Report
IPP	Initially Prepared Plan
IWA	International Water Association
IWRP	Integrated Water Resource Plan
iWUD	Integrated Water Utility Database
LAWA	La Porte Area Water Authority
LNVA	Lower Neches Valley Authority
LSGCD	Lone Star Groundwater Conservation District
LVGUs	Large Volume Groundwater Users
MAG	Modeled Available Groundwater
MCL	maximum contaminant level

mgd	million gallons per day
mg/l	milligrams per liter
msl	mean sea level
MUDs	Municipal Utility Districts
MWP	Major Water Provider
NCWA	North Channel Water Authority
NFBWA	North Fort Bend Water Authority
NHCRWA	North Harris County Regional Water Authority
PDSI	Palmer Drought Severity Index
PWS	Public Water Supply
Region G	Brazos G Regional Water Planning Group
Region I	East Texas Water Planning Group
RHWPG	Region H Water Planning Group
RWP	Regional Water Plan
RWPA	Regional Water Planning Area
RWPG	Regional Water Planning Group
SAM-Houston	Small Area Model Houston
SDC	State Data Center
SJRA	San Jacinto River Authority
SWIFT	State Water Implementation Fund for Texas
SWP	State Water Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department
TRA	Trinity River Authority
TTWP	Trans-Texas Water Program
TWC	Texas Water Code
TWDB	Texas Water Development Board
UCM	Unified Costing Model
UHCPP	University of Houston Center for Public Policy
UNESCO	United Nations Educational, Scientific and Cultural Organization
WAM	Water Availability Model
WCP	Water Conservation Plan
WHCRWA	West Harris County Regional Water Authority
WIF	Water Infrastructure Fund
WMS	Water Management Strategy
WRAP	Water Resources Analysis Package
WUD	Water Utility Database
WUG	Water User Group
WWP	Wholesale Water Provider

Water Measurements

Acre-foot (ac-ft) = 43,560 cubic feet = 325,851 gallons

Acre-foot per year (ac-ft/yr) = 325,851 gallons per year = 893 gallons per day

Gallon per minute (gpm) = 1,440 gallons per day = 1.6 ac-ft/yr

Million gallons per day (mgd) = 1,000,000 gallons per day = 1,120 ac-ft/yr

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APPENDIX DB

DB22 REPORTS

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NOTE ON DB22 REPORTS

The following reports will be blank due to an absence of relevant data in Region H:

- Region H Alternative Projects Associated with Water Management Strategies

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Region H Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
AUSTIN COUNTY WSC	1,570	1,819	2,087	2,401	2,745	3,127
BELLVILLE	4,062	4,366	4,694	5,079	5,500	5,969
SEALY	6,740	7,576	8,474	9,526	10,681	11,962
WEST END WSC*	1,646	1,877	2,090	2,316	2,550	2,793
COUNTY-OTHER	13,646	16,392	19,366	22,873	26,736	31,037
BRAZOS BASIN TOTAL	27,664	32,030	36,711	42,195	48,212	54,888
AUSTIN COUNTY WSC	128	148	170	196	224	255
SEALY	14	16	18	20	22	25
WALLIS	1,329	1,416	1,510	1,620	1,740	1,874
COUNTY-OTHER	3,556	4,271	5,047	5,961	6,967	8,088
BRAZOS-COLORADO BASIN TOTAL	5,027	5,851	6,745	7,797	8,953	10,242
WEST END WSC*	189	215	240	266	293	321
COUNTY-OTHER	134	161	190	225	263	305
COLORADO BASIN TOTAL	323	376	430	491	556	626
AUSTIN COUNTY TOTAL	33,014	38,257	43,886	50,483	57,721	65,756
BRAZORIA	677	697	713	726	738	748
FREEPORT	1,336	1,417	1,491	1,560	1,627	1,693
LAKE JACKSON	179	184	190	196	202	209
VARNER CREEK UD	1,509	1,512	1,514	1,516	1,517	1,518
WEST COLUMBIA	3,341	3,355	3,372	3,393	3,415	3,440
COUNTY-OTHER	6,369	7,399	8,932	10,458	12,021	13,669
BRAZOS BASIN TOTAL	13,411	14,564	16,212	17,849	19,520	21,277
BRAZORIA	2,444	2,515	2,572	2,621	2,662	2,700
FREEPORT	6	6	7	7	7	8
SWEENEY	3,601	3,613	3,627	3,643	3,660	3,679
WEST COLUMBIA	606	609	612	615	619	624
COUNTY-OTHER	24,800	29,991	34,767	39,355	43,939	48,667
BRAZOS-COLORADO BASIN TOTAL	31,457	36,734	41,585	46,241	50,887	55,678
ALVIN	26,830	28,832	31,157	34,065	37,803	42,709
ANGLETON	18,628	18,769	18,900	19,037	19,180	19,333
BRAZORIA COUNTY MUD 2	4,051	4,051	4,053	4,056	4,059	4,062
BRAZORIA COUNTY MUD 21	4,371	4,560	4,915	5,270	5,625	5,858
BRAZORIA COUNTY MUD 25	4,255	4,863	5,484	6,143	6,873	7,667
BRAZORIA COUNTY MUD 29	4,439	7,241	9,784	9,784	9,784	9,784
BRAZORIA COUNTY MUD 3	4,231	4,238	4,306	4,373	4,440	4,530
BRAZORIA COUNTY MUD 31	1,553	1,770	2,093	2,382	2,648	2,813
BRAZORIA COUNTY MUD 6	5,881	5,881	5,901	5,922	5,944	5,972
CLUTE	11,508	11,900	12,328	12,782	13,267	13,787
DANBURY	1,722	1,722	1,722	1,723	1,723	1,724
FREEPORT	11,904	12,628	13,284	13,899	14,493	15,084
HILLCREST VILLAGE	743	744	746	747	749	750
LAKE JACKSON	26,769	27,541	28,361	29,254	30,225	31,284
MANVEL	913	1,490	2,013	2,603	3,295	4,152
OYSTER CREEK	1,170	1,193	1,222	1,258	1,302	1,355
PEARLAND	108,826	115,751	124,750	134,516	145,261	155,560
QUADVEST	676	889	1,140	1,437	1,798	2,185
RICHWOOD	3,785	3,941	4,097	4,264	4,444	4,636
SEDONA LAKES MUD 1	1,148	1,312	1,481	1,658	1,853	2,068

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

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	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
SURFSIDE BEACH	723	826	826	826	826	826
TDCJ RAMSEY AREA	1,863	1,863	1,863	1,863	1,863	1,863
COUNTY-OTHER	69,078	98,084	125,663	157,744	193,506	233,611
SAN JACINTO-BRAZOS BASIN TOTAL	315,067	360,089	406,089	455,606	510,961	571,613
BRAZORIA COUNTY TOTAL	359,935	411,387	463,886	519,696	581,368	648,568
ANAHUAC	1,938	1,964	1,992	2,021	2,052	2,086
TRINITY BAY CONSERVATION DISTRICT	9,353	11,212	13,135	15,204	17,418	19,743
COUNTY-OTHER	1,074	1,289	1,512	1,752	2,009	2,278
NECHES-TRINITY BASIN TOTAL	12,365	14,465	16,639	18,977	21,479	24,107
ANAHUAC	452	458	464	471	479	486
MONT BELVIEU	4,763	6,090	7,462	8,941	10,521	12,181
TRINITY BAY CONSERVATION DISTRICT	2,442	2,928	3,429	3,970	4,548	5,155
COUNTY-OTHER	9,257	11,114	13,036	15,102	17,311	19,633
TRINITY BASIN TOTAL	16,914	20,590	24,391	28,484	32,859	37,455
BAYTOWN	4,857	5,746	6,664	7,653	8,711	9,822
CHAMBERS COUNTY MUD 1	3,197	3,832	4,489	5,197	5,954	6,748
MONT BELVIEU	1,431	1,830	2,242	2,686	3,161	3,660
COUNTY-OTHER	3,398	4,080	4,785	5,544	6,355	7,207
TRINITY-SAN JACINTO BASIN TOTAL	12,883	15,488	18,180	21,080	24,181	27,437
CHAMBERS COUNTY TOTAL	42,162	50,543	59,210	68,541	78,519	88,999
FIRST COLONY MUD 9	2,391	2,550	2,550	2,550	2,550	2,550
FORT BEND COUNTY FWSD 2	2,515	3,122	3,590	4,054	4,516	5,004
FORT BEND COUNTY MUD 115	1,237	1,374	1,374	1,374	1,374	1,374
FORT BEND COUNTY MUD 116	3,965	4,500	5,287	5,902	6,518	7,132
FORT BEND COUNTY MUD 121	3,762	3,762	3,762	3,762	3,762	3,762
FORT BEND COUNTY MUD 128	4,302	4,302	4,302	4,302	4,302	4,302
FORT BEND COUNTY MUD 129	4,671	4,671	4,671	4,671	4,671	4,671
FORT BEND COUNTY MUD 140	3,000	3,000	3,000	3,000	3,000	3,000
FORT BEND COUNTY MUD 149	1,969	2,447	2,814	2,814	2,814	2,814
FORT BEND COUNTY MUD 152	769	955	1,098	1,098	1,098	1,098
FORT BEND COUNTY MUD 155	2,366	2,938	3,379	3,379	3,379	3,379
FORT BEND COUNTY MUD 158	1,242	1,542	1,773	1,773	1,773	1,773
FORT BEND COUNTY MUD 162	2,740	3,402	3,912	3,912	3,912	3,912
FORT BEND COUNTY MUD 187	3,632	3,632	3,632	3,632	3,632	3,632
FORT BEND COUNTY MUD 25	1,499	1,513	1,537	1,564	1,593	1,622
FORT BEND COUNTY MUD 46	278	341	402	402	402	402
FORT BEND COUNTY MUD 5	3,333	4,084	4,084	4,084	4,084	4,084
FORT BEND COUNTY MUD 81	2,509	2,671	2,889	3,108	3,326	3,545
FORT BEND COUNTY WCID 3	823	1,022	1,022	1,022	1,022	1,022
FULSHEAR	2,374	5,685	5,859	5,859	5,859	5,859
NEEDVILLE	1,290	1,307	1,329	1,362	1,412	1,486
NORTH FORT BEND WATER AUTHORITY	10,027	13,892	16,915	18,669	19,604	20,081
PECAN GROVE MUD 1	12,977	13,006	13,057	13,101	13,139	13,172
PLANTATION MUD	4,084	4,084	4,084	4,084	4,084	4,084
QUADVEST	1,666	2,191	2,811	3,543	4,433	5,386
RICHMOND	12,916	13,426	14,072	14,973	15,870	16,762
ROSENBERG	40,381	42,557	44,925	47,374	50,223	53,650

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	2020	2030	2040	2050	2060	2070
ROYAL VALLEY UTILITIES	2,046	2,539	2,919	2,919	2,919	2,919
SIENNA PLANTATION	5,853	7,486	10,189	12,893	15,596	18,091
SUGAR LAND	86,394	91,956	97,830	103,920	109,231	112,718
TDCJ JESTER UNITS	1,476	1,476	1,476	1,476	1,476	1,476
COUNTY-OTHER	68,293	126,660	133,611	172,796	232,171	306,653
BRAZOS BASIN TOTAL	296,780	378,093	404,155	459,372	533,745	621,415
KENDLETON	573	711	817	923	1,028	1,139
NEEDVILLE	1,557	1,578	1,604	1,645	1,705	1,794
ROSENBERG	3	3	3	4	4	4
COUNTY-OTHER	10,723	17,726	30,228	48,544	75,384	114,718
BRAZOS-COLORADO BASIN TOTAL	12,856	20,018	32,652	51,116	78,121	117,655
BLUE RIDGE WEST MUD	8,345	8,345	8,345	8,345	8,345	8,345
FORT BEND COUNTY WCID 2	8,698	10,800	12,419	14,023	15,619	17,310
FULSHEAR	699	1,429	2,160	2,160	2,160	2,160
HOUSTON	24,710	26,192	27,387	28,445	29,308	29,964
KATY	6,914	16,062	16,150	16,219	16,273	16,316
MEADOWS PLACE	4,323	4,408	4,497	4,587	4,678	4,771
NORTH FORT BEND WATER AUTHORITY	145,165	201,118	244,893	270,279	283,810	290,715
SUGAR LAND	3,980	3,982	3,983	3,985	3,986	3,988
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	10,966	11,238	11,293	11,356	11,448	11,545
COUNTY-OTHER	2,447	2,455	2,407	2,041	1,408	945
SAN JACINTO BASIN TOTAL	216,247	286,029	333,534	361,440	377,035	386,059
BLUE RIDGE WEST MUD	732	732	732	732	732	732
FIRST COLONY MUD 9	7,641	8,150	8,150	8,150	8,150	8,150
FORT BEND COUNTY FWSD 1	1,184	1,470	1,691	1,909	2,127	2,357
FORT BEND COUNTY MUD 115	653	725	725	725	725	725
FORT BEND COUNTY MUD 23	11,709	12,481	12,902	13,323	13,744	14,164
FORT BEND COUNTY MUD 24	1,447	1,797	2,066	2,066	2,066	2,066
FORT BEND COUNTY MUD 25	10,455	10,555	10,717	10,910	11,108	11,309
FORT BEND COUNTY MUD 26	5,276	6,460	7,626	7,626	7,626	7,626
FORT BEND COUNTY MUD 42	4,530	5,547	5,547	5,547	5,547	5,547
FORT BEND COUNTY MUD 46	1,929	2,363	2,789	2,789	2,789	2,789
FORT BEND COUNTY MUD 47	1,417	1,735	2,048	2,048	2,048	2,048
FORT BEND COUNTY MUD 48	3,493	3,493	3,493	3,493	3,493	3,493
FORT BEND COUNTY MUD 49	1,354	1,657	1,657	1,657	1,657	1,657
FORT BEND COUNTY WCID 2	34,914	43,352	49,852	56,289	62,697	69,481
FORT BEND COUNTY WCID 3	89	110	110	110	110	110
FULSHEAR	13,238	17,440	17,709	17,709	17,709	17,709
HOUSTON	15,919	16,874	17,643	18,326	18,882	19,303
MEADOWCREEK MUD	2,882	3,529	3,529	3,529	3,529	3,529
MEADOWS PLACE	384	392	399	407	415	424
MISSOURI CITY	2,741	3,403	3,913	4,419	4,921	5,454
NORTH FORT BEND WATER AUTHORITY	118,397	164,033	199,735	220,440	231,476	237,108
PALMER PLANTATION MUD 1	2,179	2,667	2,667	2,667	2,667	2,667
PALMER PLANTATION MUD 2	2,956	2,956	2,956	2,956	2,956	2,956
PEARLAND	3,811	4,097	5,072	6,047	7,026	8,163
PECAN GROVE MUD 1	101	101	102	102	102	103
QUAIL VALLEY UD	14,534	17,795	21,007	21,007	21,007	21,007

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	2020	2030	2040	2050	2060	2070
SIENNA PLANTATION	15,890	20,323	27,663	35,001	42,342	49,113
SUGAR LAND	41,724	46,298	47,395	48,125	48,528	48,967
TDCJ JESTER UNITS	2,199	2,199	2,199	2,199	2,199	2,199
THUNDERBIRD UD	6,681	8,180	8,180	8,180	8,180	8,180
COUNTY-OTHER	25,624	69	18,692	41,517	58,323	70,899
SAN JACINTO-BRAZOS BASIN TOTAL	356,083	410,983	488,966	550,005	594,881	630,035
FORT BEND COUNTY TOTAL	881,966	1,095,123	1,259,307	1,421,933	1,583,782	1,755,164
BOLIVAR PENINSULA SUD	2,943	3,480	4,118	4,875	5,771	6,835
COUNTY-OTHER	38	50	66	86	110	138
NECHES-TRINITY BASIN TOTAL	2,981	3,530	4,184	4,961	5,881	6,973
BACLIFF MUD	7,310	7,416	7,524	7,633	7,742	7,850
BAYVIEW MUD	1,727	1,896	2,030	2,149	2,247	2,338
FRIENDSWOOD	31,628	33,525	35,685	38,039	40,622	43,474
GALVESTON	51,260	54,643	57,846	60,955	63,941	67,085
GALVESTON COUNTY FWSD 6	1,800	1,813	1,828	1,841	1,847	1,855
GALVESTON COUNTY MUD 12	2,273	2,278	2,282	2,285	2,288	2,290
GALVESTON COUNTY WCID 1	26,675	30,240	33,805	37,370	40,935	44,500
GALVESTON COUNTY WCID 12	8,229	10,263	10,562	10,801	10,996	11,159
GALVESTON COUNTY WCID 8	5,718	5,888	6,098	6,313	6,529	6,750
HITCHCOCK	8,451	10,036	11,048	11,839	12,467	12,971
JAMAICA BEACH	987	996	1,005	1,015	1,028	1,042
LA MARQUE	21,572	23,566	24,058	24,467	24,813	25,115
LEAGUE CITY	106,553	120,036	130,484	139,048	143,972	147,342
SAN LEON MUD	5,627	6,153	6,560	6,966	7,371	7,778
TEXAS CITY	51,383	56,490	60,731	64,391	67,626	70,558
COUNTY-OTHER	9,396	8,604	8,090	7,474	6,821	6,113
SAN JACINTO-BRAZOS BASIN TOTAL	340,589	373,843	399,636	422,586	441,245	458,220
GALVESTON COUNTY TOTAL	343,570	377,373	403,820	427,547	447,126	465,193
BAKER ROAD MUD	1,108	1,190	1,190	1,190	1,190	1,190
BAYTOWN	3,125	3,173	3,227	3,282	3,338	3,394
BELLAIRE	18,921	20,564	22,361	24,315	26,448	28,776
BLUE BELL MANOR UTILITY	2,778	2,877	3,041	3,218	3,401	3,559
BUNKER HILL VILLAGE	3,890	4,198	4,532	4,893	5,282	5,702
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	56,617	61,872	65,549	68,972	72,130	75,453
CHIMNEY HILL MUD	5,366	5,449	5,523	5,606	5,697	5,797
CROSBY MUD	2,969	3,158	3,220	3,282	3,344	3,408
DEER PARK	10,502	11,106	11,569	12,078	12,475	12,855
DOUGLAS UTILITY	2,565	2,581	2,597	2,615	2,633	2,653
EL DORADO UD	4,377	4,569	4,768	4,965	5,042	5,042
FOREST HILLS MUD	3,274	3,519	3,740	3,740	3,740	3,740
FORT BEND COUNTY WCID 2	1,957	2,430	2,795	3,155	3,515	3,895
GALENA PARK	10,887	11,092	11,303	11,520	11,742	11,969
GREEN TRAILS MUD	2,070	2,080	2,100	2,116	2,127	2,135
GREENWOOD UD	4,630	5,324	5,389	5,456	5,522	5,591
HARRIS COUNTY FWSD 58	1,868	2,007	2,133	2,253	2,371	2,489
HARRIS COUNTY MUD 106	5,110	5,187	5,392	5,539	5,648	5,729
HARRIS COUNTY MUD 11	3,206	3,296	3,414	3,541	3,677	3,823

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	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 119	7,484	7,727	8,013	8,321	8,534	8,723
HARRIS COUNTY MUD 122	1,400	1,714	2,023	2,023	2,023	2,023
HARRIS COUNTY MUD 132	5,944	6,031	6,083	6,120	6,147	6,169
HARRIS COUNTY MUD 148	4,548	4,792	4,834	4,878	4,923	4,970
HARRIS COUNTY MUD 151	6,472	6,538	6,592	6,632	6,661	6,683
HARRIS COUNTY MUD 152	8,031	8,234	8,528	8,756	8,926	9,053
HARRIS COUNTY MUD 153	7,702	7,707	7,731	7,748	7,762	7,771
HARRIS COUNTY MUD 154	8,182	8,274	8,491	8,723	8,972	9,239
HARRIS COUNTY MUD 158	6,376	6,376	6,376	6,376	6,376	6,376
HARRIS COUNTY MUD 180	6,092	6,608	7,000	7,067	7,067	7,067
HARRIS COUNTY MUD 189	3,982	4,224	4,383	4,552	4,729	4,916
HARRIS COUNTY MUD 216	1,074	1,154	1,154	1,154	1,154	1,154
HARRIS COUNTY MUD 221	4,559	4,959	5,145	5,322	5,495	5,666
HARRIS COUNTY MUD 23	4,891	5,256	5,256	5,256	5,256	5,256
HARRIS COUNTY MUD 278	12,191	16,255	16,255	16,255	16,255	16,255
HARRIS COUNTY MUD 290	5,770	6,029	6,305	6,511	6,662	6,776
HARRIS COUNTY MUD 321	1,500	1,991	2,151	2,308	2,308	2,308
HARRIS COUNTY MUD 342	3,874	4,184	4,490	4,490	4,490	4,490
HARRIS COUNTY MUD 344	3,826	4,474	4,474	4,474	4,474	4,474
HARRIS COUNTY MUD 345	3,981	3,981	3,981	3,981	3,981	3,981
HARRIS COUNTY MUD 36	1,581	1,708	1,708	1,708	1,708	1,708
HARRIS COUNTY MUD 361	3,218	3,476	3,476	3,476	3,476	3,476
HARRIS COUNTY MUD 372	4,155	4,155	4,155	4,155	4,155	4,155
HARRIS COUNTY MUD 400	7,646	8,227	8,692	9,093	9,314	9,414
HARRIS COUNTY MUD 412	2,606	2,800	2,975	3,143	3,306	3,471
HARRIS COUNTY MUD 420	1,563	1,679	1,784	1,784	1,784	1,784
HARRIS COUNTY MUD 46	3,743	3,751	3,753	3,755	3,756	3,757
HARRIS COUNTY MUD 49	6,952	7,234	7,445	7,609	7,738	7,842
HARRIS COUNTY MUD 5	6,281	6,600	7,024	7,478	7,966	8,490
HARRIS COUNTY MUD 50	3,165	3,197	3,264	3,311	3,321	3,333
HARRIS COUNTY MUD 58	2,224	2,389	2,540	2,540	2,540	2,540
HARRIS COUNTY MUD 6	4,345	4,668	4,668	4,668	4,668	4,668
HARRIS COUNTY MUD 8	4,617	4,618	4,619	4,620	4,620	4,622
HARRIS COUNTY MUD 96	6,783	7,033	7,497	8,045	8,570	8,959
HARRIS COUNTY UD 14	3,228	3,534	3,845	4,209	4,657	5,342
HARRIS COUNTY UD 15	3,603	3,926	4,364	4,364	4,364	4,364
HARRIS COUNTY WCID 1	7,030	7,220	7,454	7,689	7,926	8,162
HARRIS COUNTY WCID 133	5,455	5,507	5,752	6,205	6,694	7,220
HARRIS COUNTY WCID 70	1,536	1,650	1,650	1,650	1,650	1,650
HARRIS COUNTY WCID 74	5,500	5,500	5,500	5,500	5,500	5,500
HARRIS COUNTY WCID 96	8,957	8,957	8,957	8,957	8,957	8,957
HARRIS COUNTY WCID-FONDREN ROAD	3,703	4,534	5,352	5,352	5,352	5,352
HILSHIRE VILLAGE	749	791	857	951	1,051	1,160
HMW SUD	3,053	3,666	4,340	5,124	5,124	5,124
HOUSTON	2,081,348	2,249,878	2,413,878	2,579,688	2,749,185	2,927,448
HUMBLE	17,428	21,152	23,856	25,864	27,358	28,472
JACINTO CITY	10,527	10,829	11,143	11,463	11,793	12,134
JERSEY VILLAGE	7,959	8,028	8,179	8,344	8,525	8,724

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Region H Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
KATY	13,348	14,044	14,569	15,031	15,451	15,844
KINGS MANOR MUD	1,308	1,308	1,308	1,308	1,308	1,308
LA PORTE	2,225	2,274	2,308	2,362	2,394	2,425
LAKE MUD	259	278	278	278	278	278
LONGHORN TOWN UD	1,574	1,574	1,574	1,574	1,574	1,574
LUCE BAYOU PUD	781	839	891	891	891	891
MASON CREEK UD	7,547	7,547	7,547	7,547	7,547	7,547
MEMORIAL VILLAGES WATER AUTHORITY	10,219	11,083	12,024	13,047	14,156	15,363
MORGANS POINT	63	68	73	77	81	85
MOUNT HOUSTON ROAD MUD	6,340	7,809	8,865	9,651	10,238	10,669
NEWPORT MUD	9,468	9,785	10,031	10,277	10,523	10,770
NORTH BELT UD	2,705	2,722	2,793	2,870	2,954	3,043
NORTH CHANNEL WATER AUTHORITY	82,325	84,754	86,982	89,192	91,386	93,191
NORTH FOREST MUD	1,500	1,527	1,527	1,527	1,527	1,527
NORTH FORT BEND WATER AUTHORITY	8,522	8,572	8,613	8,654	8,695	8,735
NORTH GREEN MUD	4,239	4,296	4,353	4,415	4,477	4,534
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	726,235	775,561	815,947	850,281	880,552	908,198
NORTHWEST HARRIS COUNTY MUD 16	3,566	3,831	3,831	3,831	3,831	3,831
PARKWAY MUD	5,970	6,282	6,328	6,375	6,421	6,468
PASADENA	114,138	117,664	120,836	124,327	127,614	131,008
PINE VILLAGE PUD	2,286	2,455	2,610	2,756	2,900	3,045
PINEWOOD COMMUNITY	1,201	1,290	1,290	1,290	1,290	1,290
QUADVEST	772	1,015	1,302	1,641	2,053	2,495
ROLLING FORK PUD	2,625	2,625	2,625	2,625	2,625	2,625
SEQUOIA IMPROVEMENT DISTRICT	1,026	1,102	1,172	1,172	1,172	1,172
SOUTH HOUSTON	16,774	17,346	17,937	18,551	19,186	19,841
SOUTHERN WATER	4,366	4,690	4,690	4,690	4,690	4,690
SOUTHSIDE PLACE	2,251	2,251	2,251	2,251	2,323	2,500
SOUTHWEST HARRIS COUNTY MUD 1	1,934	2,368	2,368	2,368	2,368	2,368
SPRING VALLEY	3,870	4,202	4,541	4,885	5,258	5,660
SUBURBAN UTILITY	3,470	3,470	3,470	3,470	3,470	3,470
SUNBELT FWSD	27,671	29,105	30,496	32,092	33,934	35,955
THE COMMONS WATER SUPPLY	3,346	3,528	3,674	3,783	3,864	3,922
THE WOODLANDS	16,144	17,484	19,174	20,436	21,378	22,083
TOMBALL	12,742	13,457	14,110	14,677	15,182	15,644
TRAIL OF THE LAKES MUD	9,058	9,453	9,578	9,671	9,740	9,791
WALLER	479	493	514	541	575	618
WEST HARRIS COUNTY MUD 6	2,719	2,943	3,079	3,181	3,257	3,313
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	552,002	579,386	619,208	659,758	673,791	686,030
WEST UNIVERSITY PLACE	15,189	16,357	17,629	19,000	20,478	22,074
WOODCREEK MUD	3,191	3,210	3,239	3,267	3,300	3,334
COUNTY-OTHER	102,202	132,483	142,175	146,571	173,169	198,044
SAN JACINTO BASIN TOTAL	4,259,704	4,581,418	4,869,645	5,145,619	5,414,476	5,685,631
BAYBROOK MUD 1	870	911	1,019	1,099	1,171	1,245
CLEAR BROOK CITY MUD	18,726	19,140	21,491	23,082	24,365	25,572
CLEAR LAKE CITY WATER AUTHORITY	70,552	72,792	78,070	82,541	86,841	91,177
DEER PARK	22,427	23,716	24,707	25,791	26,640	27,453
FRIENDSWOOD	11,473	13,988	15,621	17,458	19,075	20,868

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Region H Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 55	13,959	14,955	15,697	16,785	18,055	19,802
HARRIS COUNTY WCID 156	1,336	1,450	1,541	1,644	1,730	1,816
HARRIS COUNTY WCID 50	2,941	2,990	3,003	3,045	3,058	3,071
HARRIS COUNTY WCID 89	6,116	6,239	6,287	6,411	6,448	6,484
HOUSTON	77,275	83,532	89,621	95,777	102,070	108,688
KIRKMONT MUD	2,241	2,483	2,689	2,936	3,173	3,429
LA PORTE	31,478	32,175	32,655	33,423	33,867	34,304
LEAGUE CITY	2,855	3,265	3,500	3,713	3,841	3,936
MORGANS POINT	378	411	436	464	489	513
NASSAU BAY	3,977	4,075	4,127	4,222	4,276	4,331
PASADENA	33,600	34,638	35,572	36,599	37,567	38,566
PEARLAND	15,113	19,037	22,958	26,112	28,286	29,900
SAGEMEADOW UD	6,264	6,776	7,339	7,971	8,530	9,100
SEABROOK	12,358	12,687	12,914	13,279	13,517	13,759
SHOREACRES	1,466	1,493	1,515	1,553	1,576	1,599
WEBSTER	14,756	16,010	16,892	17,759	18,312	18,755
COUNTY-OTHER	1,887	3,047	2,859	317	1,737	3,083
SAN JACINTO-BRAZOS BASIN TOTAL	352,048	375,810	400,513	421,981	444,624	467,451
BAYTOWN	67,572	68,609	69,781	70,970	72,175	73,396
COUNTRY TERRACE WATER	1,612	1,732	1,841	1,944	2,045	2,147
HARRIS COUNTY FWSD 1-A	1,639	1,761	1,871	1,976	2,080	2,183
HARRIS COUNTY FWSD 27	2,251	2,419	2,571	2,715	2,857	2,999
HARRIS COUNTY WCID 1	322	328	346	363	379	395
HOUSTON	236	255	274	293	312	332
LAKE MUD	3,536	3,798	3,798	3,798	3,798	3,798
SPRING MEADOWS MUD	3,823	4,107	4,107	4,107	4,107	4,107
COUNTY-OTHER	15,127	17,907	21,352	24,476	27,215	29,907
TRINITY-SAN JACINTO BASIN TOTAL	96,118	100,916	105,941	110,642	114,968	119,264
HARRIS COUNTY TOTAL	4,707,870	5,058,144	5,376,099	5,678,242	5,974,068	6,272,346
CONCORD-ROBBINS WSC	3,579	3,734	3,858	4,031	4,179	4,322
HILLTOP LAKES WSC	1,298	1,392	1,468	1,573	1,664	1,752
JEWETT	449	534	603	697	779	858
NORMANGEE	165	177	186	200	211	223
SOUTHEAST WSC	29	31	33	35	37	39
COUNTY-OTHER	492	488	483	474	468	464
BRAZOS BASIN TOTAL	6,012	6,356	6,631	7,010	7,338	7,658
BUFFALO	1,970	2,020	2,059	2,113	2,161	2,207
CENTERVILLE	1,089	1,169	1,232	1,320	1,397	1,471
CONCORD-ROBBINS WSC	990	1,031	1,067	1,113	1,154	1,196
FLO COMMUNITY WSC*	2,625	3,115	3,616	4,122	4,634	5,149
JEWETT	1,242	1,477	1,667	1,928	2,153	2,374
NORMANGEE	496	532	561	601	636	669
SOUTHEAST WSC	2,025	2,172	2,290	2,454	2,595	2,733
COUNTY-OTHER	1,762	1,664	1,480	1,410	1,272	1,125
TRINITY BASIN TOTAL	12,199	13,180	13,972	15,061	16,002	16,924
LEON COUNTY TOTAL	18,211	19,536	20,603	22,071	23,340	24,582
DAISETTA	396	446	494	541	587	631
DEVERS	17	19	21	23	25	27

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Region H Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
HARDIN WSC	263	329	392	456	516	574
LIBERTY COUNTY FWSD 1 HULL	679	764	845	928	1,006	1,081
WEST HARDIN WSC*	312	345	376	409	439	468
COUNTY-OTHER	243	264	284	303	321	337
NECHES BASIN TOTAL	1,910	2,167	2,412	2,660	2,894	3,118
COUNTY-OTHER	110	120	129	137	145	152
NECHES-TRINITY BASIN TOTAL	110	120	129	137	145	152
CLEVELAND	7,730	7,851	7,966	8,081	8,191	8,297
MERCY WSC	219	241	258	278	294	308
SOUTH CLEVELAND WSC	2,524	2,844	3,148	3,453	3,745	4,024
T & W WATER SERVICE	776	980	1,206	1,472	1,796	2,182
TARKINGTON SUD	3,071	3,608	4,118	4,630	5,121	5,589
COUNTY-OTHER	10,649	11,582	12,445	13,294	14,064	14,751
SAN JACINTO BASIN TOTAL	24,969	27,106	29,141	31,208	33,211	35,151
DAISETTA	707	796	881	967	1,048	1,126
DAYTON	10,726	13,928	16,976	20,032	22,957	25,753
DEVERS	756	852	944	1,035	1,122	1,205
HARDIN WSC	4,713	5,902	7,034	8,168	9,256	10,294
LAKE LIVINGSTON WSC*	1,330	1,495	1,659	1,833	2,017	2,209
LIBERTY	9,270	10,008	10,711	11,416	12,090	12,734
LIBERTY COUNTY FWSD 1 HULL	27	30	34	37	40	43
T & W WATER SERVICE	652	823	1,013	1,236	1,509	1,833
TARKINGTON SUD	917	1,077	1,230	1,383	1,529	1,669
WOODCREEK WATER OF LIBERTY	2,888	3,195	3,503	3,797	4,091	4,385
COUNTY-OTHER	24,205	26,324	28,288	30,219	31,967	33,529
TRINITY BASIN TOTAL	56,191	64,430	72,273	80,123	87,626	94,780
DAYTON	33	43	52	62	71	79
COUNTY-OTHER	3,090	3,361	3,611	3,858	4,081	4,280
TRINITY-SAN JACINTO BASIN TOTAL	3,123	3,404	3,663	3,920	4,152	4,359
LIBERTY COUNTY TOTAL	86,303	97,227	107,618	118,048	128,028	137,560
MADISON COUNTY WSC	45	48	51	55	58	61
NORTH ZULCH MUD	117	125	133	142	150	158
COUNTY-OTHER	971	1,041	1,105	1,176	1,243	1,308
BRAZOS BASIN TOTAL	1,133	1,214	1,289	1,373	1,451	1,527
MADISON COUNTY WSC	1,063	1,142	1,211	1,289	1,362	1,433
MADISONVILLE	4,915	5,269	5,592	5,953	6,292	6,621
NORMANGEE	83	88	94	100	106	111
NORTH ZULCH MUD	1,339	1,435	1,523	1,621	1,714	1,803
COUNTY-OTHER	6,220	6,669	7,077	7,536	7,961	8,382
TRINITY BASIN TOTAL	13,620	14,603	15,497	16,499	17,435	18,350
MADISON COUNTY TOTAL	14,753	15,817	16,786	17,872	18,886	19,877
CHATEAU WOODS MUD	2,370	3,062	3,062	3,062	3,062	3,062
CLEVELAND	30	36	51	69	91	119
CONROE	74,960	89,956	103,366	115,733	128,981	143,164
CORINTHIAN POINT MUD 2	860	1,111	1,396	1,396	1,396	1,396
CUT & SHOOT	4,145	4,493	5,268	6,292	7,649	9,442
DOBBIN PLANTERSVILLE WSC*	8,335	11,255	15,183	20,335	27,097	35,974
DOMESTIC WATER	1,807	2,335	2,934	2,934	2,934	2,934

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	2020	2030	2040	2050	2060	2070
EAST PLANTATION UD	1,354	1,393	1,639	1,885	2,173	2,248
FAR HILLS UD	1,344	1,735	2,181	2,181	2,181	2,181
GULF UTILITY	4,695	4,695	4,695	4,695	4,695	4,695
HARRIS-MONTGOMERY COUNTIES MUD 386	3,083	3,083	3,083	3,083	3,083	3,083
HMW SUD	6,510	7,817	9,253	10,925	10,925	10,925
HOUSTON	4,727	6,774	9,061	11,272	13,419	14,043
JOHNSTON WATER UTILITY	1,860	2,403	3,019	3,756	4,668	5,765
KINGS MANOR MUD	2,790	2,790	2,790	2,790	2,790	2,790
LAKE BONANZA WSC	2,165	2,797	3,515	4,372	5,435	6,711
LAKE CONROE HILLS MUD	1,958	2,530	3,179	3,955	4,916	6,070
LAZY RIVER IMPROVEMENT DISTRICT	922	1,192	1,497	1,497	1,497	1,497
MAGNOLIA	4,821	5,789	7,056	8,912	11,632	15,853
MONTGOMERY	2,676	4,985	6,185	7,393	8,625	10,565
MONTGOMERY COUNTY MUD 112	1,150	1,486	1,486	1,486	1,486	1,486
MONTGOMERY COUNTY MUD 115	1,188	1,535	1,928	1,928	1,928	1,928
MONTGOMERY COUNTY MUD 119	2,886	3,727	4,683	4,683	4,683	4,683
MONTGOMERY COUNTY MUD 15	3,792	4,082	4,708	5,534	6,747	8,466
MONTGOMERY COUNTY MUD 18	6,350	8,204	9,327	10,450	11,573	14,296
MONTGOMERY COUNTY MUD 19	3,142	3,162	3,184	3,209	3,238	3,267
MONTGOMERY COUNTY MUD 56	1,447	1,870	2,350	2,350	2,350	2,350
MONTGOMERY COUNTY MUD 8	2,963	3,173	3,560	3,947	4,334	5,205
MONTGOMERY COUNTY MUD 83	2,078	2,148	2,219	2,290	2,362	2,412
MONTGOMERY COUNTY MUD 84	1,909	2,466	2,466	2,466	2,466	2,466
MONTGOMERY COUNTY MUD 88	459	594	746	746	746	746
MONTGOMERY COUNTY MUD 89	5,594	5,715	5,804	6,261	6,919	7,140
MONTGOMERY COUNTY MUD 9	5,912	6,162	7,024	7,882	7,882	7,882
MONTGOMERY COUNTY MUD 95	1,557	2,011	2,526	2,526	2,526	2,526
MONTGOMERY COUNTY MUD 98	1,395	1,803	2,265	2,265	2,265	2,265
MONTGOMERY COUNTY MUD 99	834	1,077	1,353	1,353	1,353	1,353
MONTGOMERY COUNTY UD 2	1,921	1,965	2,068	2,207	2,392	2,637
MONTGOMERY COUNTY UD 3	3,695	3,967	3,967	3,967	3,967	3,967
MONTGOMERY COUNTY UD 4	3,069	4,004	4,037	4,634	5,924	7,607
MONTGOMERY COUNTY WCID 1	3,410	3,741	4,109	4,518	4,974	5,522
MSEC ENTERPRISES	19,382	33,987	36,228	38,907	42,223	44,093
NEW CANEY MUD	9,351	10,341	11,406	12,680	14,214	16,078
OAK RIDGE NORTH	3,150	3,294	3,517	3,643	3,688	3,704
PANORAMA VILLAGE	2,457	2,499	2,664	2,884	3,179	3,572
PINEHURST DECKER PRAIRIE WSC	1,221	1,456	2,369	3,685	5,764	9,352
POINT AQUARIUS MUD	2,046	2,056	2,199	2,392	2,649	2,991
PORTER SUD	25,185	31,483	37,835	44,073	50,332	55,511
QUADVEST	21,977	28,902	37,080	46,740	58,468	71,046
RANCH UTILITIES	1,498	1,935	1,935	1,935	1,935	1,935
RAYFORD ROAD MUD	11,048	10,918	11,795	12,774	13,810	14,179
RIVER PLANTATION MUD	2,674	2,848	3,480	4,111	4,805	5,069
ROMAN FOREST CONSOLIDATED MUD	1,691	1,710	1,910	2,167	2,494	2,911
SHENANDOAH	2,997	3,904	4,281	4,534	4,826	5,197
SOUTHERN MONTGOMERY COUNTY MUD	11,437	11,864	12,158	12,395	12,585	12,783
SPLENDORA	7,641	8,346	9,991	12,077	14,712	18,044

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SPRING CREEK UD	10,802	11,912	12,569	13,741	15,195	15,670
STANLEY LAKE MUD	3,002	3,373	4,372	5,699	7,444	9,629
T & W WATER SERVICE	6,217	7,846	9,659	11,790	14,394	17,484
THE WOODLANDS	100,003	105,894	111,674	118,464	128,339	140,330
VALLEY RANCH MUD 1	1,938	2,504	3,146	3,146	3,146	3,146
WESTWOOD NORTH WSC	2,581	2,627	2,929	3,230	3,533	3,964
WHITE OAK UTILITIES	1,266	1,636	1,636	1,636	1,636	1,636
WHITE OAK WSC	1,023	1,273	1,273	1,273	1,273	1,273
WILLIS	7,227	7,486	8,071	8,877	9,995	11,551
WOOD BRANCH VILLAGE	1,177	1,278	1,548	1,890	2,324	2,875
COUNTY-OTHER	182,763	286,757	425,330	601,934	825,808	1,101,319
SAN JACINTO BASIN TOTAL	627,917	811,252	1,019,278	1,267,916	1,576,135	1,946,063
MONTGOMERY COUNTY TOTAL	627,917	811,252	1,019,278	1,267,916	1,576,135	1,946,063
LAKE LIVINGSTON WSC*	8,717	9,799	10,870	12,014	13,216	14,476
LEGGETT WSC	2,023	2,260	2,447	2,606	2,735	2,840
LIVINGSTON	6,183	6,908	7,477	7,963	8,359	8,678
MEMORIAL POINT UD	1,123	1,255	1,359	1,447	1,519	1,578
MOSCOW WSC*	143	160	173	184	193	200
ONALASKA WSC	3,550	4,502	5,251	5,890	6,411	6,831
PROVIDENCE WSC	2,126	2,375	2,571	2,738	2,874	2,984
SODA WSC*	1,942	2,170	2,348	2,500	2,625	2,726
TEMPE WSC 1	2,293	2,561	2,773	2,953	3,099	3,218
COUNTY-OTHER*	14,811	15,945	16,619	16,964	16,977	16,694
TRINITY BASIN TOTAL	42,911	47,935	51,888	55,259	58,008	60,225
POLK COUNTY TOTAL	42,911	47,935	51,888	55,259	58,008	60,225
MERCY WSC	1,728	1,904	2,042	2,195	2,321	2,434
ONE FIVE O WSC	2,750	3,030	3,249	3,492	3,693	3,872
P B & S C WSC	148	163	175	188	199	209
SAN JACINTO SUD	700	771	827	889	940	986
COUNTY-OTHER	7,253	7,965	8,486	9,074	9,521	9,879
SAN JACINTO BASIN TOTAL	12,579	13,833	14,779	15,838	16,674	17,380
CAPE ROYALE UD	1,038	1,144	1,227	1,319	1,395	1,462
DODGE OAKHURST WSC	502	541	572	604	630	653
LAKE LIVINGSTON WSC*	2,716	3,053	3,387	3,744	4,118	4,511
P B & S C WSC	1,723	1,899	2,037	2,189	2,315	2,428
RIVERSIDE WSC	509	560	597	632	660	683
SAN JACINTO SUD	2,040	2,248	2,412	2,592	2,741	2,874
SHEPHERD	2,597	2,861	3,069	3,299	3,490	3,658
WATERWOOD MUD 1	436	481	516	554	586	614
COUNTY-OTHER	5,470	6,007	6,400	6,843	7,180	7,451
TRINITY BASIN TOTAL	17,031	18,794	20,217	21,776	23,115	24,334
SAN JACINTO COUNTY TOTAL	29,610	32,627	34,996	37,614	39,789	41,714
GLENDALE WSC	835	903	909	884	915	957
GROVETON*	629	680	685	665	689	721
LAKE LIVINGSTON WSC*	679	763	847	937	1,019	1,116
PENNINGTON WSC*	1,272	1,376	1,387	1,348	1,396	1,460
TRINITY	3,807	4,117	4,149	4,032	4,175	4,368

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Region H Water User Group (WUG) Population

	WUG POPULATION					
	2020	2030	2040	2050	2060	2070
TRINITY RURAL WSC	3,923	4,243	4,275	4,153	4,302	4,502
WESTWOOD SHORES MUD	1,112	1,203	1,212	1,177	1,220	1,276
COUNTY-OTHER*	497	508	433	308	414	385
TRINITY BASIN TOTAL	12,754	13,793	13,897	13,504	14,130	14,785
TRINITY COUNTY TOTAL	12,754	13,793	13,897	13,504	14,130	14,785
DODGE OAKHURST WSC	685	739	780	824	860	891
HUNTSVILLE	33,702	35,320	36,486	37,579	38,430	39,118
NEW WAVERLY	1,140	1,189	1,225	1,259	1,285	1,306
PHELPS SUD	1,404	1,450	1,482	1,513	1,537	1,556
WALKER COUNTY RURAL SUD	3,274	3,480	3,630	3,770	3,879	3,968
COUNTY-OTHER	6,344	6,603	6,785	6,951	7,080	7,181
SAN JACINTO BASIN TOTAL	46,549	48,781	50,388	51,896	53,071	54,020
DODGE OAKHURST WSC	486	524	554	585	611	633
HUNTSVILLE	6,903	7,234	7,473	7,697	7,871	8,012
LAKE LIVINGSTON WSC*	186	209	231	256	281	308
PHELPS SUD	609	629	643	656	667	675
RIVERSIDE WSC	4,816	5,300	5,651	5,989	6,253	6,469
THE CONSOLIDATED WSC*	97	109	119	129	135	140
TRINITY RURAL WSC	311	344	369	392	410	424
WALKER COUNTY RURAL SUD	4,369	4,645	4,844	5,032	5,176	5,294
COUNTY-OTHER	7,474	7,468	7,452	7,418	7,384	7,349
TRINITY BASIN TOTAL	25,251	26,462	27,336	28,154	28,788	29,304
WALKER COUNTY TOTAL	71,800	75,243	77,724	80,050	81,859	83,324
BROOKSHIRE MWD	5,279	6,457	7,762	9,186	10,760	12,466
G & W WSC*	953	1,293	1,670	2,082	2,536	3,029
HEMPSTEAD	6,726	7,843	9,081	10,433	11,926	13,544
PATTISON WSC	1,702	2,056	2,448	2,876	3,348	3,860
PRAIRIE VIEW	3,168	4,293	5,539	6,901	8,404	10,033
PRAIRIE VIEW A&M UNIVERSITY	2,892	2,892	2,892	2,892	2,892	2,892
QUADVEST	119	156	200	252	315	383
COUNTY-OTHER	11,842	14,270	16,975	19,926	23,181	26,713
BRAZOS BASIN TOTAL	32,681	39,260	46,567	54,548	63,362	72,920
G & W WSC*	2,925	3,969	5,126	6,389	7,784	9,296
KATY	1,469	1,835	2,239	2,680	3,168	3,696
OAK HOLLOW UTILITY	1,769	2,136	2,543	2,987	3,478	4,010
PRAIRIE VIEW	232	314	406	505	615	735
PRAIRIE VIEW A&M UNIVERSITY	317	317	317	317	317	317
WALLER	2,039	2,222	2,424	2,645	2,890	3,154
WHITE OAK UTILITIES	62	81	81	81	81	81
COUNTY-OTHER	11,044	13,309	15,832	18,584	21,619	24,913
SAN JACINTO BASIN TOTAL	19,857	24,183	28,968	34,188	39,952	46,202
WALLER COUNTY TOTAL	52,538	63,443	75,535	88,736	103,314	119,122
REGION H POPULATION TOTAL	7,325,314	8,207,700	9,024,533	9,867,512	10,766,073	11,743,278

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AUSTIN COUNTY WSC	229	257	288	328	374	426
BELLVILLE	1,126	1,191	1,264	1,359	1,470	1,594
SEALY	1,377	1,513	1,667	1,859	2,081	2,329
WEST END WSC*	179	196	211	230	252	276
COUNTY-OTHER	1,617	1,878	2,173	2,540	2,961	3,434
MANUFACTURING	69	74	74	74	74	74
MINING	97	244	196	148	101	69
LIVESTOCK	852	852	852	852	852	852
IRRIGATION	2,222	2,222	2,222	2,222	2,222	2,222
BRAZOS BASIN TOTAL	7,768	8,427	8,947	9,612	10,387	11,276
AUSTIN COUNTY WSC	19	21	24	27	31	35
SEALY	3	3	3	4	4	5
WALLIS	160	164	170	180	192	207
COUNTY-OTHER	421	489	566	662	772	895
MANUFACTURING	37	40	40	40	40	40
MINING	28	71	57	43	29	20
LIVESTOCK	239	239	239	239	239	239
IRRIGATION	3,785	3,785	3,785	3,785	3,785	3,785
BRAZOS-COLORADO BASIN TOTAL	4,692	4,812	4,884	4,980	5,092	5,226
WEST END WSC*	20	22	24	26	29	32
COUNTY-OTHER	16	18	21	25	29	34
MINING	2	5	4	3	2	1
LIVESTOCK	17	17	17	17	17	17
COLORADO BASIN TOTAL	55	62	66	71	77	84
AUSTIN COUNTY TOTAL	12,515	13,301	13,897	14,663	15,556	16,586
BRAZORIA	69	68	67	67	67	69
FREEPORT	148	150	153	157	163	170
LAKE JACKSON	35	35	35	36	37	39
VARNER CREEK UD	210	204	198	198	198	198
WEST COLUMBIA	372	356	344	345	345	348
COUNTY-OTHER	969	1,094	1,300	1,512	1,735	1,972
MANUFACTURING	7,341	8,590	8,590	8,590	8,590	8,590
MINING	135	166	194	224	257	296
LIVESTOCK	107	107	107	107	107	107
IRRIGATION	4,005	4,005	4,005	4,005	4,005	4,005
BRAZOS BASIN TOTAL	13,391	14,775	14,993	15,241	15,504	15,794
BRAZORIA	249	245	241	241	244	247
FREEPORT	1	1	1	1	1	1
SWEENEY	524	510	498	493	494	497
WEST COLUMBIA	68	65	62	62	63	63
COUNTY-OTHER	3,772	4,432	5,062	5,690	6,342	7,020
MANUFACTURING	35,515	41,555	41,555	41,555	41,555	41,555
MINING	252	310	362	419	480	553
LIVESTOCK	401	401	401	401	401	401
IRRIGATION	4,183	4,183	4,183	4,183	4,183	4,183
BRAZOS-COLORADO BASIN TOTAL	44,965	51,702	52,365	53,045	53,763	54,520
ALVIN	4,644	4,866	5,160	5,587	6,186	6,983
ANGLETON	1,919	1,849	1,793	1,768	1,774	1,788

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BRAZORIA COUNTY MUD 2	1,666	1,658	1,655	1,653	1,653	1,654
BRAZORIA COUNTY MUD 21	646	669	719	769	819	853
BRAZORIA COUNTY MUD 25	417	459	502	554	618	689
BRAZORIA COUNTY MUD 29	456	716	940	927	924	923
BRAZORIA COUNTY MUD 3	655	646	648	654	662	676
BRAZORIA COUNTY MUD 31	409	459	537	608	675	717
BRAZORIA COUNTY MUD 6	1,268	1,258	1,257	1,258	1,260	1,266
CLUTE	1,484	1,483	1,494	1,526	1,579	1,640
DANBURY	176	169	162	159	159	159
FREEPORT	1,322	1,341	1,361	1,398	1,453	1,511
HILLCREST VILLAGE	120	117	114	113	113	113
LAKE JACKSON	5,215	5,240	5,295	5,405	5,573	5,766
MANVEL	130	208	279	359	455	573
OYSTER CREEK	258	258	259	265	273	284
PEARLAND	15,619	16,368	17,492	18,770	20,224	21,645
QUADVEST	150	194	247	310	387	470
RICHWOOD	391	391	394	402	418	436
SEDONA LAKES MUD 1	174	194	214	238	265	296
SURFSIDE BEACH	202	228	226	225	224	224
TDCJ RAMSEY AREA	1,573	1,566	1,561	1,559	1,558	1,558
COUNTY-OTHER	10,509	14,497	18,293	22,806	27,929	33,696
MANUFACTURING	155,554	182,008	182,008	182,008	182,008	182,008
MINING	581	713	833	966	1,105	1,277
LIVESTOCK	987	987	987	987	987	987
IRRIGATION	82,387	82,387	82,387	82,387	82,387	82,387
SAN JACINTO-BRAZOS BASIN TOTAL	288,912	320,929	326,817	333,661	341,668	350,579
BRAZORIA COUNTY TOTAL	347,268	387,406	394,175	401,947	410,935	420,893
ANAHUAC	228	221	217	217	219	223
TRINITY BAY CONSERVATION DISTRICT	1,640	1,912	2,202	2,529	2,892	3,277
COUNTY-OTHER	122	143	165	189	216	245
MINING	3,316	3,316	3,316	3,316	3,316	3,316
LIVESTOCK	280	280	280	280	280	280
IRRIGATION	102,655	102,655	102,655	102,655	102,655	102,655
NECHES-TRINITY BASIN TOTAL	108,241	108,527	108,835	109,186	109,578	109,996
ANAHUAC	53	52	51	50	51	52
MONT BELVIEU	2,075	2,636	3,219	3,850	4,528	5,242
TRINITY BAY CONSERVATION DISTRICT	428	499	575	660	755	855
COUNTY-OTHER	1,053	1,228	1,418	1,631	1,865	2,113
MANUFACTURING	4,227	4,926	4,926	4,926	4,926	4,926
MINING	956	956	956	956	956	956
LIVESTOCK	74	74	74	74	74	74
IRRIGATION	19,252	19,252	19,252	19,252	19,252	19,252
TRINITY BASIN TOTAL	28,118	29,623	30,471	31,399	32,407	33,470
BAYTOWN	651	745	842	952	1,081	1,218
CHAMBERS COUNTY MUD 1	260	295	333	377	431	488
MONT BELVIEU	624	792	967	1,157	1,361	1,575
COUNTY-OTHER	386	451	521	598	684	775

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MANUFACTURING	15,955	18,593	18,593	18,593	18,593	18,593
MINING	1,349	1,349	1,349	1,349	1,349	1,349
STEAM ELECTRIC POWER	8,706	8,706	8,706	8,706	8,706	8,706
LIVESTOCK	143	143	143	143	143	143
IRRIGATION	6,413	6,413	6,413	6,413	6,413	6,413
TRINITY-SAN JACINTO BASIN TOTAL	34,487	37,487	37,867	38,288	38,761	39,260
CHAMBERS COUNTY TOTAL	170,846	175,637	177,173	178,873	180,746	182,726
FIRST COLONY MUD 9	422	445	442	441	440	440
FORT BEND COUNTY FWSD 2	226	273	310	348	387	428
FORT BEND COUNTY MUD 115	588	650	649	648	647	647
FORT BEND COUNTY MUD 116	917	1,035	1,213	1,352	1,491	1,630
FORT BEND COUNTY MUD 121	464	460	458	456	455	454
FORT BEND COUNTY MUD 128	973	964	959	957	956	956
FORT BEND COUNTY MUD 129	1,157	1,149	1,147	1,145	1,144	1,144
FORT BEND COUNTY MUD 140	503	497	493	492	491	491
FORT BEND COUNTY MUD 149	199	242	276	274	274	273
FORT BEND COUNTY MUD 152	152	187	214	213	213	213
FORT BEND COUNTY MUD 155	369	452	516	514	514	513
FORT BEND COUNTY MUD 158	233	285	326	325	325	325
FORT BEND COUNTY MUD 162	266	323	367	365	364	363
FORT BEND COUNTY MUD 187	434	426	422	420	419	419
FORT BEND COUNTY MUD 25	193	191	191	193	195	199
FORT BEND COUNTY MUD 46	72	88	103	103	103	103
FORT BEND COUNTY MUD 5	262	312	307	305	304	304
FORT BEND COUNTY MUD 81	1,504	1,595	1,722	1,851	1,980	2,110
FORT BEND COUNTY WCID 3	485	599	598	597	597	597
FULSHEAR	270	640	658	658	657	657
NEEDVILLE	136	133	130	131	135	142
NORTH FORT BEND WATER AUTHORITY	2,237	3,072	3,730	4,111	4,314	4,418
PECAN GROVE MUD 1	2,273	2,213	2,166	2,166	2,167	2,173
PLANTATION MUD	430	413	398	390	388	388
QUADVEST	369	478	608	763	953	1,158
RICHMOND	2,107	2,131	2,185	2,298	2,430	2,565
ROSENBERG	4,706	4,821	4,988	5,203	5,501	5,871
ROYAL VALLEY UTILITIES	641	789	905	903	902	902
SIENNA PLANTATION	1,394	1,772	2,405	3,039	3,673	4,259
SUGAR LAND	21,498	22,707	24,069	25,542	26,874	27,767
TDCJ JESTER UNITS	539	536	535	534	533	533
COUNTY-OTHER	9,575	17,460	18,297	23,577	31,642	41,758
MANUFACTURING	2,099	2,309	2,309	2,309	2,309	2,309
MINING	41	42	32	24	16	11
STEAM ELECTRIC POWER	62,017	62,017	62,017	62,017	62,017	62,017
LIVESTOCK	458	458	458	458	458	458
IRRIGATION	16,790	16,790	16,790	16,790	16,790	16,790
BRAZOS BASIN TOTAL	136,999	148,954	153,393	161,912	173,058	185,785
KENDLETON	183	225	258	291	324	358
NEEDVILLE	165	160	158	158	164	172

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
ROSENBERG	1	1	1	1	1	1
COUNTY-OTHER	1,503	2,444	4,140	6,624	10,274	15,622
MINING	16	17	13	9	6	4
LIVESTOCK	162	162	162	162	162	162
IRRIGATION	10,445	10,445	10,445	10,445	10,445	10,445
BRAZOS-COLORADO BASIN TOTAL	12,475	13,454	15,177	17,690	21,376	26,764
BLUE RIDGE WEST MUD	1,130	1,112	1,102	1,098	1,096	1,095
FORT BEND COUNTY WCID 2	1,699	2,086	2,385	2,686	2,988	3,310
FULSHEAR	80	161	243	242	243	242
HOUSTON	5,006	5,192	5,344	5,505	5,662	5,786
KATY	1,665	3,801	3,799	3,803	3,813	3,822
MEADOWS PLACE	715	708	704	710	722	737
NORTH FORT BEND WATER AUTHORITY	32,393	44,480	54,008	59,521	62,460	63,963
SUGAR LAND	990	983	980	979	981	982
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	1,403	1,411	1,401	1,399	1,407	1,419
COUNTY-OTHER	343	338	330	278	192	129
MANUFACTURING	208	229	229	229	229	229
LIVESTOCK	55	55	55	55	55	55
IRRIGATION	307	307	307	307	307	307
SAN JACINTO BASIN TOTAL	45,994	60,863	70,887	76,812	80,155	82,076
BLUE RIDGE WEST MUD	99	97	97	96	96	96
FIRST COLONY MUD 9	1,350	1,422	1,413	1,408	1,407	1,406
FORT BEND COUNTY FWSD 1	82	99	114	128	143	158
FORT BEND COUNTY MUD 115	310	343	342	342	342	342
FORT BEND COUNTY MUD 23	1,319	1,389	1,429	1,470	1,512	1,558
FORT BEND COUNTY MUD 24	146	177	202	201	200	200
FORT BEND COUNTY MUD 25	1,346	1,331	1,332	1,343	1,364	1,388
FORT BEND COUNTY MUD 26	616	740	865	861	859	859
FORT BEND COUNTY MUD 42	865	1,047	1,041	1,038	1,036	1,036
FORT BEND COUNTY MUD 46	500	607	714	712	712	711
FORT BEND COUNTY MUD 47	158	190	222	220	220	220
FORT BEND COUNTY MUD 48	434	426	423	421	420	420
FORT BEND COUNTY MUD 49	208	251	250	249	248	248
FORT BEND COUNTY WCID 2	6,819	8,373	9,575	10,780	11,992	13,285
FORT BEND COUNTY WCID 3	52	65	65	65	65	65
FULSHEAR	1,506	1,964	1,990	1,988	1,987	1,985
HOUSTON	3,225	3,345	3,442	3,546	3,647	3,728
MEADOWCREEK MUD	394	474	471	469	468	468
MEADOWS PLACE	64	63	62	63	64	65
MISSOURI CITY	428	518	586	657	730	809
NORTH FORT BEND WATER AUTHORITY	26,420	36,278	44,048	48,546	50,942	52,168
PALMER PLANTATION MUD 1	517	627	624	622	622	621
PALMER PLANTATION MUD 2	377	370	367	366	365	365
PEARLAND	547	579	711	844	978	1,136
PECAN GROVE MUD 1	18	17	17	17	17	17
QUAIL VALLEY UD	2,421	2,925	3,430	3,419	3,414	3,412
SIENNA PLANTATION	3,785	4,810	6,530	8,250	9,971	11,562
SUGAR LAND	10,383	11,432	11,660	11,828	11,939	12,063

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TDCJ JESTER UNITS	804	799	796	795	795	795
THUNDERBIRD UD	1,215	1,470	1,461	1,457	1,455	1,454
COUNTY-OTHER	3,593	10	2,560	5,665	7,949	9,655
MANUFACTURING	3,096	3,403	3,403	3,403	3,403	3,403
MINING	15	16	12	9	6	4
LIVESTOCK	157	157	157	157	157	157
IRRIGATION	3,058	3,058	3,058	3,058	3,058	3,058
SAN JACINTO-BRAZOS BASIN TOTAL	76,327	88,872	103,469	114,493	122,583	128,917
FORT BEND COUNTY TOTAL	271,795	312,143	342,926	370,907	397,172	423,542
BOLIVAR PENINSULA SUD	198	234	277	328	388	459
COUNTY-OTHER	5	6	8	10	13	16
MINING	78	84	92	99	106	114
LIVESTOCK	59	59	59	59	59	59
IRRIGATION	57	57	57	57	57	57
NECHES-TRINITY BASIN TOTAL	397	440	493	553	623	705
BACLIFF MUD	539	515	506	513	520	528
BAYVIEW MUD	146	153	158	165	172	179
FRIENDSWOOD	5,569	5,769	6,047	6,395	6,815	7,290
GALVESTON	16,622	17,422	18,284	19,244	20,164	21,151
GALVESTON COUNTY FWSD 6	361	356	355	355	356	357
GALVESTON COUNTY MUD 12	270	261	256	254	254	254
GALVESTON COUNTY WCID 1	2,966	3,237	3,536	3,867	4,223	4,588
GALVESTON COUNTY WCID 12	1,873	2,293	2,334	2,375	2,414	2,449
GALVESTON COUNTY WCID 8	605	598	605	619	638	659
HITCHCOCK	931	1,059	1,136	1,202	1,262	1,312
JAMAICA BEACH	259	258	258	259	262	265
LA MARQUE	3,364	3,581	3,594	3,621	3,666	3,710
LEAGUE CITY	14,165	15,619	16,772	17,756	18,349	18,770
SAN LEON MUD	378	414	441	468	495	523
TEXAS CITY	7,078	7,524	7,898	8,272	8,667	9,038
COUNTY-OTHER	1,167	1,034	951	869	791	708
MANUFACTURING	55,104	64,333	64,333	64,333	64,333	64,333
MINING	303	324	358	387	414	441
LIVESTOCK	204	204	204	204	204	204
IRRIGATION	5,048	5,048	5,048	5,048	5,048	5,048
SAN JACINTO-BRAZOS BASIN TOTAL	116,952	130,002	133,074	136,206	139,047	141,807
GALVESTON COUNTY TOTAL	117,349	130,442	133,567	136,759	139,670	142,512
BAKER ROAD MUD	278	295	292	291	291	291
BAYTOWN	419	412	408	408	414	421
BELLAIRE	4,200	4,467	4,780	5,155	5,598	6,088
BLUE BELL MANOR UTILITY	623	632	657	689	727	760
BUNKER HILL VILLAGE	1,662	1,773	1,898	2,040	2,200	2,375
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	5,377	5,706	5,937	6,183	6,443	6,735
CHIMNEY HILL MUD	568	555	544	542	549	559
CROSBY MUD	356	361	366	372	378	385
DEER PARK	1,315	1,342	1,360	1,399	1,441	1,485
DOUGLAS UTILITY	234	222	213	213	213	215

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
EL DORADO UD	405	400	399	406	410	410
FOREST HILLS MUD	359	375	391	387	386	386
FORT BEND COUNTY WCID 2	382	469	537	604	672	745
GALENA PARK	841	806	779	774	789	804
GREEN TRAILS MUD	630	623	622	626	628	630
GREENWOOD UD	351	388	385	386	389	393
HARRIS COUNTY FWSD 58	386	409	430	452	475	499
HARRIS COUNTY MUD 106	1,428	1,443	1,497	1,535	1,564	1,586
HARRIS COUNTY MUD 11	332	329	332	339	351	364
HARRIS COUNTY MUD 119	636	619	611	617	630	644
HARRIS COUNTY MUD 122	143	170	197	195	194	194
HARRIS COUNTY MUD 132	1,065	1,050	1,036	1,040	1,042	1,046
HARRIS COUNTY MUD 148	338	347	345	344	346	349
HARRIS COUNTY MUD 151	1,093	1,086	1,083	1,082	1,084	1,088
HARRIS COUNTY MUD 152	1,090	1,097	1,122	1,144	1,163	1,180
HARRIS COUNTY MUD 153	1,315	1,298	1,290	1,286	1,285	1,287
HARRIS COUNTY MUD 154	1,043	1,026	1,030	1,046	1,072	1,104
HARRIS COUNTY MUD 158	681	661	645	636	634	634
HARRIS COUNTY MUD 180	541	564	581	579	577	576
HARRIS COUNTY MUD 189	357	362	374	387	401	417
HARRIS COUNTY MUD 216	154	162	160	159	159	159
HARRIS COUNTY MUD 221	450	483	498	514	529	545
HARRIS COUNTY MUD 23	377	390	379	374	372	372
HARRIS COUNTY MUD 278	1,213	1,591	1,587	1,583	1,581	1,580
HARRIS COUNTY MUD 290	710	735	767	790	806	820
HARRIS COUNTY MUD 321	309	404	432	462	461	461
HARRIS COUNTY MUD 342	681	723	767	762	761	761
HARRIS COUNTY MUD 344	958	1,106	1,097	1,093	1,091	1,091
HARRIS COUNTY MUD 345	900	886	876	870	869	869
HARRIS COUNTY MUD 36	374	399	395	393	393	393
HARRIS COUNTY MUD 361	435	460	453	449	448	448
HARRIS COUNTY MUD 372	1,257	1,245	1,236	1,232	1,231	1,231
HARRIS COUNTY MUD 400	1,246	1,331	1,404	1,467	1,501	1,516
HARRIS COUNTY MUD 412	538	569	599	629	661	694
HARRIS COUNTY MUD 420	138	143	149	147	146	146
HARRIS COUNTY MUD 46	618	606	596	591	590	590
HARRIS COUNTY MUD 49	677	690	701	712	721	731
HARRIS COUNTY MUD 5	507	508	521	544	577	614
HARRIS COUNTY MUD 50	396	381	384	388	388	390
HARRIS COUNTY MUD 58	249	261	272	269	269	268
HARRIS COUNTY MUD 6	492	515	505	500	499	499
HARRIS COUNTY MUD 8	487	464	445	444	442	442
HARRIS COUNTY MUD 96	582	592	625	666	707	738
HARRIS COUNTY UD 14	217	238	258	283	313	359
HARRIS COUNTY UD 15	521	552	601	595	593	593
HARRIS COUNTY WCID 1	709	688	687	706	724	746
HARRIS COUNTY WCID 133	674	656	664	703	756	815
HARRIS COUNTY WCID 70	238	251	248	246	246	245

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY WCID 74	609	581	559	548	546	546
HARRIS COUNTY WCID 96	1,656	1,646	1,645	1,644	1,643	1,642
HARRIS COUNTY WCID-FONDREN ROAD	350	415	479	473	472	471
HILSHIRE VILLAGE	196	203	216	238	263	290
HMW SUD	405	475	553	648	647	646
HOUSTON	421,635	445,972	470,991	499,240	531,088	565,295
HUMBLE	2,715	3,190	3,530	3,793	4,004	4,166
JACINTO CITY	768	741	749	770	793	816
JERSEY VILLAGE	1,799	1,785	1,795	1,818	1,854	1,897
KATY	3,214	3,323	3,427	3,525	3,620	3,712
KINGS MANOR MUD	153	149	146	145	144	144
LA PORTE	312	308	305	307	310	314
LAKE MUD	23	23	23	23	22	22
LONGHORN TOWN UD	354	351	349	348	348	348
LUCE BAYOU PUD	141	149	156	156	155	155
MASON CREEK UD	1,447	1,406	1,382	1,379	1,376	1,376
MEMORIAL VILLAGES WATER AUTHORITY	5,600	6,040	6,529	7,070	7,667	8,320
MORGANS POINT	22	24	26	27	29	30
MOUNT HOUSTON ROAD MUD	626	757	853	925	979	1,020
NEWPORT MUD	1,019	1,031	1,043	1,060	1,081	1,106
NORTH BELT UD	515	506	508	518	532	548
NORTH CHANNEL WATER AUTHORITY	10,215	10,207	10,236	10,362	10,585	10,791
NORTH FOREST MUD	199	198	195	193	193	193
NORTH FORT BEND WATER AUTHORITY	1,902	1,896	1,899	1,906	1,914	1,922
NORTH GREEN MUD	495	486	481	481	487	493
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	122,747	128,791	133,934	138,694	143,385	147,826
NORTHWEST HARRIS COUNTY MUD 16	494	519	512	508	507	506
PARKWAY MUD	520	528	519	516	517	521
PASADENA	16,871	16,888	16,937	17,202	17,611	18,074
PINE VILLAGE PUD	231	241	250	262	274	288
PINEWOOD COMMUNITY	113	117	114	113	113	113
QUADVEST	171	222	282	353	442	536
ROLLING FORK PUD	458	450	445	442	441	441
SEQUOIA IMPROVEMENT DISTRICT	163	172	180	179	179	179
SOUTH HOUSTON	1,921	1,908	1,909	1,939	1,998	2,065
SOUTHERN WATER	460	480	471	466	464	464
SOUTHSIDE PLACE	341	330	323	319	328	353
SOUTHWEST HARRIS COUNTY MUD 1	142	167	162	160	159	159
SPRING VALLEY	1,047	1,117	1,190	1,272	1,367	1,471
SUBURBAN UTILITY	340	330	323	319	318	318
SUNBELT FWSD	2,837	2,836	2,850	2,950	3,106	3,288
THE COMMONS WATER SUPPLY	403	418	431	442	450	456
THE WOODLANDS	3,872	4,149	4,520	4,799	5,013	5,177
TOMBALL	3,210	3,344	3,473	3,595	3,714	3,826
TRAIL OF THE LAKES MUD	1,043	1,065	1,065	1,067	1,072	1,078
WALLER	84	84	86	90	95	102
WEST HARRIS COUNTY MUD 6	366	385	394	403	411	418
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	70,643	72,746	76,796	81,270	82,841	84,299

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WEST UNIVERSITY PLACE	2,926	3,072	3,248	3,465	3,727	4,016
WOODCREEK MUD	392	383	378	376	378	382
COUNTY-OTHER	14,172	17,789	18,736	19,134	22,550	25,771
MANUFACTURING	162,102	189,528	189,528	189,528	189,528	189,528
MINING	2,913	2,894	2,843	2,812	2,787	2,768
STEAM ELECTRIC POWER	28,805	28,805	28,805	28,805	28,805	28,805
LIVESTOCK	1,277	1,277	1,277	1,277	1,277	1,277
IRRIGATION	8,508	8,508	8,508	8,508	8,508	8,508
SAN JACINTO BASIN TOTAL	950,497	1,017,721	1,056,011	1,097,590	1,143,297	1,191,042
BAYBROOK MUD 1	249	258	286	308	327	348
CLEAR BROOK CITY MUD	1,747	1,728	1,896	2,012	2,115	2,219
CLEAR LAKE CITY WATER AUTHORITY	13,087	13,280	14,087	14,808	15,554	16,326
DEER PARK	2,807	2,866	2,905	2,989	3,078	3,170
FRIENDSWOOD	2,020	2,407	2,647	2,935	3,200	3,499
HARRIS COUNTY MUD 55	1,430	1,464	1,483	1,556	1,666	1,825
HARRIS COUNTY WCID 156	302	324	341	362	381	399
HARRIS COUNTY WCID 50	373	370	366	368	369	370
HARRIS COUNTY WCID 89	514	505	496	499	500	503
HOUSTON	15,654	16,558	17,487	18,535	19,718	20,988
KIRKMONT MUD	364	391	413	446	481	519
LA PORTE	4,407	4,363	4,310	4,346	4,392	4,448
LEAGUE CITY	380	425	450	474	490	501
MORGANS POINT	135	145	153	163	171	179
NASSAU BAY	1,035	1,041	1,037	1,056	1,068	1,082
PASADENA	4,967	4,971	4,986	5,064	5,184	5,320
PEARLAND	2,169	2,692	3,219	3,644	3,938	4,160
SAGEMEADOW UD	716	742	777	829	884	943
SEABROOK	1,793	1,796	1,793	1,824	1,852	1,885
SHOREACRES	325	324	323	328	333	338
WEBSTER	3,778	4,059	4,257	4,461	4,596	4,706
COUNTY-OTHER	262	409	377	41	226	401
MANUFACTURING	69,059	80,743	80,743	80,743	80,743	80,743
MINING	196	195	191	189	188	186
STEAM ELECTRIC POWER	188	188	188	188	188	188
SAN JACINTO-BRAZOS BASIN TOTAL	127,957	142,244	145,211	148,168	151,642	155,246
BAYTOWN	9,060	8,901	8,813	8,833	8,957	9,105
COUNTRY TERRACE WATER	156	162	169	176	185	194
HARRIS COUNTY FWSD 1-A	146	151	157	164	172	180
HARRIS COUNTY FWSD 27	240	250	261	273	286	300
HARRIS COUNTY WCID 1	32	31	32	33	35	36
HOUSTON	48	51	53	57	60	64
LAKE MUD	307	319	311	307	307	306
SPRING MEADOWS MUD	308	319	311	306	305	305
COUNTY-OTHER	2,098	2,404	2,814	3,195	3,544	3,892
MANUFACTURING	80,466	94,079	94,079	94,079	94,079	94,079
MINING	164	163	160	158	157	156
LIVESTOCK	126	126	126	126	126	126

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
IRRIGATION	932	932	932	932	932	932
TRINITY-SAN JACINTO BASIN TOTAL	94,083	107,888	108,218	108,639	109,145	109,675
HARRIS COUNTY TOTAL	1,172,537	1,267,853	1,309,440	1,354,397	1,404,084	1,455,963
CONCORD-ROBBINS WSC	268	264	262	271	281	290
HILLTOP LAKES WSC	249	261	271	288	304	320
JEWETT	73	85	94	108	121	133
NORMANGEE	27	28	29	30	32	34
SOUTHEAST WSC	4	4	4	4	4	5
COUNTY-OTHER	56	53	51	50	49	49
MINING	721	745	623	459	296	190
LIVESTOCK	714	714	714	714	714	714
IRRIGATION	129	129	129	129	129	129
BRAZOS BASIN TOTAL	2,241	2,283	2,177	2,053	1,930	1,864
BUFFALO	386	387	387	393	401	410
CENTERVILLE	203	212	219	232	246	258
CONCORD-ROBBINS WSC	74	73	72	75	77	81
FLO COMMUNITY WSC*	334	384	436	490	550	611
JEWETT	201	234	261	299	333	368
NORMANGEE	80	84	86	92	97	101
SOUTHEAST WSC	263	273	281	298	314	330
COUNTY-OTHER	200	180	156	148	134	118
MANUFACTURING	846	1,069	1,069	1,069	1,069	1,069
MINING	1,681	1,736	1,454	1,071	689	444
LIVESTOCK	2,190	2,190	2,190	2,190	2,190	2,190
IRRIGATION	363	363	363	363	363	363
TRINITY BASIN TOTAL	6,821	7,185	6,974	6,720	6,463	6,343
LEON COUNTY TOTAL	9,062	9,468	9,151	8,773	8,393	8,207
DAISETTA	46	50	53	57	62	67
DEVERS	4	4	5	5	5	6
HARDIN WSC	26	32	37	42	48	53
LIBERTY COUNTY FWSD 1 HULL	102	113	122	134	144	155
WEST HARDIN WSC*	21	23	25	27	30	31
COUNTY-OTHER	30	31	32	34	36	37
MANUFACTURING	180	212	212	212	212	212
MINING	52	54	53	56	59	64
LIVESTOCK	117	117	117	117	117	117
IRRIGATION	7,790	7,790	7,790	7,790	7,790	7,790
NECHES BASIN TOTAL	8,368	8,426	8,446	8,474	8,503	8,532
COUNTY-OTHER	13	14	15	15	16	17
MINING	22	23	22	24	25	27
LIVESTOCK	51	51	51	51	51	51
IRRIGATION	15,332	15,332	15,332	15,332	15,332	15,332
NECHES-TRINITY BASIN TOTAL	15,418	15,420	15,420	15,422	15,424	15,427
CLEVELAND	1,539	1,527	1,520	1,525	1,543	1,563
MERCY WSC	21	22	23	25	26	27
SOUTH CLEVELAND WSC	215	232	250	271	293	315
T & W WATER SERVICE	194	242	295	359	437	531

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TARKINGTON SUD	327	370	414	461	508	554
COUNTY-OTHER	1,296	1,356	1,411	1,480	1,561	1,637
MANUFACTURING	12	14	14	14	14	14
MINING	79	83	81	85	90	97
LIVESTOCK	178	178	178	178	178	178
IRRIGATION	1,773	1,773	1,773	1,773	1,773	1,773
SAN JACINTO BASIN TOTAL	5,634	5,797	5,959	6,171	6,423	6,689
DAISETTA	82	88	95	103	111	119
DAYTON	2,386	3,042	3,673	4,316	4,942	5,541
DEVERS	168	186	204	223	242	259
HARDIN WSC	471	566	662	762	861	957
LAKE LIVINGSTON WSC*	90	100	111	123	136	148
LIBERTY	1,571	1,649	1,728	1,822	1,926	2,028
LIBERTY COUNTY FWSD 1 HULL	4	4	5	5	6	6
T & W WATER SERVICE	163	203	248	301	367	446
TARKINGTON SUD	97	111	124	138	152	166
WOODCREEK WATER OF LIBERTY	283	301	323	347	372	399
COUNTY-OTHER	2,946	3,081	3,206	3,365	3,548	3,720
MANUFACTURING	53	63	63	63	63	63
MINING	258	270	263	275	292	319
LIVESTOCK	590	590	590	590	590	590
IRRIGATION	15,969	15,969	15,969	15,969	15,969	15,969
TRINITY BASIN TOTAL	25,131	26,223	27,264	28,402	29,577	30,730
DAYTON	7	9	11	13	15	17
COUNTY-OTHER	376	393	409	430	453	475
MINING	26	27	27	28	30	32
LIVESTOCK	56	56	56	56	56	56
IRRIGATION	2,336	2,336	2,336	2,336	2,336	2,336
TRINITY-SAN JACINTO BASIN TOTAL	2,801	2,821	2,839	2,863	2,890	2,916
LIBERTY COUNTY TOTAL	57,352	58,687	59,928	61,332	62,817	64,294
MADISON COUNTY WSC	7	7	7	8	8	8
NORTH ZULCH MUD	16	16	17	18	19	20
COUNTY-OTHER	177	185	193	203	214	226
MINING	119	194	150	107	64	39
LIVESTOCK	209	209	209	209	209	209
IRRIGATION	20	20	20	20	20	20
BRAZOS BASIN TOTAL	548	631	596	565	534	522
MADISON COUNTY WSC	157	164	171	180	190	200
MADISONVILLE	900	941	980	1,033	1,089	1,146
NORMANGEE	13	14	14	15	16	17
NORTH ZULCH MUD	181	189	196	206	218	229
COUNTY-OTHER	1,133	1,185	1,235	1,304	1,374	1,446
MINING	478	778	604	431	259	155
LIVESTOCK	1,197	1,197	1,197	1,197	1,197	1,197
IRRIGATION	102	102	102	102	102	102
TRINITY BASIN TOTAL	4,161	4,570	4,499	4,468	4,445	4,492
MADISON COUNTY TOTAL	4,709	5,201	5,095	5,033	4,979	5,014
CHATEAU WOODS MUD	268	337	330	327	326	326

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
CLEVELAND	6	7	10	13	17	22
CONROE	12,828	15,106	17,182	19,141	21,300	23,628
CORINTHIAN POINT MUD 2	250	320	399	398	397	397
CUT & SHOOT	366	377	423	496	601	740
DOBBIN PLANTERSVILLE WSC*	641	839	1,116	1,484	1,971	2,613
DOMESTIC WATER	171	213	262	259	258	257
EAST PLANTATION UD	266	267	307	350	402	416
FAR HILLS UD	350	447	557	555	554	554
GULF UTILITY	806	801	800	798	797	796
HARRIS-MONTGOMERY COUNTIES MUD 386	425	415	409	405	404	404
HMW SUD	864	1,013	1,180	1,382	1,379	1,378
HOUSTON	958	1,343	1,768	2,181	2,592	2,712
JOHNSTON WATER UTILITY	741	949	1,186	1,472	1,828	2,257
KINGS MANOR MUD	327	318	312	308	307	307
LAKE BONANZA WSC	216	270	333	409	507	626
LAKE CONROE HILLS MUD	229	287	354	437	541	668
LAZY RIVER IMPROVEMENT DISTRICT	218	278	346	345	344	344
MAGNOLIA	1,077	1,278	1,547	1,949	2,541	3,461
MONTGOMERY	631	1,164	1,441	1,721	2,008	2,458
MONTGOMERY COUNTY MUD 112	285	363	360	359	358	358
MONTGOMERY COUNTY MUD 115	206	262	325	323	322	322
MONTGOMERY COUNTY MUD 119	786	1,003	1,251	1,246	1,245	1,244
MONTGOMERY COUNTY MUD 15	497	525	598	698	849	1,064
MONTGOMERY COUNTY MUD 18	1,745	2,232	2,527	2,825	3,126	3,859
MONTGOMERY COUNTY MUD 19	411	398	388	385	388	391
MONTGOMERY COUNTY MUD 56	156	196	242	239	239	238
MONTGOMERY COUNTY MUD 8	445	462	506	554	607	728
MONTGOMERY COUNTY MUD 83	391	401	414	426	439	448
MONTGOMERY COUNTY MUD 84	420	534	529	527	526	526
MONTGOMERY COUNTY MUD 88	84	106	132	131	131	131
MONTGOMERY COUNTY MUD 89	440	443	448	481	528	545
MONTGOMERY COUNTY MUD 9	925	947	1,065	1,187	1,184	1,183
MONTGOMERY COUNTY MUD 95	130	162	198	195	195	194
MONTGOMERY COUNTY MUD 98	157	197	243	241	240	240
MONTGOMERY COUNTY MUD 99	183	233	290	288	288	288
MONTGOMERY COUNTY UD 2	237	232	237	252	272	299
MONTGOMERY COUNTY UD 3	540	563	561	559	557	557
MONTGOMERY COUNTY UD 4	509	641	636	724	923	1,184
MONTGOMERY COUNTY WCID 1	290	298	312	341	373	414
MSEC ENTERPRISES	4,431	7,660	8,092	8,651	9,375	9,786
NEW CANEY MUD	777	811	857	931	1,039	1,173
OAK RIDGE NORTH	564	574	600	614	621	623
PANORAMA VILLAGE	562	563	592	636	700	787
PINEHURST DECKER PRAIRIE WSC	83	98	159	248	387	629
POINT AQUARIUS MUD	418	414	438	473	523	590
PORTER SUD	1,693	2,116	2,543	2,962	3,383	3,731
QUADVEST	4,868	6,310	8,023	10,067	12,575	15,274
RANCH UTILITIES	145	181	177	175	175	175

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RAYFORD ROAD MUD	1,394	1,348	1,434	1,539	1,659	1,702
RIVER PLANTATION MUD	648	677	826	973	1,136	1,198
ROMAN FOREST CONSOLIDATED MUD	241	238	262	295	339	396
SHENANDOAH	1,308	1,688	1,843	1,948	2,072	2,231
SOUTHERN MONTGOMERY COUNTY MUD	1,315	1,320	1,320	1,327	1,343	1,364
SPLENDORA	752	795	930	1,111	1,348	1,650
SPRING CREEK UD	952	1,018	1,056	1,142	1,257	1,296
STANLEY LAKE MUD	660	731	937	1,215	1,584	2,048
T & W WATER SERVICE	1,554	1,935	2,363	2,872	3,502	4,253
THE WOODLANDS	23,986	25,131	26,325	27,820	30,097	32,895
VALLEY RANCH MUD 1	211	264	325	322	321	321
WESTWOOD NORTH WSC	460	465	516	568	620	695
WHITE OAK UTILITIES	122	153	150	148	147	147
WHITE OAK WSC	92	111	108	107	106	106
WILLIS	904	913	966	1,052	1,180	1,362
WOOD BRANCH VILLAGE	90	91	104	127	156	193
COUNTY-OTHER	22,319	34,128	50,087	70,561	96,656	128,816
MANUFACTURING	2,135	2,413	2,413	2,413	2,413	2,413
MINING	1,453	1,363	1,077	921	806	728
STEAM ELECTRIC POWER	4,845	4,845	4,845	4,845	4,845	4,845
LIVESTOCK	537	537	537	537	537	537
IRRIGATION	5,642	5,642	5,642	5,642	5,642	5,642
SAN JACINTO BASIN TOTAL	115,636	140,760	167,071	198,653	238,408	286,183
MONTGOMERY COUNTY TOTAL	115,636	140,760	167,071	198,653	238,408	286,183
LAKE LIVINGSTON WSC*	592	659	731	807	888	973
LEGGETT WSC	334	364	387	409	429	445
LIVINGSTON	2,594	2,865	3,076	3,263	3,423	3,553
MEMORIAL POINT UD	182	198	211	223	233	242
MOSCOW WSC*	21	23	24	26	27	28
ONALASKA WSC	364	443	504	557	605	644
PROVIDENCE WSC	157	165	173	184	193	201
SODA WSC*	163	173	182	190	199	206
TEMPE WSC 1	206	220	231	242	253	263
COUNTY-OTHER*	1,540	1,593	1,616	1,626	1,622	1,594
MANUFACTURING*	5	5	5	5	5	5
MINING*	124	98	72	46	21	9
LIVESTOCK*	181	181	181	181	181	181
IRRIGATION*	332	332	332	332	332	332
TRINITY BASIN TOTAL	6,795	7,319	7,725	8,091	8,411	8,676
POLK COUNTY TOTAL	6,795	7,319	7,725	8,091	8,411	8,676
MERCY WSC	168	177	184	195	206	216
ONE FIVE O WSC	296	313	327	348	366	384
P B & S C WSC	20	21	22	24	25	26
SAN JACINTO SUD	64	67	68	73	77	80
COUNTY-OTHER	829	886	928	983	1,028	1,067
MANUFACTURING	9	10	10	10	10	10
MINING	6	6	7	7	7	7

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
LIVESTOCK	206	206	206	206	206	206
IRRIGATION	74	74	74	74	74	74
SAN JACINTO BASIN TOTAL	1,672	1,760	1,826	1,920	1,999	2,070
CAPE ROYALE UD	270	293	311	332	351	368
DODGE OAKHURST WSC	58	60	62	65	68	70
LAKE LIVINGSTON WSC*	185	205	228	252	277	303
P B & S C WSC	231	247	260	276	292	306
RIVERSIDE WSC	34	38	40	42	44	46
SAN JACINTO SUD	186	194	200	212	223	234
SHEPHERD	313	332	348	369	389	407
WATERWOOD MUD 1	123	133	142	152	160	168
COUNTY-OTHER	625	668	700	741	776	804
MINING	2	2	2	2	2	2
LIVESTOCK	207	207	207	207	207	207
IRRIGATION	74	74	74	74	74	74
TRINITY BASIN TOTAL	2,308	2,453	2,574	2,724	2,863	2,989
SAN JACINTO COUNTY TOTAL	3,980	4,213	4,400	4,644	4,862	5,059
GLENDALE WSC	117	123	122	117	121	127
GROVETON*	67	69	67	64	66	69
LAKE LIVINGSTON WSC*	46	51	57	63	68	75
PENNINGTON WSC*	120	125	122	117	121	126
TRINITY	420	435	425	406	419	438
TRINITY RURAL WSC	464	488	483	465	480	502
WESTWOOD SHORES MUD	145	152	150	144	149	156
COUNTY-OTHER*	36	34	29	21	28	26
MINING*	5	5	5	5	5	5
LIVESTOCK*	201	201	201	201	201	201
IRRIGATION*	275	275	275	275	275	275
TRINITY BASIN TOTAL	1,896	1,958	1,936	1,878	1,933	2,000
TRINITY COUNTY TOTAL	1,896	1,958	1,936	1,878	1,933	2,000
DODGE OAKHURST WSC	80	82	85	89	92	96
HUNTSVILLE	6,525	6,685	6,787	6,925	7,069	7,194
NEW WAVERLY	190	193	194	197	201	204
PHELPS SUD	153	152	151	152	154	156
WALKER COUNTY RURAL SUD	434	447	456	468	481	491
COUNTY-OTHER	1,330	1,357	1,372	1,393	1,417	1,437
MANUFACTURING	29	36	36	36	36	36
MINING	5	5	5	5	5	5
LIVESTOCK	353	353	353	353	353	353
IRRIGATION	240	240	240	240	240	240
SAN JACINTO BASIN TOTAL	9,339	9,550	9,679	9,858	10,048	10,212
DODGE OAKHURST WSC	56	59	60	63	66	68
HUNTSVILLE	1,336	1,369	1,390	1,419	1,448	1,474
LAKE LIVINGSTON WSC*	13	14	16	17	19	21
PHELPS SUD	66	66	66	66	67	67
RIVERSIDE WSC	324	356	380	403	420	435
THE CONSOLIDATED WSC*	11	12	13	13	14	15
TRINITY RURAL WSC	37	40	42	44	46	47

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Region H Water User Group (WUG) Demand

	WUG DEMAND (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WALKER COUNTY RURAL SUD	578	597	609	625	641	656
COUNTY-OTHER	1,567	1,535	1,507	1,487	1,477	1,470
MANUFACTURING	220	267	267	267	267	267
MINING	6	6	6	6	6	6
LIVESTOCK	400	400	400	400	400	400
IRRIGATION	320	320	320	320	320	320
TRINITY BASIN TOTAL	4,934	5,041	5,076	5,130	5,191	5,246
WALKER COUNTY TOTAL	14,273	14,591	14,755	14,988	15,239	15,458
BROOKSHIRE MWD	602	710	837	981	1,146	1,326
G & W WSC*	110	146	186	231	281	335
HEMPSTEAD	1,303	1,489	1,702	1,944	2,218	2,517
PATTISON WSC	263	310	365	426	495	570
PRAIRIE VIEW	751	1,000	1,277	1,582	1,924	2,296
PRAIRIE VIEW A&M UNIVERSITY	195	195	195	195	195	195
QUADVEST	26	34	43	54	68	82
COUNTY-OTHER	1,448	1,693	1,979	2,303	2,673	3,077
MANUFACTURING	65	66	66	66	66	66
MINING	4	4	4	4	4	4
LIVESTOCK	909	909	909	909	909	909
IRRIGATION	7,762	7,762	7,762	7,762	7,762	7,762
BRAZOS BASIN TOTAL	13,438	14,318	15,325	16,457	17,741	19,139
G & W WSC*	339	447	572	708	861	1,028
KATY	354	434	527	628	742	866
OAK HOLLOW UTILITY	206	240	282	328	381	439
PRAIRIE VIEW	55	73	93	116	141	168
PRAIRIE VIEW A&M UNIVERSITY	21	21	21	21	21	21
WALLER	356	379	407	440	479	523
WHITE OAK UTILITIES	6	8	7	7	7	7
COUNTY-OTHER	1,351	1,579	1,845	2,148	2,493	2,870
MANUFACTURING	69	70	70	70	70	70
MINING	3	3	3	3	3	3
LIVESTOCK	270	270	270	270	270	270
IRRIGATION	14,282	14,282	14,282	14,282	14,282	14,282
SAN JACINTO BASIN TOTAL	17,312	17,806	18,379	19,021	19,750	20,547
WALLER COUNTY TOTAL	30,750	32,124	33,704	35,478	37,491	39,686
REGION H DEMAND TOTAL	2,336,763	2,561,103	2,674,943	2,796,416	2,930,696	3,076,799

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Region H Water User Group (WUG) Category Summary

MUNICIPAL	2020	2030	2040	2050	2060	2070
POPULATION	6,663,025	7,315,573	7,892,541	8,418,267	8,899,942	9,382,071
DEMAND (acre-feet per year)	1,176,380	1,272,539	1,358,792	1,442,210	1,525,267	1,609,898
EXISTING SUPPLIES (acre-feet per year)	1,336,574	1,188,915	1,120,856	1,139,996	1,157,988	1,174,942
NEEDS (acre-feet per year)*	9,446	211,831	357,016	414,029	472,987	535,443
COUNTY-OTHER	2020	2030	2040	2050	2060	2070
POPULATION	662,289	892,127	1,131,992	1,449,245	1,866,131	2,361,207
DEMAND (acre-feet per year)	88,855	116,075	144,503	183,338	235,269	297,022
EXISTING SUPPLIES (acre-feet per year)	85,978	88,153	88,495	94,445	102,556	112,177
NEEDS (acre-feet per year)*	9,086	34,997	61,528	92,504	136,147	188,210
MANUFACTURING	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	594,455	694,635	694,635	694,635	694,635	694,635
EXISTING SUPPLIES (acre-feet per year)	766,833	769,266	767,838	766,702	767,157	767,751
NEEDS (acre-feet per year)*	32,615	63,357	64,445	65,239	64,442	63,506
MINING	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	15,486	16,267	15,426	14,646	13,938	13,657
EXISTING SUPPLIES (acre-feet per year)	12,571	12,452	11,800	11,000	10,099	9,493
NEEDS (acre-feet per year)*	3,293	4,193	4,004	4,024	4,228	4,565
STEAM ELECTRIC POWER	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	104,561	104,561	104,561	104,561	104,561	104,561
EXISTING SUPPLIES (acre-feet per year)	169,929	169,905	169,881	169,856	169,832	169,808
NEEDS (acre-feet per year)*	4,968	4,968	4,968	4,968	4,968	4,968
LIVESTOCK	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	14,164	14,164	14,164	14,164	14,164	14,164
EXISTING SUPPLIES (acre-feet per year)	12,905	12,522	12,266	12,266	12,266	12,258
NEEDS (acre-feet per year)*	1,259	1,642	1,898	1,898	1,898	1,906
IRRIGATION	2020	2030	2040	2050	2060	2070
DEMAND (acre-feet per year)	342,862	342,862	342,862	342,862	342,862	342,862
EXISTING SUPPLIES (acre-feet per year)	316,064	316,064	316,064	316,064	316,064	315,981
NEEDS (acre-feet per year)*	84,455	84,455	84,455	84,455	84,455	84,538

*WUG supplies and projected demands are entered for each of a WUG's region-county-basin divisions. The needs shown in the WUG Category Summary report are calculated by first deducting the WUG split's projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Before aggregating the difference between supplies and demands to the WUG category level, calculated surpluses are updated to zero so that only the WUGs with needs in the decade are included with the Needs totals.

Region H Source Availability

GROUNDWATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
BRAZOS RIVER ALLUVIUM AQUIFER	AUSTIN	BRAZOS	FRESH	7,944	7,944	7,944	7,944	7,944	7,944
BRAZOS RIVER ALLUVIUM AQUIFER	WALLER	BRAZOS	FRESH	12,027	12,027	12,027	12,027	12,027	12,027
CARRIZO-WILCOX AQUIFER	LEON	BRAZOS	FRESH	3,612	3,404	3,325	3,351	3,356	3,356
CARRIZO-WILCOX AQUIFER	LEON	TRINITY	FRESH	10,676	11,057	11,389	11,650	11,668	11,668
CARRIZO-WILCOX AQUIFER	MADISON	BRAZOS	FRESH	381	371	352	335	334	334
CARRIZO-WILCOX AQUIFER	MADISON	TRINITY	FRESH	2,481	2,399	2,304	2,219	2,210	2,210
CARRIZO-WILCOX AQUIFER	TRINITY	TRINITY	FRESH	99	99	99	99	99	99
CARRIZO-WILCOX AQUIFER	WALKER	TRINITY	FRESH	2,099	2,099	2,099	2,099	2,099	2,099
GULF COAST AQUIFER SYSTEM	AUSTIN	BRAZOS	FRESH	8,153	8,153	8,153	8,153	8,153	8,153
GULF COAST AQUIFER SYSTEM	AUSTIN	BRAZOS-COLORADO	FRESH	19,329	19,329	19,329	19,329	19,329	19,329
GULF COAST AQUIFER SYSTEM	AUSTIN	COLORADO	FRESH	150	150	150	150	150	150
GULF COAST AQUIFER SYSTEM	BRAZORIA	BRAZOS	FRESH/BRACKISH	4,540	4,306	4,215	4,118	4,036	3,974
GULF COAST AQUIFER SYSTEM	BRAZORIA	BRAZOS-COLORADO	FRESH	12,868	12,580	12,308	11,940	11,578	11,253
GULF COAST AQUIFER SYSTEM	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	53,614	54,308	54,735	55,260	55,766	56,223
GULF COAST AQUIFER SYSTEM	CHAMBERS	NECHES-TRINITY	FRESH	10,798	10,798	10,798	10,798	10,798	10,798
GULF COAST AQUIFER SYSTEM	CHAMBERS	TRINITY	FRESH	10,104	10,104	10,104	10,104	10,104	10,104
GULF COAST AQUIFER SYSTEM	CHAMBERS	TRINITY-SAN JACINTO	FRESH	2,049	2,049	2,049	2,049	2,049	2,049
GULF COAST AQUIFER SYSTEM	FORT BEND	BRAZOS	FRESH	45,923	36,446	38,704	43,586	50,423	58,908
GULF COAST AQUIFER SYSTEM	FORT BEND	BRAZOS-COLORADO	FRESH	12,474	13,453	15,176	17,689	21,375	26,763
GULF COAST AQUIFER SYSTEM	FORT BEND	SAN JACINTO	FRESH	32,644	24,900	28,912	31,281	32,618	33,388
GULF COAST AQUIFER SYSTEM	FORT BEND	SAN JACINTO-BRAZOS	FRESH	55,134	38,217	44,055	48,463	51,702	54,232
GULF COAST AQUIFER SYSTEM	GALVESTON	NECHES-TRINITY	FRESH	92	95	101	107	114	122
GULF COAST AQUIFER SYSTEM	GALVESTON	SAN JACINTO-BRAZOS	FRESH	11,696	12,999	13,309	13,622	13,904	14,181
GULF COAST AQUIFER SYSTEM	HARRIS	SAN JACINTO	FRESH	405,157	283,540	194,965	203,265	212,376	221,899
GULF COAST AQUIFER SYSTEM	HARRIS	SAN JACINTO-BRAZOS	FRESH	15,007	16,636	17,125	17,596	18,134	18,693
GULF COAST AQUIFER SYSTEM	HARRIS	TRINITY-SAN JACINTO	FRESH	10,766	12,074	12,035	12,113	12,200	12,289
GULF COAST AQUIFER SYSTEM	LIBERTY	NECHES	FRESH	5,071	5,071	5,071	5,071	5,071	5,071
GULF COAST AQUIFER SYSTEM	LIBERTY	NECHES-TRINITY	FRESH	364	364	364	364	364	364
GULF COAST AQUIFER SYSTEM	LIBERTY	SAN JACINTO	FRESH	6,077	6,079	6,077	6,079	6,079	6,079
GULF COAST AQUIFER SYSTEM	LIBERTY	TRINITY	FRESH	22,867	22,867	22,867	22,867	22,867	22,867
GULF COAST AQUIFER SYSTEM	LIBERTY	TRINITY-SAN JACINTO	FRESH	8,850	8,850	8,850	8,850	8,850	8,850
GULF COAST AQUIFER SYSTEM	MONTGOMERY	SAN JACINTO	BRACKISH	8,760	8,760	8,760	8,760	8,760	8,760
GULF COAST AQUIFER SYSTEM	MONTGOMERY	SAN JACINTO	FRESH	82,059	82,059	82,059	82,059	82,059	82,059
GULF COAST AQUIFER SYSTEM	POLK	TRINITY	FRESH	21,810	21,810	21,810	21,810	21,810	21,810
GULF COAST AQUIFER SYSTEM	SAN JACINTO	SAN JACINTO	FRESH	10,380	10,380	10,380	10,380	10,380	10,380
GULF COAST AQUIFER SYSTEM	SAN JACINTO	TRINITY	FRESH	10,603	10,603	10,603	10,603	10,603	10,603
GULF COAST AQUIFER SYSTEM	TRINITY	TRINITY	FRESH	100	318	322	339	339	339
GULF COAST AQUIFER SYSTEM	WALKER	SAN JACINTO	FRESH	10,451	10,451	10,451	10,451	10,451	10,451

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Source Availability

GROUNDWATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
GULF COAST AQUIFER SYSTEM	WALKER	TRINITY	FRESH	10,175	10,175	10,175	10,175	10,175	10,175
GULF COAST AQUIFER SYSTEM	WALLER	BRAZOS	FRESH	21,588	21,588	21,588	21,588	21,588	21,588
GULF COAST AQUIFER SYSTEM	WALLER	SAN JACINTO	FRESH	38,597	38,597	38,597	38,597	38,597	38,597
QUEEN CITY AQUIFER	LEON	BRAZOS	FRESH	245	245	245	245	245	245
QUEEN CITY AQUIFER	LEON	TRINITY	FRESH	349	349	349	349	349	349
QUEEN CITY AQUIFER	MADISON	BRAZOS	FRESH	1	1	1	1	1	1
QUEEN CITY AQUIFER	MADISON	TRINITY	FRESH	379	379	379	379	379	379
QUEEN CITY AQUIFER	TRINITY	TRINITY	FRESH	0	0	0	0	0	0
QUEEN CITY AQUIFER	WALKER	TRINITY	FRESH	229	229	229	229	229	229
SAN BERNARD RIVER ALLUVIUM AQUIFER	AUSTIN	BRAZOS-COLORADO	FRESH	520	520	520	520	520	520
SAN JACINTO RIVER ALLUVIUM AQUIFER	WALKER	SAN JACINTO	FRESH	1,450	1,450	1,450	1,450	1,450	1,450
SPARTA AQUIFER	LEON	BRAZOS	FRESH	0	0	0	0	0	0
SPARTA AQUIFER	LEON	TRINITY	FRESH	21	21	21	21	21	21
SPARTA AQUIFER	MADISON	BRAZOS	FRESH	8	11	11	11	11	11
SPARTA AQUIFER	MADISON	TRINITY	FRESH	3,890	3,890	3,890	3,890	3,890	3,890
SPARTA AQUIFER	TRINITY	TRINITY	FRESH	29	29	29	29	29	29
SPARTA AQUIFER	WALKER	SAN JACINTO	FRESH	266	266	266	266	266	266
SPARTA AQUIFER	WALKER	TRINITY	FRESH	2,084	2,084	2,084	2,084	2,084	2,084
TRINITY RIVER ALLUVIUM AQUIFER	WALKER	TRINITY	FRESH	3,913	3,913	3,913	3,913	3,913	3,913
YEGUA-JACKSON AQUIFER	LEON	TRINITY	FRESH	0	0	0	0	0	0
YEGUA-JACKSON AQUIFER	MADISON	BRAZOS	FRESH	8	8	8	8	8	8
YEGUA-JACKSON AQUIFER	MADISON	TRINITY	FRESH	802	802	802	802	802	802
YEGUA-JACKSON AQUIFER	POLK	TRINITY	FRESH	0	0	0	0	0	0
YEGUA-JACKSON AQUIFER	TRINITY	TRINITY	FRESH	2,191	2,191	2,191	2,191	2,191	2,191
YEGUA-JACKSON AQUIFER	WALKER	SAN JACINTO	FRESH	351	351	351	351	351	351
YEGUA-JACKSON AQUIFER	WALKER	TRINITY	FRESH	3,823	3,823	3,823	3,823	3,823	3,823
GROUNDWATER SOURCE AVAILABILITY TOTAL				1,028,128	878,071	804,298	827,902	853,101	880,800

REUSE SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
DIRECT REUSE	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	3,721	4,561	4,561	4,561	4,561	4,561
DIRECT REUSE	FORT BEND	BRAZOS	FRESH	985	985	985	985	985	985
DIRECT REUSE	FORT BEND	SAN JACINTO	FRESH	2,049	2,049	2,049	2,049	2,049	2,049
DIRECT REUSE	FORT BEND	SAN JACINTO-BRAZOS	FRESH	1,587	1,587	1,587	1,587	1,587	1,587
DIRECT REUSE	GALVESTON	SAN JACINTO-BRAZOS	FRESH	1,257	1,257	1,257	1,257	1,257	1,257
DIRECT REUSE	HARRIS	SAN JACINTO	FRESH	8,675	8,675	8,675	8,675	8,675	8,675
DIRECT REUSE	HARRIS	SAN JACINTO-BRAZOS	FRESH	1,521	1,521	1,521	1,521	1,521	1,521
DIRECT REUSE	LEON	TRINITY	FRESH	58	58	58	58	58	58
DIRECT REUSE	MONTGOMERY	SAN JACINTO	FRESH	459	459	459	459	459	459
DIRECT REUSE	WALLER	SAN JACINTO	FRESH	16	16	16	16	16	16
INDIRECT REUSE	HARRIS	SAN JACINTO	FRESH	13,625	14,004	14,517	15,138	16,082	17,086
INDIRECT REUSE	MONTGOMERY	SAN JACINTO	FRESH	5,955	6,759	7,575	8,333	9,114	9,969

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Source Availability

REUSE SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
INDIRECT REUSE	WALKER	SAN JACINTO	FRESH	2,240	2,240	2,240	2,240	2,240	2,240
REUSE SOURCE AVAILABILITY TOTAL				42,148	44,171	45,500	46,879	48,604	50,463

SURFACE WATER SOURCE TYPE				SOURCE AVAILABILITY (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY *	2020	2030	2040	2050	2060	2070
BRAZOS RUN-OF-RIVER	BRAZORIA	BRAZOS	FRESH	166,632	166,270	165,907	165,545	165,182	164,820
BRAZOS RUN-OF-RIVER	FORT BEND	BRAZOS	FRESH	286,743	286,649	286,553	286,458	286,362	286,267
BRAZOS RUN-OF-RIVER	WALLER	BRAZOS	FRESH	43	43	43	43	43	43
BRAZOS-COLORADO RUN-OF-RIVER	BRAZORIA	BRAZOS-COLORADO	FRESH	11,729	11,729	11,729	11,729	11,729	11,729
CONROE LAKE/RESERVOIR	RESERVOIR**	SAN JACINTO	FRESH	79,500	78,700	77,900	77,100	76,400	75,600
HOUSTON LAKE/RESERVOIR	RESERVOIR**	SAN JACINTO	FRESH	176,800	173,600	170,600	167,500	163,600	156,400
LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	1,326,000	1,320,500	1,327,100	1,276,300	1,276,900	1,275,900
NECHES RUN-OF-RIVER	LIBERTY	NECHES	FRESH	176	176	176	176	176	176
NECHES-TRINITY RUN-OF-RIVER	CHAMBERS	NECHES-TRINITY	FRESH	37,481	37,481	37,481	37,481	37,481	37,481
SAN JACINTO RUN-OF-RIVER	HARRIS	SAN JACINTO	FRESH	12,477	12,477	12,477	12,477	12,477	12,477
SAN JACINTO RUN-OF-RIVER	LIBERTY	SAN JACINTO	FRESH	9	9	9	9	9	9
SAN JACINTO RUN-OF-RIVER	MONTGOMERY	SAN JACINTO	FRESH	141	141	141	141	141	141
SAN JACINTO-BRAZOS RUN-OF-RIVER	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	32,600	32,600	32,600	32,600	32,600	32,600
SAN JACINTO-BRAZOS RUN-OF-RIVER	FORT BEND	SAN JACINTO-BRAZOS	FRESH	5,803	5,803	5,803	5,803	5,803	5,803
SAN JACINTO-BRAZOS RUN-OF-RIVER	GALVESTON	SAN JACINTO-BRAZOS	FRESH	36	36	36	36	36	36
SAN JACINTO-BRAZOS RUN-OF-RIVER	HARRIS	SAN JACINTO-BRAZOS	FRESH	388	388	388	388	388	388
TRINITY RUN-OF-RIVER	CHAMBERS	TRINITY	FRESH	60,837	60,837	60,837	60,837	60,837	60,837
TRINITY RUN-OF-RIVER	LEON	TRINITY	FRESH	158	158	158	158	158	158
TRINITY RUN-OF-RIVER	LIBERTY	TRINITY	FRESH	49,083	49,083	49,083	49,083	49,083	49,083
TRINITY RUN-OF-RIVER	MADISON	TRINITY	FRESH	169	169	169	169	169	169
TRINITY RUN-OF-RIVER	POLK	TRINITY	FRESH	26,510	26,510	26,510	26,510	26,510	26,510
TRINITY RUN-OF-RIVER	TRINITY	TRINITY	FRESH	34	34	34	34	34	34
TRINITY RUN-OF-RIVER	WALKER	TRINITY	FRESH	460	460	460	460	460	460
TRINITY-SAN JACINTO RUN-OF-RIVER	CHAMBERS	TRINITY-SAN JACINTO	FRESH	1,213	1,213	1,213	1,213	1,213	1,213
TRINITY-SAN JACINTO RUN-OF-RIVER	HARRIS	TRINITY-SAN JACINTO	FRESH	2,420	2,420	2,420	2,420	2,420	2,420
TRINITY-SAN JACINTO RUN-OF-RIVER	LIBERTY	TRINITY-SAN JACINTO	FRESH	1,904	1,904	1,904	1,904	1,904	1,904
SURFACE WATER SOURCE AVAILABILITY TOTAL				2,279,346	2,269,390	2,271,731	2,216,574	2,212,115	2,202,658

REGION H SOURCE AVAILABILITY TOTAL				3,349,622	3,191,632	3,121,529	3,091,355	3,113,820	3,133,921
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* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
AUSTIN COUNTY WSC	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	229	257	288	328	374	426
BELLVILLE	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	1,126	1,191	1,264	1,359	1,470	1,594
SEALY	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	1,377	1,513	1,667	1,859	2,081	2,329
WEST END WSC*	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	179	196	211	230	252	276
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	1,617	1,668	1,668	1,668	1,668	1,668
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	69	74	74	74	74	74
MINING	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	97	97	97	97	97	69
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	852	852	852	852	852	852
IRRIGATION	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	2,222	2,222	2,222	2,222	2,222	2,222
BRAZOS BASIN TOTAL			7,768	8,070	8,343	8,689	9,090	9,510
AUSTIN COUNTY WSC	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	19	21	24	27	31	35
SEALY	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	3	3	3	4	4	5
WALLIS	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	160	164	170	180	192	207
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	421	487	487	487	487	487
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	37	40	40	40	40	40
MINING	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	28	28	28	28	28	20
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	239	239	239	239	239	239
IRRIGATION	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	3,785	3,785	3,785	3,785	3,785	3,785
BRAZOS-COLORADO BASIN TOTAL			4,692	4,767	4,776	4,790	4,806	4,818
WEST END WSC*	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	20	22	24	26	29	32
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	16	18	21	25	29	31
MINING	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	2	2	2	2	2	1
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	17	17	17	17	17	17
COLORADO BASIN TOTAL			55	59	64	70	77	81
AUSTIN COUNTY TOTAL			12,515	12,896	13,183	13,549	13,973	14,409
BRAZORIA	H	BRAZOS RUN-OF-RIVER	104	108	112	112	109	106
FREEPORT	H	BRAZOS RUN-OF-RIVER	148	150	153	157	163	170
LAKE JACKSON	H	BRAZOS RUN-OF-RIVER	13	12	13	14	14	13
LAKE JACKSON	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	22	23	22	22	23	26
VARNER CREEK UD	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	210	204	198	198	198	198
WEST COLUMBIA	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	372	356	344	345	345	348
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	969	1,094	1,300	1,512	1,598	1,598
MANUFACTURING	H	BRAZOS RUN-OF-RIVER	7,341	8,590	8,590	8,590	8,590	8,590
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	108	147	139	130	121	112
MINING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	135	135	135	135	135	135
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	107	107	107	107	107	107
IRRIGATION	H	BRAZOS RUN-OF-RIVER	2,661	2,661	2,661	2,661	2,661	2,661
IRRIGATION	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	1,293	1,293	1,293	1,293	1,293	1,293
BRAZOS BASIN TOTAL			13,483	14,880	15,067	15,276	15,357	15,357
BRAZORIA	H	BRAZOS RUN-OF-RIVER	249	245	241	241	244	247
FREEPORT	H	BRAZOS RUN-OF-RIVER	1	1	1	1	1	1
SWEENY	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	524	510	498	493	494	497
WEST COLUMBIA	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	68	65	62	62	63	63
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	3,772	3,772	3,772	3,772	3,772	3,772
MANUFACTURING	H	BRAZOS-COLORADO RUN-OF-RIVER	11,729	11,729	11,729	11,729	11,729	11,729
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	2,014	2,014	2,014	2,014	2,014	1,971
MINING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	252	252	252	252	252	247
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	401	401	401	401	401	393

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
IRRIGATION	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	4,045	4,045	4,045	4,045	4,045	3,962
BRAZOS-COLORADO BASIN TOTAL			23,055	23,034	23,015	23,010	23,015	22,882
ALVIN	H	DIRECT REUSE	81	81	81	81	81	81
ALVIN	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	4,644	4,866	5,160	5,587	6,186	6,983
ANGLETON	H	BRAZOS RUN-OF-RIVER	2,016	2,016	2,016	2,016	2,016	2,016
ANGLETON	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	184	184	184	184	184	184
BRAZORIA COUNTY MUD 2	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	1,666	1,658	1,655	1,653	1,653	1,654
BRAZORIA COUNTY MUD 21	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	646	669	719	769	819	853
BRAZORIA COUNTY MUD 25	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	417	459	502	554	618	689
BRAZORIA COUNTY MUD 29	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	456	716	920	920	920	920
BRAZORIA COUNTY MUD 3	H	DIRECT REUSE	9	9	9	9	9	9
BRAZORIA COUNTY MUD 3	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	655	646	648	654	662	676
BRAZORIA COUNTY MUD 31	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	409	459	537	608	675	717
BRAZORIA COUNTY MUD 6	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	1,268	1,258	1,257	1,258	1,260	1,266
CLUTE	H	BRAZOS RUN-OF-RIVER	1,120	1,120	1,120	1,120	1,120	1,120
CLUTE	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	364	363	374	406	459	520
DANBURY	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	176	169	162	159	159	159
FREEPORT	H	BRAZOS RUN-OF-RIVER	2,091	2,089	2,086	2,082	2,076	2,069
FREEPORT	H	DIRECT REUSE	17	17	17	17	17	17
FREEPORT	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	82	82	82	82	82	82
HILLCREST VILLAGE	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	120	117	114	113	113	113
LAKE JACKSON	H	BRAZOS RUN-OF-RIVER	2,227	2,228	2,227	2,226	2,226	2,227
LAKE JACKSON	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	2,988	3,012	3,068	3,179	3,347	3,539
MANVEL	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	130	208	279	359	455	573
OYSTER CREEK	H	BRAZOS RUN-OF-RIVER	148	148	148	148	148	148
OYSTER CREEK	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	110	110	111	117	125	136
PEARLAND	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	4,419	5,168	6,292	7,570	9,024	10,445
PEARLAND	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	14,954	14,566	14,097	13,807	13,657	13,456
QUADVEST	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	150	194	247	310	387	470
RICHWOOD	H	BRAZOS RUN-OF-RIVER	263	263	263	263	263	263
RICHWOOD	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	128	128	131	139	155	173
SEDONA LAKES MUD 1	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	174	194	214	238	265	296
SURFSIDE BEACH	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	202	202	202	202	202	202
TDCJ RAMSEY AREA	H	BRAZOS RUN-OF-RIVER	1,008	1,008	1,008	1,008	1,008	1,008
TDCJ RAMSEY AREA	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	1,573	1,566	1,561	1,559	1,558	1,558
COUNTY-OTHER	H	BRAZOS RUN-OF-RIVER	52	52	52	52	52	52
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	10,457	12,908	12,908	12,908	12,908	12,908
MANUFACTURING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	24,525	24,528	24,526	24,525	24,526	24,531
MANUFACTURING	H	BRAZOS RUN-OF-RIVER	161,078	159,494	159,164	158,833	158,500	158,163
MANUFACTURING	H	DIRECT REUSE	3,300	3,300	3,300	3,300	3,300	3,300
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	848	848	848	848	848	848
MANUFACTURING	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	15,070	15,070	15,070	15,070	15,070	15,070
MINING	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	581	581	581	581	581	581
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	987	987	987	987	987	987
IRRIGATION	H	BRAZOS RUN-OF-RIVER	0	0	0	0	0	0
IRRIGATION	H	GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	8,189	8,189	8,189	8,189	8,189	8,189
IRRIGATION	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	16,670	16,670	16,670	16,670	16,670	16,670

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
SAN JACINTO-BRAZOS BASIN TOTAL			286,652	288,600	289,786	291,360	293,560	295,921
BRAZORIA COUNTY TOTAL			323,190	326,514	327,868	329,646	331,932	334,160
ANAHUAC	H	TRINITY RUN-OF-RIVER	1,052	1,053	1,054	1,055	1,054	1,053
TRINITY BAY CONSERVATION DISTRICT	I	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	584	584	584	584	584	584
TRINITY BAY CONSERVATION DISTRICT	H	TRINITY RUN-OF-RIVER	730	730	730	730	730	730
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	122	143	165	189	216	245
MINING	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	3,316	3,316	3,316	3,316	3,316	3,316
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	280	280	280	280	280	280
IRRIGATION	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	320	320	320	320	320	320
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	16,499	16,499	16,499	16,499	16,499	16,499
IRRIGATION	H	NECHES-TRINITY RUN-OF-RIVER	37,474	37,474	37,474	37,474	37,474	37,474
IRRIGATION	I	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	37,000	37,000	37,000	37,000	37,000	37,000
IRRIGATION	H	TRINITY RUN-OF-RIVER	41,201	41,201	41,201	41,201	41,201	41,201
NECHES-TRINITY BASIN TOTAL			138,578	138,600	138,623	138,648	138,674	138,702
ANAHUAC	H	TRINITY RUN-OF-RIVER	53	52	51	50	51	52
MONT BELVIEU	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	2,075	2,636	2,791	2,791	2,791	2,791
TRINITY BAY CONSERVATION DISTRICT	I	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	153	153	153	153	153	153
TRINITY BAY CONSERVATION DISTRICT	H	TRINITY RUN-OF-RIVER	191	191	191	191	191	191
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	1,053	1,228	1,418	1,631	1,865	2,113
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	1,474	1,474	1,474	1,474	1,474	1,474
MINING	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	956	956	956	956	956	956
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	74	74	74	74	74	74
IRRIGATION	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	60	60	60	60	60	60
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	9,800	9,800	9,800	9,800	9,800	9,800
TRINITY BASIN TOTAL			15,889	16,624	16,968	17,180	17,415	17,664
BAYTOWN	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	651	745	842	952	1,081	1,218
CHAMBERS COUNTY MUD 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	260	295	333	377	431	488
MONT BELVIEU	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	624	792	838	838	838	838
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	386	452	522	598	684	776
COUNTY-OTHER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	971	936	898	854	800	743
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	972	972	972	972	972	972
MANUFACTURING	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	37,322	37,322	37,322	37,322	37,322	37,322
MINING	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	1,349	1,349	1,349	1,349	1,349	1,349
STEAM ELECTRIC POWER	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	120	120	120	120	120	120
STEAM ELECTRIC POWER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	7,199	7,199	7,199	7,199	7,199	7,199
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	143	143	143	143	143	143
IRRIGATION	H	GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	20	20	20	20	20	20
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,000	2,000	2,000	2,000	2,000	2,000
IRRIGATION	H	TRINITY-SAN JACINTO RUN-OF-RIVER	1,213	1,213	1,213	1,213	1,213	1,213
TRINITY-SAN JACINTO BASIN TOTAL			53,230	53,558	53,771	53,957	54,172	54,401
CHAMBERS COUNTY TOTAL			207,697	208,782	209,362	209,785	210,261	210,767
FIRST COLONY MUD 9	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	422	305	304	303	303	303
FORT BEND COUNTY FWSO 2	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	226	177	192	207	223	239
FORT BEND COUNTY MUD 115	H	BRAZOS RUN-OF-RIVER	384	384	384	384	384	384
FORT BEND COUNTY MUD 115	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	204	52	52	51	51	51

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 116	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	917	689	760	816	871	927
FORT BEND COUNTY MUD 121	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	139	139	139	139	139	139
FORT BEND COUNTY MUD 121	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	325	184	183	182	182	182
FORT BEND COUNTY MUD 128	H	BRAZOS RUN-OF-RIVER	1,511	1,511	1,511	1,511	1,511	1,511
FORT BEND COUNTY MUD 128	H	DIRECT REUSE	420	420	420	420	420	420
FORT BEND COUNTY MUD 129	H	BRAZOS RUN-OF-RIVER	756	756	756	756	756	756
FORT BEND COUNTY MUD 129	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	401	51	50	49	49	49
FORT BEND COUNTY MUD 140	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	151	151	151	151	151	151
FORT BEND COUNTY MUD 140	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	352	199	197	197	196	196
FORT BEND COUNTY MUD 149	H	BRAZOS RUN-OF-RIVER	130	130	130	130	130	130
FORT BEND COUNTY MUD 149	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	69	27	40	40	40	39
FORT BEND COUNTY MUD 152	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	152	121	132	131	131	131
FORT BEND COUNTY MUD 155	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	369	292	317	317	317	316
FORT BEND COUNTY MUD 158	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	233	184	200	200	200	200
FORT BEND COUNTY MUD 162	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	266	209	227	226	226	225
FORT BEND COUNTY MUD 187	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	35	35	35	35	35	35
FORT BEND COUNTY MUD 187	H	DIRECT REUSE	95	95	95	95	95	95
FORT BEND COUNTY MUD 187	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	304	170	169	168	168	168
FORT BEND COUNTY MUD 25	H	DIRECT REUSE	65	65	66	65	65	65
FORT BEND COUNTY MUD 25	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	135	76	76	77	78	80
FORT BEND COUNTY MUD 46	H	BRAZOS RUN-OF-RIVER	122	122	122	122	122	122
FORT BEND COUNTY MUD 46	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	25	10	16	16	16	16
FORT BEND COUNTY MUD 5	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	262	204	202	201	201	201
FORT BEND COUNTY MUD 81	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,504	1,595	1,722	1,851	1,980	2,110
FORT BEND COUNTY WCID 3	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	485	385	384	384	384	384
FULSHEAR	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	270	337	344	344	344	344
NEEDVILLE	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	136	133	130	131	135	142
NORTH FORT BEND WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	2,237	3,072	3,730	4,111	4,314	4,418
PECAN GROVE MUD 1	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	4,249	4,249	4,249	4,249	4,249	4,249
PECAN GROVE MUD 1	H	BRAZOS RUN-OF-RIVER	1,767	1,766	1,766	1,765	1,763	1,762
PECAN GROVE MUD 1	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,591	885	866	866	867	869
PLANTATION MUD	H	DIRECT REUSE	6	6	6	6	6	6
PLANTATION MUD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	430	294	288	285	284	284
QUADVEST	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	369	302	354	416	492	574
RICHMOND	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	1,377	1,377	1,377	1,377	1,377	1,377
RICHMOND	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	879	256	278	323	376	430
ROSENBERG	H	BRAZOS RUN-OF-RIVER	3,359	3,359	3,359	3,359	3,359	3,359
ROSENBERG	H	DIRECT REUSE	426	426	426	426	426	426
ROSENBERG	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	2,739	1,373	1,440	1,526	1,645	1,793
ROYAL VALLEY UTILITIES	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	641	508	554	553	553	553
SIENNA PLANTATION	H	BRAZOS RUN-OF-RIVER	2,100	2,081	2,080	2,078	2,076	2,074
SIENNA PLANTATION	H	DIRECT REUSE	3	3	3	3	3	3
SIENNA PLANTATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	484	217	470	724	977	1,212
SUGAR LAND	H	BRAZOS RUN-OF-RIVER	4,899	4,828	4,913	5,010	5,096	5,143

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
SUGAR LAND	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	15,007	8,746	9,289	9,877	10,409	10,664
SUGAR LAND	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	2,394	2,366	2,400	2,438	2,472	2,490
TDCJ JESTER UNITS	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	539	376	376	376	375	375
COUNTY-OTHER	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	471	471	471	471	471	471
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	7,793	10,576	11,326	14,839	20,366	27,831
MANUFACTURING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	67	67	67	67	67	67
MANUFACTURING	H	BRAZOS RUN-OF-RIVER	369	369	369	369	369	369
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,469	924	924	924	924	924
MINING	H	BRAZOS RUN-OF-RIVER	378	378	378	378	378	378
MINING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	41	42	32	24	16	11
STEAM ELECTRIC POWER	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	83,000	83,000	83,000	83,000	83,000	83,000
STEAM ELECTRIC POWER	H	BRAZOS RUN-OF-RIVER	41,743	41,719	41,695	41,670	41,646	41,622
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	458	458	458	458	458	458
IRRIGATION	H	BRAZOS RUN-OF-RIVER	12,000	12,000	12,000	12,000	12,000	12,000
IRRIGATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	5,023	5,023	5,023	5,023	5,023	5,023
BRAZOS BASIN TOTAL			209,173	200,725	203,473	208,690	215,740	224,326
KENDLETON	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	183	225	258	291	324	358
NEEDVILLE	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	165	160	158	158	164	172
ROSENBERG	H	BRAZOS RUN-OF-RIVER	1	1	1	1	1	1
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,503	2,444	2,866	2,866	2,866	2,866
MINING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	16	17	13	9	6	4
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	162	162	162	162	162	162
IRRIGATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	10,445	10,445	10,445	10,445	10,445	10,445
BRAZOS-COLORADO BASIN TOTAL			12,475	13,454	13,903	13,932	13,968	14,008
BLUE RIDGE WEST MUD	H	DIRECT REUSE	8	8	8	8	8	8
BLUE RIDGE WEST MUD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,130	784	780	778	777	777
FORT BEND COUNTY WCID 2	H	BRAZOS RUN-OF-RIVER	724	724	724	724	724	724
FORT BEND COUNTY WCID 2	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	975	620	740	860	981	1,110
FULSHEAR	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	80	88	121	121	121	121
HOUSTON	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	3,504	2,077	2,138	2,202	2,265	2,314
HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,583	2,545	2,226	2,166	2,096	2,014
KATY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,665	2,019	2,019	2,020	2,024	2,028
MEADOWS PLACE	H	DIRECT REUSE	26	26	26	26	26	26
MEADOWS PLACE	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	715	497	496	498	503	509
NORTH FORT BEND WATER AUTHORITY	H	DIRECT REUSE	1,169	1,162	1,158	1,157	1,156	1,156
NORTH FORT BEND WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	22,080	16,630	20,060	22,259	23,429	24,023
NORTH FORT BEND WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	9,144	5,190	5,154	5,138	5,132	5,129
SUGAR LAND	H	BRAZOS RUN-OF-RIVER	279	260	248	237	229	223
SUGAR LAND	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	693	393	392	392	392	393
SUGAR LAND	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	110	102	98	93	90	88
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	483	65	61	61	64	69
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	920	1,346	1,340	1,338	1,343	1,350
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	240	135	132	111	77	52

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	146	92	92	92	92	92
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	55	55	55	55	55	55
IRRIGATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	307	307	307	307	307	307
SAN JACINTO BASIN TOTAL			46,036	35,125	38,375	40,643	41,891	42,568
BLUE RIDGE WEST MUD	H	DIRECT REUSE	1	1	1	1	1	1
BLUE RIDGE WEST MUD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	99	69	69	68	68	68
FIRST COLONY MUD 9	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,350	974	970	968	968	967
FORT BEND COUNTY FWSD 1	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	82	65	71	76	82	88
FORT BEND COUNTY MUD 115	H	BRAZOS RUN-OF-RIVER	202	202	202	202	202	202
FORT BEND COUNTY MUD 115	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	108	28	28	28	28	28
FORT BEND COUNTY MUD 23	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,319	952	968	984	1,001	1,019
FORT BEND COUNTY MUD 24	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	146	115	125	124	124	124
FORT BEND COUNTY MUD 25	H	DIRECT REUSE	456	456	455	456	456	456
FORT BEND COUNTY MUD 25	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	942	532	533	537	546	555
FORT BEND COUNTY MUD 26	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	616	481	531	529	529	529
FORT BEND COUNTY MUD 42	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	865	678	675	674	673	673
FORT BEND COUNTY MUD 46	H	BRAZOS RUN-OF-RIVER	625	625	625	625	625	625
FORT BEND COUNTY MUD 46	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	173	66	109	108	108	107
FORT BEND COUNTY MUD 47	H	BRAZOS RUN-OF-RIVER	203	203	203	203	203	203
FORT BEND COUNTY MUD 47	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	55	20	33	32	32	32
FORT BEND COUNTY MUD 48	H	BRAZOS RUN-OF-RIVER	283	283	283	283	283	283
FORT BEND COUNTY MUD 48	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	151	17	16	15	15	15
FORT BEND COUNTY MUD 49	H	BRAZOS RUN-OF-RIVER	136	136	136	136	136	136
FORT BEND COUNTY MUD 49	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	72	26	26	26	25	25
FORT BEND COUNTY WCID 2	H	BRAZOS RUN-OF-RIVER	2,389	2,389	2,389	2,389	2,389	2,389
FORT BEND COUNTY WCID 2	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	4,754	3,330	3,811	4,293	4,778	5,295
FORT BEND COUNTY WCID 3	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	52	42	42	42	42	42
FULSHEAR	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,506	1,238	1,248	1,247	1,247	1,246
HOUSTON	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	2,258	1,338	1,377	1,418	1,459	1,491
HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,019	1,640	1,434	1,395	1,350	1,297
MEADOWCREEK MUD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	394	308	306	306	305	305
MEADOWS PLACE	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	64	44	44	44	45	45
MISSOURI CITY	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	109	45	45	45	45	45
MISSOURI CITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	149	56	83	112	141	173
NORTH FORT BEND WATER AUTHORITY	H	DIRECT REUSE	845	852	856	857	858	858
NORTH FORT BEND WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	13,659	8,504	11,217	12,787	13,625	14,052
NORTH FORT BEND WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	12,696	16,650	16,686	16,702	16,708	16,711
PALMER PLANTATION MUD 1	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	517	406	405	404	404	403
PALMER PLANTATION MUD 2	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	377	261	260	259	259	259
PEARLAND	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	704	701	809	907	992	1,136
PECAN GROVE MUD 1	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	4	4	4	4	4	4
PECAN GROVE MUD 1	H	BRAZOS RUN-OF-RIVER	14	14	14	14	14	14
PECAN GROVE MUD 1	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	13	7	7	7	7	7
QUAIL VALLEY UD	H	DIRECT REUSE	634	634	634	634	634	634
QUAIL VALLEY UD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	2,421	1,896	2,098	2,094	2,092	2,091

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
SIENNA PLANTATION	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	513	583	589	596	602	608
SIENNA PLANTATION	H	BRAZOS RUN-OF-RIVER	5,638	5,651	5,646	5,641	5,637	5,633
SIENNA PLANTATION	H	DIRECT REUSE	9	9	9	9	9	9
SIENNA PLANTATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,313	587	1,275	1,963	2,651	3,288
SUGAR LAND	H	BRAZOS RUN-OF-RIVER	2,930	3,020	2,947	2,861	2,783	2,742
SUGAR LAND	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	6,972	4,277	4,368	4,435	4,480	4,529
SUGAR LAND	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	1,156	1,192	1,162	1,129	1,098	1,082
TDCJ JESTER UNITS	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	804	561	559	559	559	559
THUNDERBIRD UD	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	1,215	952	948	947	946	946
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	6,023	3,512	4,532	5,774	6,688	7,370
MANUFACTURING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	308	308	308	308	308	308
MANUFACTURING	H	BRAZOS RUN-OF-RIVER	1,858	1,857	1,857	1,856	1,855	1,854
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	2,167	1,361	1,361	1,361	1,361	1,361
MINING	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	11	6	5	4	2	2
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	157	157	157	157	157	157
IRRIGATION	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	3,113	3,113	3,113	3,113	3,113	3,113
IRRIGATION	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	165	165	165	165	165	165
SAN JACINTO-BRAZOS BASIN TOTAL			86,814	73,599	78,829	82,913	85,917	88,359
FORT BEND COUNTY TOTAL			354,498	322,903	334,580	346,178	357,516	369,261
BOLIVAR PENINSULA SUD	I	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	6,000	6,000	6,000	6,000	6,000	6,000
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	1	1	1	1	1	2
MINING	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	8	8	9	10	11	11
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	6	6	6	6	6	6
IRRIGATION	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	57	57	57	57	57	57
NECHES-TRINITY BASIN TOTAL			6,072	6,072	6,073	6,074	6,075	6,076
BACLIFF MUD	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	213	214	214	213	214	213
BACLIFF MUD	H	BRAZOS RUN-OF-RIVER	840	839	838	838	837	837
BACLIFF MUD	H	DIRECT REUSE	68	68	68	68	68	68
BACLIFF MUD	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	5	5	5	5	5	5
BAYVIEW MUD	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	70	70	70	70	70	70
BAYVIEW MUD	H	BRAZOS RUN-OF-RIVER	274	274	274	273	273	273
BAYVIEW MUD	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	15	15	16	17	17	18
FRIENDSWOOD	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	557	577	605	640	682	729
FRIENDSWOOD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	11,804	11,481	11,262	11,038	10,820	10,572
GALVESTON	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	3,766	3,766	3,766	3,767	3,766	3,766
GALVESTON	H	BRAZOS RUN-OF-RIVER	14,466	14,458	14,449	14,438	14,427	14,415
GALVESTON	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	1,662	1,742	1,828	1,924	2,016	2,115
GALVESTON COUNTY FWSD 6	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	65	65	65	65	65	64
GALVESTON COUNTY FWSD 6	H	BRAZOS RUN-OF-RIVER	253	253	253	253	253	253
GALVESTON COUNTY MUD 12	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	81	80	80	81	81	80
GALVESTON COUNTY MUD 12	H	BRAZOS RUN-OF-RIVER	318	318	318	317	317	317
GALVESTON COUNTY MUD 12	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	27	26	26	25	25	25
GALVESTON COUNTY WCID 1	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	748	748	748	748	747	747

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
GALVESTON COUNTY WCID 1	H	BRAZOS RUN-OF-RIVER	1,784	1,782	1,781	1,779	1,778	1,776
GALVESTON COUNTY WCID 1	H	DIRECT REUSE	383	383	383	383	383	383
GALVESTON COUNTY WCID 1	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	297	324	354	387	422	459
GALVESTON COUNTY WCID 12	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	187	188	187	188	187	187
GALVESTON COUNTY WCID 12	H	BRAZOS RUN-OF-RIVER	736	735	735	734	734	733
GALVESTON COUNTY WCID 12	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	187	229	233	238	241	245
GALVESTON COUNTY WCID 8	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	180	179	180	179	180	179
GALVESTON COUNTY WCID 8	H	BRAZOS RUN-OF-RIVER	705	705	704	704	703	703
GALVESTON COUNTY WCID 8	H	DIRECT REUSE	161	161	161	161	161	161
GALVESTON COUNTY WCID 8	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	61	60	61	62	64	66
HITCHCOCK	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	269	270	269	269	269	269
HITCHCOCK	H	BRAZOS RUN-OF-RIVER	1,058	1,057	1,057	1,056	1,055	1,054
HITCHCOCK	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	50	50	50	50	50	50
JAMAICA BEACH	H	BRAZOS RUN-OF-RIVER	259	258	258	259	262	265
LA MARQUE	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	499	498	499	499	499	499
LA MARQUE	H	BRAZOS RUN-OF-RIVER	1,961	1,960	1,959	1,958	1,956	1,955
LA MARQUE	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	336	358	359	362	367	371
LEAGUE CITY	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	457	456	457	457	456	457
LEAGUE CITY	H	BRAZOS RUN-OF-RIVER	2,914	2,913	2,911	2,911	2,910	2,908
LEAGUE CITY	H	DIRECT REUSE	628	628	628	628	628	628
LEAGUE CITY	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	1,417	1,562	1,677	1,776	1,835	1,877
LEAGUE CITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	17,997	17,990	17,997	17,999	17,999	18,000
SAN LEON MUD	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	321	321	321	321	321	320
SAN LEON MUD	H	BRAZOS RUN-OF-RIVER	1,258	1,258	1,257	1,256	1,255	1,255
SAN LEON MUD	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	1	1	1	1	1	1
TEXAS CITY	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	2,065	2,065	2,065	2,065	2,065	2,065
TEXAS CITY	H	BRAZOS RUN-OF-RIVER	7,505	7,501	7,496	7,491	7,486	7,481
TEXAS CITY	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	708	752	790	827	867	904
COUNTY-OTHER	H	BRAZOS RUN-OF-RIVER	12	12	12	12	12	12
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	117	103	95	87	79	71
MANUFACTURING	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	10,955	10,954	10,955	10,953	10,955	10,954
MANUFACTURING	H	BRAZOS RUN-OF-RIVER	43,710	43,684	43,657	43,634	43,605	43,581
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	301	301	301	301	301	301
MINING	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	30	32	36	39	41	44
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	20	20	20	20	20	20
IRRIGATION	H	BRAZOS RUN-OF-RIVER	0	0	0	0	0	0
IRRIGATION	H	GULF COAST AQUIFER SYSTEM GALVESTON COUNTY	208	208	208	208	208	208
IRRIGATION	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	36	36	36	36	36	36
SAN JACINTO-BRAZOS BASIN TOTAL			135,005	134,993	135,035	135,070	135,074	135,045
GALVESTON COUNTY TOTAL			141,077	141,065	141,108	141,144	141,149	141,121
BAKER ROAD MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	278	201	141	141	141	141
BAYTOWN	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	42	41	41	41	41	42
BAYTOWN	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	379	374	372	371	377	383

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
BELLAIRE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	840	893	956	1,031	1,120	1,218
BELLAIRE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	3,360	3,574	3,824	4,124	4,478	4,870
BLUE BELL MANOR UTILITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	623	440	318	325	332	339
BUNKER HILL VILLAGE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	332	355	380	408	440	475
BUNKER HILL VILLAGE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,330	1,418	1,518	1,632	1,760	1,900
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3,764	2,282	1,187	1,237	1,289	1,347
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	HOUSTON LAKE/RESERVOIR	2,374	2,374	2,374	2,374	2,374	2,374
CHIMNEY HILL MUD	H	DIRECT REUSE	50	50	50	50	50	50
CHIMNEY HILL MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	398	222	109	108	110	112
CHIMNEY HILL MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	170	333	435	434	439	447
CROSBY MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	71	72	73	74	76	77
CROSBY MUD	H	SAN JACINTO RUN-OF-RIVER	978	978	978	978	978	978
DEER PARK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	132	134	136	140	144	149
DEER PARK	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,417	1,358	1,310	1,259	1,297	1,336
DOUGLAS UTILITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	234	159	113	113	113	113
EL DORADO UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	405	281	201	202	203	203
FOREST HILLS MUD	H	DIRECT REUSE	23	23	23	23	23	23
FOREST HILLS MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	359	258	186	185	185	185
FORT BEND COUNTY WCID 2	H	BRAZOS RUN-OF-RIVER	140	140	140	140	140	140
FORT BEND COUNTY WCID 2	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	267	188	107	121	134	149
GALENA PARK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	84	81	78	77	79	80
GALENA PARK	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	912	912	912	912	912	912
GREEN TRAILS MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	630	438	313	314	315	315
GREENWOOD UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	70	78	77	77	78	79
GREENWOOD UD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	281	310	308	309	311	314
HARRIS COUNTY FWSO 58	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	386	280	202	206	211	216
HARRIS COUNTY MUD 106	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,428	1,002	723	730	736	740
HARRIS COUNTY MUD 11	H	DIRECT REUSE	32	32	32	32	32	32
HARRIS COUNTY MUD 11	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	332	232	166	168	170	173
HARRIS COUNTY MUD 119	H	DIRECT REUSE	48	48	48	48	48	48
HARRIS COUNTY MUD 119	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	636	439	313	314	317	320
HARRIS COUNTY MUD 122	H	BRAZOS RUN-OF-RIVER	107	107	107	107	107	107
HARRIS COUNTY MUD 122	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	29	34	39	39	39	39
HARRIS COUNTY MUD 132	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,065	739	526	527	527	528
HARRIS COUNTY MUD 148	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	68	69	69	69	69	70
HARRIS COUNTY MUD 148	H	HOUSTON LAKE/RESERVOIR	270	278	276	275	277	279
HARRIS COUNTY MUD 151	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,093	762	545	544	545	546
HARRIS COUNTY MUD 152	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,090	766	551	556	560	563
HARRIS COUNTY MUD 153	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,315	913	652	651	651	651
HARRIS COUNTY MUD 154	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,043	723	519	522	527	534
HARRIS COUNTY MUD 158	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	477	264	129	127	127	127
HARRIS COUNTY MUD 158	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	204	397	516	509	507	507
HARRIS COUNTY MUD 180	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	541	388	278	278	277	277
HARRIS COUNTY MUD 189	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	357	252	182	184	187	190
HARRIS COUNTY MUD 216	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	154	111	78	78	78	78
HARRIS COUNTY MUD 221	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	450	328	235	238	241	244
HARRIS COUNTY MUD 23	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	264	156	76	75	74	74

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 23	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	113	234	303	299	298	298
HARRIS COUNTY MUD 278	H	DIRECT REUSE	9	9	9	9	9	9
HARRIS COUNTY MUD 278	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,213	1,000	681	681	680	680
HARRIS COUNTY MUD 278	H	HOUSTON LAKE/RESERVOIR	836	836	906	902	901	900
HARRIS COUNTY MUD 290	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	710	510	371	376	379	382
HARRIS COUNTY MUD 321	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	216	162	86	92	92	92
HARRIS COUNTY MUD 321	H	HOUSTON LAKE/RESERVOIR	93	242	346	370	369	369
HARRIS COUNTY MUD 342	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	681	723	632	634	634	634
HARRIS COUNTY MUD 342	H	HOUSTON LAKE/RESERVOIR	0	0	135	128	127	127
HARRIS COUNTY MUD 344	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	958	355	0	0	0	0
HARRIS COUNTY MUD 344	H	HOUSTON LAKE/RESERVOIR	52	751	1,097	1,093	1,091	1,091
HARRIS COUNTY MUD 345	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	900	624	445	444	444	444
HARRIS COUNTY MUD 36	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	374	272	191	191	191	191
HARRIS COUNTY MUD 361	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	435	460	453	449	448	448
HARRIS COUNTY MUD 372	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	880	498	247	246	246	246
HARRIS COUNTY MUD 372	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	595	747	989	986	985	985
HARRIS COUNTY MUD 400	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,246	906	655	667	674	677
HARRIS COUNTY MUD 412	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	538	389	281	287	293	300
HARRIS COUNTY MUD 412	H	HOUSTON LAKE/RESERVOIR	637	637	637	637	637	637
HARRIS COUNTY MUD 420	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	28	29	30	29	29	29
HARRIS COUNTY MUD 420	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	110	114	119	118	117	117
HARRIS COUNTY MUD 46	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	618	427	304	303	303	303
HARRIS COUNTY MUD 49	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	677	479	343	345	347	349
HARRIS COUNTY MUD 49	H	HOUSTON LAKE/RESERVOIR	361	361	361	367	374	382
HARRIS COUNTY MUD 5	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	355	203	104	109	115	123
HARRIS COUNTY MUD 5	H	HOUSTON LAKE/RESERVOIR	152	305	417	435	462	491
HARRIS COUNTY MUD 50	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	79	76	77	78	78	78
HARRIS COUNTY MUD 50	H	SAN JACINTO RUN-OF-RIVER	560	560	560	560	560	560
HARRIS COUNTY MUD 58	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	249	179	129	129	129	129
HARRIS COUNTY MUD 6	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	344	206	101	100	100	100
HARRIS COUNTY MUD 6	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	208	208	208	208	208	208
HARRIS COUNTY MUD 8	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	97	93	89	89	88	88
HARRIS COUNTY MUD 8	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	581	581	581	581	581	581
HARRIS COUNTY MUD 96	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	407	237	125	133	141	148
HARRIS COUNTY MUD 96	H	HOUSTON LAKE/RESERVOIR	175	355	500	533	566	590
HARRIS COUNTY UD 14	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	217	162	118	128	139	155
HARRIS COUNTY UD 15	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	521	375	275	269	263	256
HARRIS COUNTY WCID 1	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	71	69	69	71	72	75
HARRIS COUNTY WCID 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	755	756	755	754	753	752
HARRIS COUNTY WCID 133	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	674	464	335	343	353	365
HARRIS COUNTY WCID 70	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	238	171	121	120	120	120
HARRIS COUNTY WCID 74	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	609	415	295	293	292	292
HARRIS COUNTY WCID 96	H	DIRECT REUSE	83	83	83	83	83	83
HARRIS COUNTY WCID 96	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,159	658	329	329	329	328
HARRIS COUNTY WCID 96	H	HOUSTON LAKE/RESERVOIR	2,464	2,464	2,464	2,464	2,464	2,464
HARRIS COUNTY WCID-FONDREN ROAD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	70	83	96	95	94	94
HARRIS COUNTY WCID-FONDREN ROAD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	293	332	383	378	378	377

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
	REGION		2020	2030	2040	2050	2060	2070
HILSHIRE VILLAGE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	137	81	43	48	53	58
HILSHIRE VILLAGE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	59	122	173	190	210	232
HMW SUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	405	311	232	251	250	250
HOUSTON	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	131,991	80,885	44,244	46,710	49,499	52,510
HOUSTON	H	HOUSTON LAKE/RESERVOIR	31,507	31,507	31,507	31,507	31,507	31,507
HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	259,020	259,884	261,548	261,642	261,744	261,865
HOUSTON	H	SAN JACINTO INDIRECT REUSE	4,839	4,862	4,937	5,027	5,147	5,147
HOUSTON	H	SAN JACINTO RUN-OF-RIVER	5,412	5,425	5,452	5,450	5,448	5,450
HUMBLE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,901	1,276	706	759	801	833
HUMBLE	H	HOUSTON LAKE/RESERVOIR	814	1,914	2,824	3,034	3,203	3,333
JACINTO CITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	154	148	150	154	159	163
JACINTO CITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,121	1,121	1,121	1,121	1,121	1,121
JERSEY VILLAGE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,259	714	359	364	371	379
JERSEY VILLAGE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	829	1,071	1,436	1,454	1,483	1,518
KATY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3,214	2,293	1,649	1,669	1,688	1,706
KINGS MANOR MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	153	149	155	160	161	162
LA PORTE	H	DIRECT REUSE	51	51	51	51	51	51
LA PORTE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	31	31	31	31	31	31
LA PORTE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	283	279	278	279	282	286
LAKE MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	5	5	5	5	4	4
LAKE MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	20	20	20	20	20	20
LONGHORN TOWN UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	354	246	176	176	176	176
LUCE BAYOU PUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	141	102	73	73	73	73
MASON CREEK UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,447	996	710	710	709	709
MEMORIAL VILLAGES WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,120	1,208	1,306	1,414	1,533	1,664
MEMORIAL VILLAGES WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,283	2,283	2,283	2,283	2,283	2,283
MORGANS POINT	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	2	2	3	3	3	3
MORGANS POINT	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	100	100	100	100	100	100
MOUNT HOUSTON ROAD MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	626	491	359	373	384	392
NEWPORT MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	713	412	209	212	216	221
NEWPORT MUD	H	SAN JACINTO RUN-OF-RIVER	896	896	896	896	896	896
NORTH BELT UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	515	356	256	258	260	264
NORTH CHANNEL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	2,043	2,041	2,047	2,072	2,117	2,158
NORTH CHANNEL WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	8,891	8,891	8,891	8,891	8,891	8,891
NORTH FOREST MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	199	139	99	99	99	99
NORTH FORT BEND WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	571	1,138	1,519	1,525	1,531	1,538
NORTH FORT BEND WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,331	758	380	381	383	384
NORTH GREEN MUD	H	DIRECT REUSE	8	8	8	8	8	8
NORTH GREEN MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	495	342	244	244	245	247
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	DIRECT REUSE	772	772	772	772	772	772
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	83,592	49,185	24,456	25,408	26,346	27,234

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	HOUSTON LAKE/RESERVOIR	34,720	34,720	34,720	34,720	34,720	34,720
NORTHWEST HARRIS COUNTY MUD 16	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	494	356	250	250	249	249
PARKWAY MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	104	106	104	103	103	104
PARKWAY MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	416	422	415	413	414	417
PASADENA	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3,374	3,378	3,387	3,440	3,522	3,615
PASADENA	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	37,783	37,769	37,734	37,673	37,564	37,438
PINE VILLAGE PUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	231	165	119	121	124	127
PINE VILLAGE PUD	H	HOUSTON LAKE/RESERVOIR	0	76	131	141	150	161
PINEWOOD COMMUNITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	113	81	57	57	57	57
QUADVEST	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	171	140	107	122	139	158
ROLLING FORK PUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	321	180	89	88	88	88
ROLLING FORK PUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	189	189	189	189	189	189
SEQUOIA IMPROVEMENT DISTRICT	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	163	118	85	85	85	85
SOUTH HOUSTON	H	DIRECT REUSE	54	54	54	54	54	54
SOUTH HOUSTON	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	384	382	382	388	400	413
SOUTH HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	4,139	4,139	4,139	4,139	4,139	4,139
SOUTHERN WATER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	460	330	232	231	231	231
SOUTHSIDE PLACE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	68	66	65	64	66	71
SOUTHSIDE PLACE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	273	264	258	255	262	282
SOUTHWEST HARRIS COUNTY MUD 1	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	28	33	32	32	32	32
SOUTHWEST HARRIS COUNTY MUD 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	147	147	147	147	147	147
SPRING VALLEY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,047	761	552	568	587	608
SPRING VALLEY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	488	488	638	704	780	863
SUBURBAN UTILITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	340	234	167	166	166	166
SUNBELT FWSD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	2,837	1,985	1,421	1,441	1,472	1,509
SUNBELT FWSD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	861	861	1,429	1,509	1,634	1,779
THE COMMONS WATER SUPPLY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	403	288	207	209	211	212
THE WOODLANDS	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3,872	2,822	2,066	2,122	2,165	2,197
TOMBALL	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3,210	2,301	1,658	1,682	1,706	1,728
TRAIL OF THE LAKES MUD	H	DIRECT REUSE	9	9	9	9	9	9
TRAIL OF THE LAKES MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,043	739	526	526	527	529
WALLER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	59	34	17	18	19	20
WALLER	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	25	50	69	72	76	82
WEST HARRIS COUNTY MUD 6	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	366	264	189	191	192	194
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	DIRECT REUSE	734	734	734	734	734	734
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	45,291	24,513	10,780	11,677	11,986	12,271
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	31,976	31,976	31,976	31,976	31,976	31,976
WEST UNIVERSITY PLACE	H	DIRECT REUSE	9	9	9	9	9	9
WEST UNIVERSITY PLACE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	585	614	650	693	745	803
WEST UNIVERSITY PLACE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,341	2,458	2,598	2,772	2,982	3,213
WOODCREEK MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	392	271	194	193	194	194
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	11,067	8,742	5,859	5,938	6,617	7,258
COUNTY-OTHER	H	HOUSTON LAKE/RESERVOIR	723	723	723	723	723	723

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
COUNTY-OTHER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,559	2,559	2,559	2,559	2,559	2,559
MANUFACTURING	H	DIRECT REUSE	6,844	6,844	6,844	6,844	6,844	6,844
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	16,432	19,175	19,175	19,175	19,175	19,175
MANUFACTURING	H	HOUSTON LAKE/RESERVOIR	54,650	54,650	54,650	54,650	54,650	54,650
MANUFACTURING	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	161,720	161,720	161,720	161,720	161,720	161,720
MANUFACTURING	H	SAN JACINTO RUN-OF-RIVER	341	341	341	341	341	341
MANUFACTURING	H	TRINITY RUN-OF-RIVER	26,510	26,510	26,510	26,510	26,510	26,510
MINING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	291	289	284	281	279	277
STEAM ELECTRIC POWER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	2,881	2,881	2,881	2,881	2,881	2,881
STEAM ELECTRIC POWER	H	HOUSTON LAKE/RESERVOIR	4,849	4,849	4,849	4,849	4,849	4,849
STEAM ELECTRIC POWER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	17,663	17,663	17,663	17,663	17,663	17,663
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	894	511	255	255	255	255
IRRIGATION	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	8,508	8,508	8,508	8,508	8,508	8,508
IRRIGATION	H	SAN JACINTO RUN-OF-RIVER	2,749	2,749	2,749	2,749	2,749	2,749
IRRIGATION	H	SAN JACINTO-BRAZOS RUN-OF-RIVER	388	388	388	388	388	388
SAN JACINTO BASIN TOTAL			1,101,866	982,230	897,008	903,253	910,156	917,202
BAYBROOK MUD 1	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	25	26	29	31	33	35
BAYBROOK MUD 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,016	2,016	2,016	2,016	2,016	2,016
CLEAR BROOK CITY MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	349	346	379	402	423	444
CLEAR BROOK CITY MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,800	2,800	2,800	2,800	2,800	2,800
CLEAR LAKE CITY WATER AUTHORITY	H	DIRECT REUSE	436	436	436	436	436	436
CLEAR LAKE CITY WATER AUTHORITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	1,309	1,328	1,409	1,481	1,555	1,633
CLEAR LAKE CITY WATER AUTHORITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	18,127	18,105	18,088	18,067	18,048	18,030
DEER PARK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	281	287	291	299	308	317
DEER PARK	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,540	2,599	2,647	2,698	2,770	2,853
FRIENDSWOOD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	404	481	529	587	640	700
FRIENDSWOOD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,636	1,959	2,178	2,402	2,620	2,868
HARRIS COUNTY MUD 55	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	286	293	297	311	333	365
HARRIS COUNTY MUD 55	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	3,878	3,878	3,878	3,878	3,878	3,878
HARRIS COUNTY WCID 156	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	30	32	34	36	38	40
HARRIS COUNTY WCID 156	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	302	324	341	362	381	399
HARRIS COUNTY WCID 50	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	37	37	37	37	37	37
HARRIS COUNTY WCID 50	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	336	333	329	331	332	333
HARRIS COUNTY WCID 89	H	DIRECT REUSE	9	9	9	9	9	9
HARRIS COUNTY WCID 89	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	103	101	99	100	100	101
HARRIS COUNTY WCID 89	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,879	2,879	2,879	2,879	2,879	2,879
HOUSTON	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	2,866	2,859	2,860	2,869	2,893	2,925
HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	13,480	11,033	9,894	9,899	9,912	9,926
KIRKMONT MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	73	78	83	89	96	104
KIRKMONT MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	291	313	330	357	385	415
LA PORTE	H	DIRECT REUSE	722	722	722	722	722	722
LA PORTE	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	441	436	431	435	439	445
LA PORTE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	6,573	6,577	6,578	6,577	6,574	6,570
LEAGUE CITY	H	DIRECT REUSE	17	17	17	17	17	17
LEAGUE CITY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	38	43	45	47	49	50
LEAGUE CITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	483	490	483	481	481	480

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MORGANS POINT	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	14	15	15	16	17	18
MORGANS POINT	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	516	516	516	516	516	516
NASSAU BAY	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	104	104	104	106	107	108
NASSAU BAY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,184	2,184	2,184	2,184	2,184	2,184
PASADENA	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	497	497	499	506	518	532
PASADENA	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	4,495	4,509	4,544	4,605	4,714	4,840
PEARLAND	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	434	538	644	729	788	832
PEARLAND	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,262	2,653	3,014	3,206	3,271	3,328
SAGEMEADOW UD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	143	148	155	166	177	189
SAGEMEADOW UD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	898	876	859	832	804	774
SEABROOK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	179	180	179	182	185	189
SEABROOK	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,680	1,680	1,680	1,680	1,680	1,680
SHOREACRES	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	33	32	32	33	33	34
SHOREACRES	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	364	364	364	364	364	364
WEBSTER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	378	406	426	446	460	471
WEBSTER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	4,446	4,446	4,446	4,446	4,446	4,446
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	38	61	57	6	35	63
MANUFACTURING	H	DIRECT REUSE	303	303	303	303	303	303
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	6,906	8,074	8,074	8,074	8,074	8,074
MANUFACTURING	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	89,086	89,086	89,086	89,086	89,086	89,086
MINING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	20	20	19	19	19	19
STEAM ELECTRIC POWER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	19	19	19	19	19	19
SAN JACINTO-BRAZOS BASIN TOTAL			177,766	177,548	177,367	178,179	179,004	179,896
BAYTOWN	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	906	890	881	883	896	911
BAYTOWN	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	11,094	10,996	10,907	10,802	10,668	10,525
COUNTRY TERRACE WATER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	31	32	34	35	37	39
COUNTRY TERRACE WATER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	140	140	140	140	140	140
HARRIS COUNTY FWSD 1-A	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	29	30	31	33	34	36
HARRIS COUNTY FWSD 1-A	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	185	185	185	185	185	185
HARRIS COUNTY FWSD 27	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	24	25	26	27	29	30
HARRIS COUNTY FWSD 27	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	267	267	267	267	267	267
HARRIS COUNTY WCID 1	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	3	3	3	3	4	4
HARRIS COUNTY WCID 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	29	28	29	30	31	32
HOUSTON	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	34	20	11	11	12	13
HOUSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	31	31	31	31	31	31
LAKE MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	61	64	62	61	61	61
LAKE MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,100	1,100	1,100	1,100	1,100	1,100
SPRING MEADOWS MUD	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	62	64	62	61	61	61
SPRING MEADOWS MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	246	255	249	245	244	244
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	596	565	544	618	685	753
COUNTY-OTHER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	826	826	826	826	826	826
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	8,047	9,408	9,408	9,408	9,408	9,408
MANUFACTURING	H	HOUSTON LAKE/RESERVOIR	4,400	2,800	1,300	0	0	0
MANUFACTURING	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,456	1,456	1,456	1,456	1,456	1,456
MANUFACTURING	H	SAN JACINTO INDIRECT REUSE	8,786	9,142	9,580	10,111	10,935	11,939
MANUFACTURING	H	SAN JACINTO RUN-OF-RIVER	1,217	1,217	1,217	1,217	1,217	1,217
MANUFACTURING	H	TRINITY RUN-OF-RIVER	49,156	49,156	49,156	49,156	49,156	49,156
MINING	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	16	16	16	16	16	16

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	25	25	25	25	25	25
IRRIGATION	H	GULF COAST AQUIFER SYSTEM HARRIS COUNTY	932	932	932	932	932	932
IRRIGATION	H	TRINITY-SAN JACINTO RUN-OF-RIVER	2,420	2,420	2,420	2,420	2,420	2,420
TRINITY-SAN JACINTO BASIN TOTAL			92,119	92,093	90,898	90,099	90,876	91,827
HARRIS COUNTY TOTAL			1,371,751	1,251,871	1,165,273	1,171,531	1,180,036	1,188,925
CONCORD-ROBBINS WSC	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	174	172	170	176	183	188
CONCORD-ROBBINS WSC	H	QUEEN CITY AQUIFER LEON COUNTY	94	92	92	95	98	102
HILLTOP LAKES WSC	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	192	201	209	222	234	247
HILLTOP LAKES WSC	H	QUEEN CITY AQUIFER LEON COUNTY	57	60	62	66	70	73
JEWETT	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	73	85	94	108	121	133
NORMANGEE	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	27	28	29	30	32	34
SOUTHEAST WSC	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	4	4	4	4	4	5
COUNTY-OTHER	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	31	30	28	28	27	27
COUNTY-OTHER	H	QUEEN CITY AQUIFER LEON COUNTY	25	23	23	22	22	22
MINING	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	721	721	623	459	296	190
LIVESTOCK	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	714	714	714	714	714	714
IRRIGATION	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	129	129	129	129	129	129
BRAZOS BASIN TOTAL			2,241	2,259	2,177	2,053	1,930	1,864
BUFFALO	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	386	387	387	393	401	410
CENTERVILLE	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	203	212	219	232	246	258
CONCORD-ROBBINS WSC	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	74	73	72	75	77	81
FLO COMMUNITY WSC*	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	334	384	436	490	550	611
JEWETT	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	201	234	261	299	333	368
NORMANGEE	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	80	84	86	92	97	101
SOUTHEAST WSC	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	263	273	281	298	314	330
COUNTY-OTHER	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	172	155	134	127	116	102
COUNTY-OTHER	H	QUEEN CITY AQUIFER LEON COUNTY	20	18	16	15	13	12
COUNTY-OTHER	H	SPARTA AQUIFER LEON COUNTY	8	7	6	6	5	4
MANUFACTURING	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	846	868	868	868	868	868
MANUFACTURING	H	DIRECT REUSE	58	58	58	58	58	58
MINING	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	1,681	1,681	1,454	1,071	689	444
LIVESTOCK	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	1,861	1,861	1,861	1,861	1,861	1,861
LIVESTOCK	H	QUEEN CITY AQUIFER LEON COUNTY	318	318	318	318	318	318
LIVESTOCK	H	SPARTA AQUIFER LEON COUNTY	11	11	11	11	11	11
IRRIGATION	H	CARRIZO-WILCOX AQUIFER LEON COUNTY	205	205	205	205	205	205
IRRIGATION	H	TRINITY RUN-OF-RIVER	158	158	158	158	158	158
TRINITY BASIN TOTAL			6,879	6,987	6,831	6,577	6,320	6,200
LEON COUNTY TOTAL			9,120	9,246	9,008	8,630	8,250	8,064
DAISETTA	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	46	50	53	57	62	67
DEVERS	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	4	4	5	5	5	6
HARDIN WSC	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	26	32	37	42	48	53
LIBERTY COUNTY FWSD 1 HULL	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	102	113	122	134	144	155
WEST HARDIN WSC*	I	GULF COAST AQUIFER SYSTEM HARDIN COUNTY	22	24	26	28	31	32
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	30	31	32	34	36	37
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	180	212	212	212	212	212
MINING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	52	52	52	52	52	52
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	62	62	62	62	62	62
IRRIGATION	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	146	146	146	146	146	146

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
NECHES BASIN TOTAL			670	726	747	772	798	822
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	13	14	15	15	16	17
MINING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	22	22	22	22	22	22
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	21	21	21	21	21	21
IRRIGATION	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	37	37	37	37	37	37
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	5,400	5,400	5,400	5,400	5,400	5,400
IRRIGATION	I	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	23,000	23,000	23,000	23,000	23,000	23,000
IRRIGATION	H	TRINITY RUN-OF-RIVER	1,067	1,067	1,067	1,067	1,067	1,067
NECHES-TRINITY BASIN TOTAL			29,560	29,561	29,562	29,562	29,563	29,564
CLEVELAND	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	1,539	1,527	1,520	1,525	1,543	1,563
MERCY WSC	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	21	22	23	25	26	27
SOUTH CLEVELAND WSC	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	215	232	250	271	293	315
T & W WATER SERVICE	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	194	242	295	359	437	531
TARKINGTON SUD	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	327	370	414	461	508	554
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	1,296	1,356	1,411	1,480	1,561	1,637
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	12	14	14	14	14	14
MINING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	79	79	79	79	79	79
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	84	84	84	84	84	84
IRRIGATION	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	73	73	73	73	73	73
SAN JACINTO BASIN TOTAL			3,840	3,999	4,163	4,371	4,618	4,877
DAISETTA	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	82	88	95	103	111	119
DAYTON	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	2,386	3,042	3,673	4,316	4,942	5,541
DEVERS	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	168	186	204	223	242	259
HARDIN WSC	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	471	566	662	762	861	957
LAKE LIVINGSTON WSC*	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	90	100	111	123	136	148
LAKE LIVINGSTON WSC*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	80	80	80	81	81	81
LIBERTY	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	1,571	1,649	1,728	1,822	1,926	2,028
LIBERTY COUNTY FWSD 1 HULL	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	4	4	5	5	6	6
T & W WATER SERVICE	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	163	203	248	301	367	446
TARKINGTON SUD	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	97	111	124	138	152	166
WOODCREEK WATER OF LIBERTY	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	283	283	283	283	283	283
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	2,946	3,081	3,206	3,365	3,548	3,720
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	53	63	63	63	63	63
MINING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	258	258	258	258	258	258
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	267	267	267	267	267	267
IRRIGATION	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	353	353	353	353	353	353
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	5,601	5,601	5,601	5,601	5,601	5,601
IRRIGATION	H	TRINITY RUN-OF-RIVER	16,470	16,470	16,470	16,470	16,470	16,470
TRINITY BASIN TOTAL			31,343	32,405	33,431	34,534	35,667	36,766
DAYTON	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	7	9	11	13	15	17
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	376	393	409	430	453	475
MINING	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	26	26	26	26	26	26
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	20	20	20	20	20	20
IRRIGATION	H	GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	432	432	432	432	432	432
IRRIGATION	H	TRINITY-SAN JACINTO RUN-OF-RIVER	1,904	1,904	1,904	1,904	1,904	1,904
TRINITY-SAN JACINTO BASIN TOTAL			2,765	2,784	2,802	2,825	2,850	2,874
LIBERTY COUNTY TOTAL			68,178	69,475	70,705	72,064	73,496	74,903

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MADISON COUNTY WSC	H	QUEEN CITY AQUIFER MADISON COUNTY	7	7	7	8	8	8
NORTH ZULCH MUD	H	SPARTA AQUIFER MADISON COUNTY	16	16	17	18	19	20
COUNTY-OTHER	H	SPARTA AQUIFER MADISON COUNTY	177	185	193	203	214	226
MINING	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	119	119	119	107	64	39
LIVESTOCK	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	209	209	209	209	209	209
IRRIGATION	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	18	18	18	18	18	18
IRRIGATION	H	SPARTA AQUIFER MADISON COUNTY	2	2	2	2	2	2
BRAZOS BASIN TOTAL			548	556	565	565	534	522
MADISON COUNTY WSC	H	SPARTA AQUIFER MADISON COUNTY	157	164	171	180	190	200
MADISONVILLE	H	SPARTA AQUIFER MADISON COUNTY	900	941	980	1,033	1,089	1,146
NORMANGEE	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	13	14	14	15	16	17
NORTH ZULCH MUD	H	SPARTA AQUIFER MADISON COUNTY	181	189	196	206	218	229
COUNTY-OTHER	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	73	76	80	84	89	93
COUNTY-OTHER	H	QUEEN CITY AQUIFER MADISON COUNTY	32	33	35	37	39	41
COUNTY-OTHER	H	SPARTA AQUIFER MADISON COUNTY	953	997	1,038	1,097	1,155	1,216
COUNTY-OTHER	H	YEGUA-JACKSON AQUIFER MADISON COUNTY	75	79	82	86	91	96
MINING	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	478	478	478	431	259	155
LIVESTOCK	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	602	602	602	602	602	602
LIVESTOCK	H	SPARTA AQUIFER MADISON COUNTY	341	341	341	341	341	341
LIVESTOCK	H	YEGUA-JACKSON AQUIFER MADISON COUNTY	254	254	254	254	254	254
IRRIGATION	H	CARRIZO-WILCOX AQUIFER MADISON COUNTY	6	6	6	6	6	6
IRRIGATION	H	SPARTA AQUIFER MADISON COUNTY	96	96	96	96	96	96
IRRIGATION	H	TRINITY RUN-OF-RIVER	169	169	169	169	169	169
TRINITY BASIN TOTAL			4,330	4,439	4,542	4,637	4,614	4,661
MADISON COUNTY TOTAL			4,878	4,995	5,107	5,202	5,148	5,183
CHATEAU WOODS MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	268	337	330	327	326	326
CLEVELAND	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	31	31	31	31	31	31
CONROE	H	CONROE LAKE/RESERVOIR	7,933	7,933	7,933	7,933	7,933	7,933
CONROE	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	6,472	6,472	6,472	6,472	6,472	6,472
CORINTHIAN POINT MUD 2	H	DIRECT REUSE	6	6	6	6	6	6
CORINTHIAN POINT MUD 2	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	384	384	384	384	384	384
CUT & SHOOT	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	366	366	366	366	366	366
DOBBIN PLANTERSVILLE WSC*	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	359	359	359	359	359	359
DOMESTIC WATER	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	171	171	171	171	171	171
EAST PLANTATION UD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	266	267	307	350	402	416
FAR HILLS UD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	546	546	546	546	546	546
GULF UTILITY	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	806	806	806	806	806	806
HARRIS-MONTGOMERY COUNTIES MUD 386	H	CONROE LAKE/RESERVOIR	255	255	255	255	255	255
HARRIS-MONTGOMERY COUNTIES MUD 386	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	170	170	170	170	170	170
HMW SUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	864	864	864	864	864	864

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
HOUSTON	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,311	1,311	1,311	1,311	1,311	1,311
JOHNSTON WATER UTILITY	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	741	741	741	741	741	741
KINGS MANOR MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	327	331	325	320	319	318
LAKE BONANZA WSC	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	216	216	216	216	216	216
LAKE CONROE HILLS MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	229	229	229	229	229	229
LAZY RIVER IMPROVEMENT DISTRICT	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	218	218	218	218	218	218
MAGNOLIA	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,206	1,206	1,206	1,206	1,206	1,206
MONTGOMERY	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	861	861	861	861	861	861
MONTGOMERY COUNTY MUD 112	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	285	285	285	285	285	285
MONTGOMERY COUNTY MUD 115	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	206	206	206	206	206	206
MONTGOMERY COUNTY MUD 119	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	786	786	786	786	786	786
MONTGOMERY COUNTY MUD 15	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	497	479	471	490	510	530
MONTGOMERY COUNTY MUD 18	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	2,589	2,589	2,589	2,589	2,589	2,589
MONTGOMERY COUNTY MUD 19	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	470	470	470	470	470	470
MONTGOMERY COUNTY MUD 56	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	156	156	148	86	86	86
MONTGOMERY COUNTY MUD 8	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,404	1,404	1,404	1,404	1,404	1,404
MONTGOMERY COUNTY MUD 83	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	391	277	282	284	285	285
MONTGOMERY COUNTY MUD 84	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	420	534	529	527	526	526
MONTGOMERY COUNTY MUD 88	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	84	106	132	131	131	131
MONTGOMERY COUNTY MUD 89	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	684	662	636	637	637	637
MONTGOMERY COUNTY MUD 9	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	893	893	893	893	893	893
MONTGOMERY COUNTY MUD 95	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	130	148	156	137	117	97
MONTGOMERY COUNTY MUD 98	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	227	227	227	227	227	227
MONTGOMERY COUNTY MUD 99	H	CONROE LAKE/RESERVOIR	140	140	140	140	140	140
MONTGOMERY COUNTY MUD 99	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	47	47	47	47	47	47
MONTGOMERY COUNTY UD 2	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	345	345	345	345	345	345
MONTGOMERY COUNTY UD 3	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	860	809	810	775	711	651
MONTGOMERY COUNTY UD 4	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	819	870	869	904	968	1,028
MONTGOMERY COUNTY WCID 1	H	CONROE LAKE/RESERVOIR	212	212	212	212	212	212

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY WCID 1	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	84	84	84	84	84	84
MSEC ENTERPRISES	H	CONROE LAKE/RESERVOIR	1,553	1,553	1,553	1,553	1,553	1,553
MSEC ENTERPRISES	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	2,924	2,924	2,924	2,924	2,924	2,924
NEW CANEY MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	823	823	823	823	823	823
OAK RIDGE NORTH	H	CONROE LAKE/RESERVOIR	361	361	361	361	361	361
OAK RIDGE NORTH	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	214	214	214	214	214	214
PANORAMA VILLAGE	H	DIRECT REUSE	43	43	43	43	43	43
PANORAMA VILLAGE	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	470	470	470	470	470	470
PINEHURST DECKER PRAIRIE WSC	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	86	86	86	86	86	86
POINT AQUARIUS MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	970	970	970	970	970	970
PORTER SUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	576	454	400	406	408	408
QUADVEST	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	4,868	4,868	4,868	4,868	4,868	4,868
RANCH UTILITIES	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	145	145	145	145	145	145
RAYFORD ROAD MUD	H	CONROE LAKE/RESERVOIR	862	862	862	862	862	862
RAYFORD ROAD MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	558	558	558	558	558	558
RIVER PLANTATION MUD	H	DIRECT REUSE	256	256	256	256	256	256
RIVER PLANTATION MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	563	562	522	479	427	413
ROMAN FOREST CONSOLIDATED MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	241	241	241	241	241	241
SHENANDOAH	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,163	1,163	1,163	1,163	1,163	1,163
SOUTHERN MONTGOMERY COUNTY MUD	H	CONROE LAKE/RESERVOIR	976	976	976	976	976	976
SOUTHERN MONTGOMERY COUNTY MUD	H	DIRECT REUSE	144	144	144	144	144	144
SOUTHERN MONTGOMERY COUNTY MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	368	368	368	368	368	368
SPLENDORA	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	752	752	752	752	752	752
SPRING CREEK UD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	952	952	952	952	952	952
STANLEY LAKE MUD	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,030	1,030	1,030	1,030	1,030	1,030
T & W WATER SERVICE	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,554	1,554	1,554	1,554	1,554	1,554
THE WOODLANDS	H	CONROE LAKE/RESERVOIR	14,591	14,591	14,591	14,591	14,591	14,591
THE WOODLANDS	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	10,479	10,479	10,479	10,479	10,479	10,479
THE WOODLANDS	H	SAN JACINTO INDIRECT REUSE	438	438	438	438	438	438
THE WOODLANDS	H	SAN JACINTO RUN-OF-RIVER	116	116	116	116	116	116
VALLEY RANCH MUD 1	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	211	264	325	322	321	321
WESTWOOD NORTH WSC	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	460	460	460	460	460	460

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
WHITE OAK UTILITIES	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	165	165	165	165	165	165
WHITE OAK WSC	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	102	102	102	102	102	102
WILLIS	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	2,500	2,500	2,500	2,500	2,500	2,500
WOOD BRANCH VILLAGE	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	110	110	110	110	110	110
COUNTY-OTHER	H	DIRECT REUSE	10	10	10	10	10	10
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	17,214	17,304	17,598	17,816	17,931	18,009
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,843	1,843	1,843	1,843	1,843	1,843
MINING	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	1,453	1,363	1,077	921	806	728
STEAM ELECTRIC POWER	H	CONROE LAKE/RESERVOIR	7,841	7,841	7,841	7,841	7,841	7,841
STEAM ELECTRIC POWER	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	4,614	4,614	4,614	4,614	4,614	4,614
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	537	537	537	537	537	537
IRRIGATION	H	CONROE LAKE/RESERVOIR	943	943	943	943	943	943
IRRIGATION	H	GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	5,532	5,532	5,532	5,532	5,532	5,532
IRRIGATION	H	SAN JACINTO RUN-OF-RIVER	25	25	25	25	25	25
SAN JACINTO BASIN TOTAL			127,371	127,375	127,369	127,364	127,363	127,362
MONTGOMERY COUNTY TOTAL			127,371	127,375	127,369	127,364	127,363	127,362
LAKE LIVINGSTON WSC*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	592	659	731	807	888	973
LAKE LIVINGSTON WSC*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	529	530	529	529	529	529
LEGGETT WSC	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	334	364	387	409	429	445
LIVINGSTON	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	5,600	5,600	5,600	5,600	5,600	5,600
MEMORIAL POINT UD	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	182	198	211	223	233	242
MEMORIAL POINT UD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	10	10	10	10	10	10
MOSCOW WSC*	I	GULF COAST AQUIFER SYSTEM POLK COUNTY	29	29	29	29	29	29
ONALASKA WSC	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	364	443	504	557	605	644
PROVIDENCE WSC	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	157	165	173	184	193	201
SODA WSC*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	163	173	182	190	199	206
TEMPE WSC 1	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	206	220	231	242	253	263
COUNTY-OTHER*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	1,532	1,585	1,608	1,618	1,614	1,586
COUNTY-OTHER*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	20	20	20	20	20	20
MANUFACTURING*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	5	5	5	5	5	5
MINING*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	92	66	40	14	0	0
MINING*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	32	32	32	32	32	32
LIVESTOCK*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	181	181	181	181	181	181
IRRIGATION*	H	GULF COAST AQUIFER SYSTEM POLK COUNTY	332	332	332	332	332	332
TRINITY BASIN TOTAL			10,360	10,612	10,805	10,982	11,152	11,298
POLK COUNTY TOTAL			10,360	10,612	10,805	10,982	11,152	11,298
MERCY WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	168	177	184	195	206	216
ONE FIVE O WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	296	313	327	348	366	384
P B & S C WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	20	21	22	24	25	26
SAN JACINTO SUD	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	64	67	68	73	77	80
SAN JACINTO SUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	72	72	71	72	72	71

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	829	886	928	983	1,028	1,067
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	9	10	10	10	10	10
MINING	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	6	6	7	7	7	7
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	206	206	206	206	206	206
IRRIGATION	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	74	74	74	74	74	74
SAN JACINTO BASIN TOTAL			1,744	1,832	1,897	1,992	2,071	2,141
CAPE ROYALE UD	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	270	293	311	332	351	368
DODGE OAKHURST WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	58	60	62	65	68	70
LAKE LIVINGSTON WSC*	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	185	205	228	252	277	303
LAKE LIVINGSTON WSC*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	165	165	165	165	165	165
P B & S C WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	231	247	260	276	292	306
RIVERSIDE WSC	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	26	30	32	34	36	38
RIVERSIDE WSC	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	8	8	8	8	8	8
SAN JACINTO SUD	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	186	194	200	212	223	234
SAN JACINTO SUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	208	208	209	208	208	209
SHEPHERD	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	313	332	348	369	389	407
WATERWOOD MUD 1	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	123	133	142	152	160	168
WATERWOOD MUD 1	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	336	336	336	336	336	336
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	625	668	700	741	776	804
MINING	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	2	2	2	2	2	2
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	207	207	207	207	207	207
IRRIGATION	H	GULF COAST AQUIFER SYSTEM SAN JACINTO COUNTY	74	74	74	74	74	74
IRRIGATION	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	120	120	120	120	120	120
TRINITY BASIN TOTAL			3,137	3,282	3,404	3,553	3,692	3,819
SAN JACINTO COUNTY TOTAL			4,881	5,114	5,301	5,545	5,763	5,960
GLENDALE WSC	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	75	75	75	75	75	75
GLENDALE WSC	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	81	81	81	81	81	81
GROVETON*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	343	342	343	342	341	342
GROVETON*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	34	35	34	32	33	35
LAKE LIVINGSTON WSC*	H	GULF COAST AQUIFER SYSTEM TRINITY COUNTY	46	51	57	63	66	66
LAKE LIVINGSTON WSC*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	120	120	120	120	120	120
PENNINGTON WSC*	I	YEGUA-JACKSON AQUIFER HOUSTON COUNTY	95	97	98	97	98	99
PENNINGTON WSC*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	39	37	37	37	36	37
TRINITY	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,196	1,196	1,196	1,196	1,196	1,196
TRINITY RURAL WSC	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	347	347	345	343	342	343
TRINITY RURAL WSC	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	117	141	138	122	138	159
WESTWOOD SHORES MUD	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	495	495	495	495	495	495
COUNTY-OTHER*	H	GULF COAST AQUIFER SYSTEM TRINITY COUNTY	23	22	18	13	18	17
COUNTY-OTHER*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	20	20	20	20	20	20
COUNTY-OTHER*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	13	12	11	8	10	9
MINING*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	5	5	5	5	5	5
LIVESTOCK*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	201	201	201	201	201	201
IRRIGATION*	H	TRINITY RUN-OF-RIVER	34	34	34	34	34	34
IRRIGATION*	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	275	275	275	275	275	275
TRINITY BASIN TOTAL			3,559	3,586	3,583	3,559	3,584	3,609
TRINITY COUNTY TOTAL			3,559	3,586	3,583	3,559	3,584	3,609
DODGE OAKHURST WSC	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	80	82	85	89	92	96
HUNTSVILLE	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	2,399	2,426	2,444	2,467	2,492	2,513

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
HUNTSVILLE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	16,103	16,102	16,102	16,101	16,102	16,101
NEW WAVERLY	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	190	193	194	197	201	204
PHELPS SUD	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	153	152	151	152	154	156
WALKER COUNTY RURAL SUD	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	278	286	292	300	308	314
WALKER COUNTY RURAL SUD	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	156	161	164	168	173	177
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	1,327	1,327	1,327	1,327	1,327	1,327
COUNTY-OTHER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,603	1,640	1,666	1,691	1,709	1,723
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	29	36	36	36	36	36
MINING	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	5	5	5	5	5	5
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	353	353	353	353	353	353
IRRIGATION	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	240	240	240	240	240	240
SAN JACINTO BASIN TOTAL			22,916	23,003	23,059	23,126	23,192	23,245
DODGE OAKHURST WSC	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	56	59	60	63	66	68
HUNTSVILLE	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	491	497	500	506	510	515
HUNTSVILLE	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	3,297	3,298	3,298	3,299	3,298	3,299
LAKE LIVINGSTON WSC*	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	13	14	16	17	19	21
LAKE LIVINGSTON WSC*	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	12	11	12	11	11	11
PHELPS SUD	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	66	66	66	66	67	67
RIVERSIDE WSC	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	77	77	77	77	77	77
RIVERSIDE WSC	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	257	289	313	336	353	368
THE CONSOLIDATED WSC*	I	CARRIZO-WILCOX AQUIFER HOUSTON COUNTY	12	13	15	15	16	17
THE CONSOLIDATED WSC*	I	HOUSTON COUNTY LAKE/RESERVOIR	5	6	6	6	7	7
TRINITY RURAL WSC	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	28	28	30	32	33	32
TRINITY RURAL WSC	H	YEGUA-JACKSON AQUIFER TRINITY COUNTY	9	12	12	12	13	15
WALKER COUNTY RURAL SUD	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	370	382	390	400	410	420
WALKER COUNTY RURAL SUD	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	208	215	219	225	231	236
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	914	914	914	914	914	914
COUNTY-OTHER	H	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,397	1,360	1,334	1,309	1,291	1,277
COUNTY-OTHER	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	255	255	255	255	255	255
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	138	168	168	168	168	168
MANUFACTURING	H	TRINITY RUN-OF-RIVER	337	337	337	337	337	337
MANUFACTURING	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	82	99	99	99	99	99
MINING	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	6	6	6	6	6	6
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	198	198	198	198	198	198
LIVESTOCK	H	QUEEN CITY AQUIFER WALKER COUNTY	101	101	101	101	101	101
LIVESTOCK	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	101	101	101	101	101	101
IRRIGATION	H	GULF COAST AQUIFER SYSTEM WALKER COUNTY	40	40	40	40	40	40
IRRIGATION	H	TRINITY RUN-OF-RIVER	122	122	122	122	122	122
IRRIGATION	H	YEGUA-JACKSON AQUIFER WALKER COUNTY	158	158	158	158	158	158
TRINITY BASIN TOTAL			8,750	8,826	8,847	8,873	8,901	8,929
WALKER COUNTY TOTAL			31,666	31,829	31,906	31,999	32,093	32,174
BROOKSHIRE MWD	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	602	710	837	981	1,146	1,326
G & W WSC*	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	110	146	186	222	222	222
HEMPSTEAD	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	1,303	1,489	1,702	1,944	2,218	2,292
PATTISON WSC	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	263	310	365	426	495	570
PRAIRIE VIEW	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	751	1,000	1,277	1,582	1,924	2,296
PRAIRIE VIEW A&M UNIVERSITY	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	195	195	195	195	195	195
QUADVEST	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	26	34	43	54	68	82

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Region H Water User Group (WUG) Existing Water Supply

WUG NAME	SOURCE REGION	SOURCE DESCRIPTION	EXISTING SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	1,182	1,182	1,182	1,182	1,182	1,182
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	65	66	66	66	66	66
MINING	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	4	4	4	4	4	4
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	909	909	909	909	909	909
IRRIGATION	G	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	50	50	50	50	50	50
IRRIGATION	H	BRAZOS RUN-OF-RIVER	43	43	43	43	43	43
IRRIGATION	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	7,651	7,651	7,651	7,651	7,651	7,651
BRAZOS BASIN TOTAL			13,154	13,789	14,510	15,309	16,173	16,888
G & W WSC*	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	339	447	572	679	679	679
KATY	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	354	434	527	628	742	866
OAK HOLLOW UTILITY	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	206	240	282	328	381	439
PRAIRIE VIEW	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	55	73	93	116	141	168
PRAIRIE VIEW A&M UNIVERSITY	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	21	21	21	21	21	21
WALLER	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	356	379	407	440	479	523
WHITE OAK UTILITIES	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	6	8	7	7	7	7
COUNTY-OTHER	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	982	982	982	982	982	982
MANUFACTURING	H	DIRECT REUSE	16	16	16	16	16	16
MANUFACTURING	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	69	70	70	70	70	70
MINING	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	3	3	3	3	3	3
LIVESTOCK	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	270	270	270	270	270	270
IRRIGATION	H	GULF COAST AQUIFER SYSTEM WALLER COUNTY	14,282	14,282	14,282	14,282	14,282	14,282
SAN JACINTO BASIN TOTAL			16,959	17,225	17,532	17,842	18,073	18,326
WALLER COUNTY TOTAL			30,113	31,014	32,042	33,151	34,246	35,214
REGION H EXISTING WATER SUPPLY TOTAL			2,700,854	2,557,277	2,487,200	2,510,329	2,535,962	2,562,410

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Region H Water User Group (WUG) Needs/Surplus

WUG supplies and projected demands are entered for each of a WUG’s region-county-basin divisions. The needs shown in the WUG Needs/Surplus report are calculated by first deducting the WUG split’s projected demand from its total existing water supply volume. If the WUG split has a greater existing supply volume than projected demand in any given decade, this amount is considered a surplus volume. Surplus volumes are shown as positive values, and needs are shown as negative values in parentheses.

	(NEEDS)/SURPLUS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AUSTIN COUNTY - BRAZOS BASIN						
AUSTIN COUNTY WSC	0	0	0	0	0	0
BELLVILLE	0	0	0	0	0	0
SEALY	0	0	0	0	0	0
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	(210)	(505)	(872)	(1,293)	(1,766)
MANUFACTURING	0	0	0	0	0	0
MINING	0	(147)	(99)	(51)	(4)	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
AUSTIN COUNTY - BRAZOS-COLORADO BASIN						
AUSTIN COUNTY WSC	0	0	0	0	0	0
SEALY	0	0	0	0	0	0
WALLIS	0	0	0	0	0	0
COUNTY-OTHER	0	(2)	(79)	(175)	(285)	(408)
MANUFACTURING	0	0	0	0	0	0
MINING	0	(43)	(29)	(15)	(1)	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
AUSTIN COUNTY - COLORADO BASIN						
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	(3)
MINING	0	(3)	(2)	(1)	0	0
LIVESTOCK	0	0	0	0	0	0
BRAZORIA COUNTY - BRAZOS BASIN						
BRAZORIA	35	40	45	45	42	37
FREEPORT	0	0	0	0	0	0
LAKE JACKSON	0	0	0	0	0	0
VARNER CREEK UD	0	0	0	0	0	0
WEST COLUMBIA	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	(137)	(374)
MANUFACTURING	108	147	139	130	121	112
MINING	0	(31)	(59)	(89)	(122)	(161)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(51)	(51)	(51)	(51)	(51)	(51)
BRAZORIA COUNTY - BRAZOS-COLORADO BASIN						
BRAZORIA	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
SWEENEY	0	0	0	0	0	0
WEST COLUMBIA	0	0	0	0	0	0
COUNTY-OTHER	0	(660)	(1,290)	(1,918)	(2,570)	(3,248)
MANUFACTURING	(21,772)	(27,812)	(27,812)	(27,812)	(27,812)	(27,855)
MINING	0	(58)	(110)	(167)	(228)	(306)
LIVESTOCK	0	0	0	0	0	(8)

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Region H Water User Group (WUG) Needs/Surplus

IRRIGATION	(138)	(138)	(138)	(138)	(138)	(221)
BRAZORIA COUNTY - SAN JACINTO-BRAZOS BASIN						
ALVIN	81	81	81	81	81	81
ANGLETON	281	351	407	432	426	412
BRAZORIA COUNTY MUD 2	0	0	0	0	0	0
BRAZORIA COUNTY MUD 21	0	0	0	0	0	0
BRAZORIA COUNTY MUD 25	0	0	0	0	0	0
BRAZORIA COUNTY MUD 29	0	0	(20)	(7)	(4)	(3)
BRAZORIA COUNTY MUD 3	9	9	9	9	9	9
BRAZORIA COUNTY MUD 31	0	0	0	0	0	0
BRAZORIA COUNTY MUD 6	0	0	0	0	0	0
CLUTE	0	0	0	0	0	0
DANBURY	0	0	0	0	0	0
FREEPORT	868	847	824	783	722	657
HILLCREST VILLAGE	0	0	0	0	0	0
LAKE JACKSON	0	0	0	0	0	0
MANVEL	0	0	0	0	0	0
OYSTER CREEK	0	0	0	0	0	0
PEARLAND	3,754	3,366	2,897	2,607	2,457	2,256
QUADVEST	0	0	0	0	0	0
RICHWOOD	0	0	0	0	0	0
SEDONA LAKES MUD 1	0	0	0	0	0	0
SURFSIDE BEACH	0	(26)	(24)	(23)	(22)	(22)
TDCJ RAMSEY AREA	1,008	1,008	1,008	1,008	1,008	1,008
COUNTY-OTHER	0	(1,537)	(5,333)	(9,846)	(14,969)	(20,736)
MANUFACTURING	49,267	21,232	20,900	20,568	20,236	19,904
MINING	0	(132)	(252)	(385)	(524)	(696)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(57,528)	(57,528)	(57,528)	(57,528)	(57,528)	(57,528)
CHAMBERS COUNTY - NECHES-TRINITY BASIN						
ANAHUAC	824	832	837	838	835	830
TRINITY BAY CONSERVATION DISTRICT	(326)	(598)	(888)	(1,215)	(1,578)	(1,963)
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	29,839	29,839	29,839	29,839	29,839	29,839
CHAMBERS COUNTY - TRINITY BASIN						
ANAHUAC	0	0	0	0	0	0
MONT BELVIEU	0	0	(428)	(1,059)	(1,737)	(2,451)
TRINITY BAY CONSERVATION DISTRICT	(84)	(155)	(231)	(316)	(411)	(511)
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	(2,753)	(3,452)	(3,452)	(3,452)	(3,452)	(3,452)
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(9,392)	(9,392)	(9,392)	(9,392)	(9,392)	(9,392)
CHAMBERS COUNTY - TRINITY-SAN JACINTO BASIN						
BAYTOWN	0	0	0	0	0	0
CHAMBERS COUNTY MUD 1	0	0	0	0	0	0
MONT BELVIEU	0	0	(129)	(319)	(523)	(737)
COUNTY-OTHER	971	937	899	854	800	744

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Region H Water User Group (WUG) Needs/Surplus

MANUFACTURING	22,339	19,701	19,701	19,701	19,701	19,701
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	(1,387)	(1,387)	(1,387)	(1,387)	(1,387)	(1,387)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(3,180)	(3,180)	(3,180)	(3,180)	(3,180)	(3,180)
FORT BEND COUNTY - BRAZOS BASIN						
FIRST COLONY MUD 9	0	(140)	(138)	(138)	(137)	(137)
FORT BEND COUNTY FWSD 2	0	(96)	(118)	(141)	(164)	(189)
FORT BEND COUNTY MUD 115	0	(214)	(213)	(213)	(212)	(212)
FORT BEND COUNTY MUD 116	0	(346)	(453)	(536)	(620)	(703)
FORT BEND COUNTY MUD 121	0	(137)	(136)	(135)	(134)	(133)
FORT BEND COUNTY MUD 128	958	967	972	974	975	975
FORT BEND COUNTY MUD 129	0	(342)	(341)	(340)	(339)	(339)
FORT BEND COUNTY MUD 140	0	(147)	(145)	(144)	(144)	(144)
FORT BEND COUNTY MUD 149	0	(85)	(106)	(104)	(104)	(104)
FORT BEND COUNTY MUD 152	0	(66)	(82)	(82)	(82)	(82)
FORT BEND COUNTY MUD 155	0	(160)	(199)	(197)	(197)	(197)
FORT BEND COUNTY MUD 158	0	(101)	(126)	(125)	(125)	(125)
FORT BEND COUNTY MUD 162	0	(114)	(140)	(139)	(138)	(138)
FORT BEND COUNTY MUD 187	0	(126)	(123)	(122)	(121)	(121)
FORT BEND COUNTY MUD 25	7	(50)	(49)	(51)	(52)	(54)
FORT BEND COUNTY MUD 46	75	44	35	35	35	35
FORT BEND COUNTY MUD 5	0	(108)	(105)	(104)	(103)	(103)
FORT BEND COUNTY MUD 81	0	0	0	0	0	0
FORT BEND COUNTY WCID 3	0	(214)	(214)	(213)	(213)	(213)
FULSHEAR	0	(303)	(314)	(314)	(313)	(313)
NEEDVILLE	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	0	0	0	0	0	0
PECAN GROVE MUD 1	5,334	4,687	4,715	4,714	4,712	4,707
PLANTATION MUD	6	(113)	(104)	(99)	(98)	(98)
QUADVEST	0	(176)	(254)	(347)	(461)	(584)
RICHMOND	149	(498)	(530)	(598)	(677)	(758)
ROSENBERG	1,818	337	237	108	(71)	(293)
ROYAL VALLEY UTILITIES	0	(281)	(351)	(350)	(349)	(349)
SIENNA PLANTATION	1,193	529	148	(234)	(617)	(970)
SUGAR LAND	802	(6,767)	(7,467)	(8,217)	(8,897)	(9,470)
TDCJ JESTER UNITS	0	(160)	(159)	(158)	(158)	(158)
COUNTY-OTHER	(1,311)	(6,413)	(6,500)	(8,267)	(10,805)	(13,456)
MANUFACTURING	(194)	(949)	(949)	(949)	(949)	(949)
MINING	378	378	378	378	378	378
STEAM ELECTRIC POWER	62,726	62,702	62,678	62,653	62,629	62,605
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	233	233	233	233	233	233
FORT BEND COUNTY - BRAZOS-COLORADO BASIN						
KENDLETON	0	0	0	0	0	0
NEEDVILLE	0	0	0	0	0	0
ROSENBERG	0	0	0	0	0	0
COUNTY-OTHER	0	0	(1,274)	(3,758)	(7,408)	(12,756)
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0

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Region H Water User Group (WUG) Needs/Surplus

IRRIGATION	0	0	0	0	0	0
FORT BEND COUNTY - SAN JACINTO BASIN						
BLUE RIDGE WEST MUD	8	(320)	(314)	(312)	(311)	(310)
FORT BEND COUNTY WCID 2	0	(742)	(921)	(1,102)	(1,283)	(1,476)
FULSHEAR	0	(73)	(122)	(121)	(122)	(121)
HOUSTON	81	(570)	(980)	(1,137)	(1,301)	(1,458)
KATY	0	(1,782)	(1,780)	(1,783)	(1,789)	(1,794)
MEADOWS PLACE	26	(185)	(182)	(186)	(193)	(202)
NORTH FORT BEND WATER AUTHORITY	0	(21,498)	(27,636)	(30,967)	(32,743)	(33,655)
SUGAR LAND	92	(228)	(242)	(257)	(270)	(278)
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	0	0	0	0	0
COUNTY-OTHER	(103)	(203)	(198)	(167)	(115)	(77)
MANUFACTURING	(62)	(137)	(137)	(137)	(137)	(137)
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FORT BEND COUNTY - SAN JACINTO-BRAZOS BASIN						
BLUE RIDGE WEST MUD	1	(27)	(27)	(27)	(27)	(27)
FIRST COLONY MUD 9	0	(448)	(443)	(440)	(439)	(439)
FORT BEND COUNTY FWSD 1	0	(34)	(43)	(52)	(61)	(70)
FORT BEND COUNTY MUD 115	0	(113)	(112)	(112)	(112)	(112)
FORT BEND COUNTY MUD 23	0	(437)	(461)	(486)	(511)	(539)
FORT BEND COUNTY MUD 24	0	(62)	(77)	(77)	(76)	(76)
FORT BEND COUNTY MUD 25	52	(343)	(344)	(350)	(362)	(377)
FORT BEND COUNTY MUD 26	0	(259)	(334)	(332)	(330)	(330)
FORT BEND COUNTY MUD 42	0	(369)	(366)	(364)	(363)	(363)
FORT BEND COUNTY MUD 46	298	84	20	21	21	21
FORT BEND COUNTY MUD 47	100	33	14	15	15	15
FORT BEND COUNTY MUD 48	0	(126)	(124)	(123)	(122)	(122)
FORT BEND COUNTY MUD 49	0	(89)	(88)	(87)	(87)	(87)
FORT BEND COUNTY WCID 2	324	(2,654)	(3,375)	(4,098)	(4,825)	(5,601)
FORT BEND COUNTY WCID 3	0	(23)	(23)	(23)	(23)	(23)
FULSHEAR	0	(726)	(742)	(741)	(740)	(739)
HOUSTON	52	(367)	(631)	(733)	(838)	(940)
MEADOWCREEK MUD	0	(166)	(165)	(163)	(163)	(163)
MEADOWS PLACE	0	(19)	(18)	(19)	(19)	(20)
MISSOURI CITY	(170)	(417)	(458)	(500)	(544)	(591)
NORTH FORT BEND WATER AUTHORITY	780	(10,272)	(15,289)	(18,200)	(19,751)	(20,547)
PALMER PLANTATION MUD 1	0	(221)	(219)	(218)	(218)	(218)
PALMER PLANTATION MUD 2	0	(109)	(107)	(107)	(106)	(106)
PEARLAND	157	122	98	63	14	0
PECAN GROVE MUD 1	13	8	8	8	8	8
QUAIL VALLEY UD	634	(395)	(698)	(691)	(688)	(687)
SIENNA PLANTATION	3,688	2,020	989	(41)	(1,072)	(2,024)
SUGAR LAND	675	(2,943)	(3,183)	(3,403)	(3,578)	(3,710)
TDCJ JESTER UNITS	0	(238)	(237)	(236)	(236)	(236)
THUNDERBIRD UD	0	(518)	(513)	(510)	(509)	(508)
COUNTY-OTHER	2,430	3,502	1,972	109	(1,261)	(2,285)
MANUFACTURING	1,237	123	123	122	121	120
MINING	(4)	(10)	(7)	(5)	(4)	(2)
LIVESTOCK	0	0	0	0	0	0

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Region H Water User Group (WUG) Needs/Surplus

IRRIGATION	220	220	220	220	220	220
GALVESTON COUNTY - NECHES-TRINITY BASIN						
BOLIVAR PENINSULA SUD	5,802	5,766	5,723	5,672	5,612	5,541
COUNTY-OTHER	(4)	(5)	(7)	(9)	(12)	(14)
MINING	(70)	(76)	(83)	(89)	(95)	(103)
LIVESTOCK	(53)	(53)	(53)	(53)	(53)	(53)
IRRIGATION	0	0	0	0	0	0
GALVESTON COUNTY - SAN JACINTO-BRAZOS BASIN						
BACLIFF MUD	587	611	619	611	604	595
BAYVIEW MUD	213	206	202	195	188	182
FRIENDSWOOD	6,792	6,289	5,820	5,283	4,687	4,011
GALVESTON	3,272	2,544	1,759	885	45	(855)
GALVESTON COUNTY FWSD 6	(43)	(38)	(37)	(37)	(38)	(40)
GALVESTON COUNTY MUD 12	156	163	168	169	169	168
GALVESTON COUNTY WCID 1	246	0	(270)	(570)	(893)	(1,223)
GALVESTON COUNTY WCID 12	(763)	(1,141)	(1,179)	(1,215)	(1,252)	(1,284)
GALVESTON COUNTY WCID 8	502	507	501	487	470	450
HITCHCOCK	446	318	240	173	112	61
JAMAICA BEACH	0	0	0	0	0	0
LA MARQUE	(568)	(765)	(777)	(802)	(844)	(885)
LEAGUE CITY	9,248	7,930	6,898	6,015	5,479	5,100
SAN LEON MUD	1,202	1,166	1,138	1,110	1,082	1,053
TEXAS CITY	3,200	2,794	2,453	2,111	1,751	1,412
COUNTY-OTHER	(1,038)	(919)	(844)	(770)	(700)	(625)
MANUFACTURING	(138)	(9,394)	(9,420)	(9,445)	(9,472)	(9,497)
MINING	(273)	(292)	(322)	(348)	(373)	(397)
LIVESTOCK	(184)	(184)	(184)	(184)	(184)	(184)
IRRIGATION	(4,804)	(4,804)	(4,804)	(4,804)	(4,804)	(4,804)
HARRIS COUNTY - SAN JACINTO BASIN						
BAKER ROAD MUD	0	(94)	(151)	(150)	(150)	(150)
BAYTOWN	2	3	5	4	4	4
BELLAIRE	0	0	0	0	0	0
BLUE BELL MANOR UTILITY	0	(192)	(339)	(364)	(395)	(421)
BUNKER HILL VILLAGE	0	0	0	0	0	0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	761	(1,050)	(2,376)	(2,572)	(2,780)	(3,014)
CHIMNEY HILL MUD	50	50	50	50	50	50
CROSBY MUD	693	689	685	680	676	670
DEER PARK	234	150	86	0	0	0
DOUGLAS UTILITY	0	(63)	(100)	(100)	(100)	(102)
EL DORADO UD	0	(119)	(198)	(204)	(207)	(207)
FOREST HILLS MUD	23	(94)	(182)	(179)	(178)	(178)
FORT BEND COUNTY WCID 2	25	(141)	(290)	(343)	(398)	(456)
GALENA PARK	155	187	211	215	202	188
GREEN TRAILS MUD	0	(185)	(309)	(312)	(313)	(315)
GREENWOOD UD	0	0	0	0	0	0
HARRIS COUNTY FWSD 58	0	(129)	(228)	(246)	(264)	(283)
HARRIS COUNTY MUD 106	0	(441)	(774)	(805)	(828)	(846)
HARRIS COUNTY MUD 11	32	(65)	(134)	(139)	(149)	(159)
HARRIS COUNTY MUD 119	48	(132)	(250)	(255)	(265)	(276)
HARRIS COUNTY MUD 122	(7)	(29)	(51)	(49)	(48)	(48)

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Region H Water User Group (WUG) Needs/Surplus

HARRIS COUNTY MUD 132	0	(311)	(510)	(513)	(515)	(518)
HARRIS COUNTY MUD 148	0	0	0	0	0	0
HARRIS COUNTY MUD 151	0	(324)	(538)	(538)	(539)	(542)
HARRIS COUNTY MUD 152	0	(331)	(571)	(588)	(603)	(617)
HARRIS COUNTY MUD 153	0	(385)	(638)	(635)	(634)	(636)
HARRIS COUNTY MUD 154	0	(303)	(511)	(524)	(545)	(570)
HARRIS COUNTY MUD 158	0	0	0	0	0	0
HARRIS COUNTY MUD 180	0	(176)	(303)	(301)	(300)	(299)
HARRIS COUNTY MUD 189	0	(110)	(192)	(203)	(214)	(227)
HARRIS COUNTY MUD 216	0	(51)	(82)	(81)	(81)	(81)
HARRIS COUNTY MUD 221	0	(155)	(263)	(276)	(288)	(301)
HARRIS COUNTY MUD 23	0	0	0	0	0	0
HARRIS COUNTY MUD 278	845	254	9	9	9	9
HARRIS COUNTY MUD 290	0	(225)	(396)	(414)	(427)	(438)
HARRIS COUNTY MUD 321	0	0	0	0	0	0
HARRIS COUNTY MUD 342	0	0	0	0	0	0
HARRIS COUNTY MUD 344	52	0	0	0	0	0
HARRIS COUNTY MUD 345	0	(262)	(431)	(426)	(425)	(425)
HARRIS COUNTY MUD 36	0	(127)	(204)	(202)	(202)	(202)
HARRIS COUNTY MUD 361	0	0	0	0	0	0
HARRIS COUNTY MUD 372	218	0	0	0	0	0
HARRIS COUNTY MUD 400	0	(425)	(749)	(800)	(827)	(839)
HARRIS COUNTY MUD 412	637	457	319	295	269	243
HARRIS COUNTY MUD 420	0	0	0	0	0	0
HARRIS COUNTY MUD 46	0	(179)	(292)	(288)	(287)	(287)
HARRIS COUNTY MUD 49	361	150	3	0	0	0
HARRIS COUNTY MUD 5	0	0	0	0	0	0
HARRIS COUNTY MUD 50	243	255	253	250	250	248
HARRIS COUNTY MUD 58	0	(82)	(143)	(140)	(140)	(139)
HARRIS COUNTY MUD 6	60	(101)	(196)	(192)	(191)	(191)
HARRIS COUNTY MUD 8	191	210	225	226	227	227
HARRIS COUNTY MUD 96	0	0	0	0	0	0
HARRIS COUNTY UD 14	0	(76)	(140)	(155)	(174)	(204)
HARRIS COUNTY UD 15	0	(177)	(326)	(326)	(330)	(337)
HARRIS COUNTY WCID 1	117	137	137	119	101	81
HARRIS COUNTY WCID 133	0	(192)	(329)	(360)	(403)	(450)
HARRIS COUNTY WCID 70	0	(80)	(127)	(126)	(126)	(125)
HARRIS COUNTY WCID 74	0	(166)	(264)	(255)	(254)	(254)
HARRIS COUNTY WCID 96	2,050	1,559	1,231	1,232	1,233	1,233
HARRIS COUNTY WCID-FONDREN ROAD	13	0	0	0	0	0
HILSHIRE VILLAGE	0	0	0	0	0	0
HMW SUD	0	(164)	(321)	(397)	(397)	(396)
HOUSTON	11,134	(63,409)	(123,303)	(148,904)	(177,743)	(208,816)
HUMBLE	0	0	0	0	0	0
JACINTO CITY	507	528	522	505	487	468
JERSEY VILLAGE	289	0	0	0	0	0
KATY	0	(1,030)	(1,778)	(1,856)	(1,932)	(2,006)
KINGS MANOR MUD	0	0	9	15	17	18
LA PORTE	53	53	55	54	54	54
LAKE MUD	2	2	2	2	2	2

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Region H Water User Group (WUG) Needs/Surplus

LONGHORN TOWN UD	0	(105)	(173)	(172)	(172)	(172)
LUCE BAYOU PUD	0	(47)	(83)	(83)	(82)	(82)
MASON CREEK UD	0	(410)	(672)	(669)	(667)	(667)
MEMORIAL VILLAGES WATER AUTHORITY	(2,197)	(2,549)	(2,940)	(3,373)	(3,851)	(4,373)
MORGANS POINT	80	78	77	76	74	73
MOUNT HOUSTON ROAD MUD	0	(266)	(494)	(552)	(595)	(628)
NEWPORT MUD	590	277	62	48	31	11
NORTH BELT UD	0	(150)	(252)	(260)	(272)	(284)
NORTH CHANNEL WATER AUTHORITY	719	725	702	601	423	258
NORTH FOREST MUD	0	(59)	(96)	(94)	(94)	(94)
NORTH FORT BEND WATER AUTHORITY	0	0	0	0	0	0
NORTH GREEN MUD	8	(136)	(229)	(229)	(234)	(238)
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	(3,663)	(44,114)	(73,986)	(77,794)	(81,547)	(85,100)
NORTHWEST HARRIS COUNTY MUD 16	0	(163)	(262)	(258)	(258)	(257)
PARKWAY MUD	0	0	0	0	0	0
PASADENA	24,286	24,259	24,184	23,911	23,475	22,979
PINE VILLAGE PUD	0	0	0	0	0	0
PINEWOOD COMMUNITY	0	(36)	(57)	(56)	(56)	(56)
QUADVEST	0	(82)	(175)	(231)	(303)	(378)
ROLLING FORK PUD	52	(81)	(167)	(165)	(164)	(164)
SEQUOIA IMPROVEMENT DISTRICT	0	(54)	(95)	(94)	(94)	(94)
SOUTH HOUSTON	2,656	2,667	2,666	2,642	2,595	2,541
SOUTHERN WATER	0	(150)	(239)	(235)	(233)	(233)
SOUTHSIDE PLACE	0	0	0	0	0	0
SOUTHWEST HARRIS COUNTY MUD 1	33	13	17	19	20	20
SPRING VALLEY	488	132	0	0	0	0
SUBURBAN UTILITY	0	(96)	(156)	(153)	(152)	(152)
SUNBELT FWSD	861	10	0	0	0	0
THE COMMONS WATER SUPPLY	0	(130)	(224)	(233)	(239)	(244)
THE WOODLANDS	0	(1,327)	(2,454)	(2,677)	(2,848)	(2,980)
TOMBALL	0	(1,043)	(1,815)	(1,913)	(2,008)	(2,098)
TRAIL OF THE LAKES MUD	9	(317)	(530)	(532)	(536)	(540)
WALLER	0	0	0	0	0	0
WEST HARRIS COUNTY MUD 6	0	(121)	(205)	(212)	(219)	(224)
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	7,358	(15,523)	(33,306)	(36,883)	(38,145)	(39,318)
WEST UNIVERSITY PLACE	9	9	9	9	9	9
WOODCREEK MUD	0	(112)	(184)	(183)	(184)	(188)
COUNTY-OTHER	177	(5,765)	(9,595)	(9,914)	(12,651)	(15,231)
MANUFACTURING	104,395	79,712	79,712	79,712	79,712	79,712
MINING	(2,622)	(2,605)	(2,559)	(2,531)	(2,508)	(2,491)
STEAM ELECTRIC POWER	(3,412)	(3,412)	(3,412)	(3,412)	(3,412)	(3,412)
LIVESTOCK	(383)	(766)	(1,022)	(1,022)	(1,022)	(1,022)
IRRIGATION	3,137	3,137	3,137	3,137	3,137	3,137
HARRIS COUNTY - SAN JACINTO-BRAZOS BASIN						
BAYBROOK MUD 1	1,792	1,784	1,759	1,739	1,722	1,703
CLEAR BROOK CITY MUD	1,402	1,418	1,283	1,190	1,108	1,025
CLEAR LAKE CITY WATER AUTHORITY	6,785	6,589	5,846	5,176	4,485	3,773
DEER PARK	14	20	33	8	0	0
FRIENDSWOOD	20	33	60	54	60	69
HARRIS COUNTY MUD 55	2,734	2,707	2,692	2,633	2,545	2,418

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Region H Water User Group (WUG) Needs/Surplus

HARRIS COUNTY WCID 156	30	32	34	36	38	40
HARRIS COUNTY WCID 50	0	0	0	0	0	0
HARRIS COUNTY WCID 89	2,477	2,484	2,491	2,489	2,488	2,486
HOUSTON	692	(2,666)	(4,733)	(5,767)	(6,913)	(8,137)
KIRKMONT MUD	0	0	0	0	0	0
LA PORTE	3,329	3,372	3,421	3,388	3,343	3,289
LEAGUE CITY	158	125	95	71	57	46
MORGANS POINT	395	386	378	369	362	355
NASSAU BAY	1,253	1,247	1,251	1,234	1,223	1,210
PASADENA	25	35	57	47	48	52
PEARLAND	527	499	439	291	121	0
SAGEMEADOW UD	325	282	237	169	97	20
SEABROOK	66	64	66	38	13	(16)
SHOREACRES	72	72	73	69	64	60
WEBSTER	1,046	793	615	431	310	211
COUNTY-OTHER	(224)	(348)	(320)	(35)	(191)	(338)
MANUFACTURING	27,236	16,720	16,720	16,720	16,720	16,720
MINING	(176)	(175)	(172)	(170)	(169)	(167)
STEAM ELECTRIC POWER	(169)	(169)	(169)	(169)	(169)	(169)
HARRIS COUNTY - TRINITY-SAN JACINTO BASIN						
BAYTOWN	2,940	2,985	2,975	2,852	2,607	2,331
COUNTRY TERRACE WATER	15	10	5	(1)	(8)	(15)
HARRIS COUNTY FWSD 1-A	68	64	59	54	47	41
HARRIS COUNTY FWSD 27	51	42	32	21	10	(3)
HARRIS COUNTY WCID 1	0	0	0	0	0	0
HOUSTON	17	0	(11)	(15)	(17)	(20)
LAKE MUD	854	845	851	854	854	855
SPRING MEADOWS MUD	0	0	0	0	0	0
COUNTY-OTHER	(676)	(1,013)	(1,444)	(1,751)	(2,033)	(2,313)
MANUFACTURING	(7,404)	(20,900)	(21,962)	(22,731)	(21,907)	(20,903)
MINING	(148)	(147)	(144)	(142)	(141)	(140)
LIVESTOCK	(101)	(101)	(101)	(101)	(101)	(101)
IRRIGATION	2,420	2,420	2,420	2,420	2,420	2,420
LEON COUNTY - BRAZOS BASIN						
CONCORD-ROBBINS WSC	0	0	0	0	0	0
HILLTOP LAKES WSC	0	0	0	0	0	0
JEWETT	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0
SOUTHEAST WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	(24)	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LEON COUNTY - TRINITY BASIN						
BUFFALO	0	0	0	0	0	0
CENTERVILLE	0	0	0	0	0	0
CONCORD-ROBBINS WSC	0	0	0	0	0	0
FLO COMMUNITY WSC*	0	0	0	0	0	0
JEWETT	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0

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Region H Water User Group (WUG) Needs/Surplus

SOUTHEAST WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	58	(143)	(143)	(143)	(143)	(143)
MINING	0	(55)	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LIBERTY COUNTY - NECHES BASIN						
DAISETTA	0	0	0	0	0	0
DEVERS	0	0	0	0	0	0
HARDIN WSC	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	0	0	0	0	0	0
WEST HARDIN WSC*	1	1	1	1	1	1
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	(2)	(1)	(4)	(7)	(12)
LIVESTOCK	(55)	(55)	(55)	(55)	(55)	(55)
IRRIGATION	(7,644)	(7,644)	(7,644)	(7,644)	(7,644)	(7,644)
LIBERTY COUNTY - NECHES-TRINITY BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	(1)	0	(2)	(3)	(5)
LIVESTOCK	(30)	(30)	(30)	(30)	(30)	(30)
IRRIGATION	14,172	14,172	14,172	14,172	14,172	14,172
LIBERTY COUNTY - SAN JACINTO BASIN						
CLEVELAND	0	0	0	0	0	0
MERCY WSC	0	0	0	0	0	0
SOUTH CLEVELAND WSC	0	0	0	0	0	0
T & W WATER SERVICE	0	0	0	0	0	0
TARKINGTON SUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	(4)	(2)	(6)	(11)	(18)
LIVESTOCK	(94)	(94)	(94)	(94)	(94)	(94)
IRRIGATION	(1,700)	(1,700)	(1,700)	(1,700)	(1,700)	(1,700)
LIBERTY COUNTY - TRINITY BASIN						
DAISETTA	0	0	0	0	0	0
DAYTON	0	0	0	0	0	0
DEVERS	0	0	0	0	0	0
HARDIN WSC	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	80	80	80	81	81	81
LIBERTY	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	0	0	0	0	0	0
T & W WATER SERVICE	0	0	0	0	0	0
TARKINGTON SUD	0	0	0	0	0	0
WOODCREEK WATER OF LIBERTY	0	(18)	(40)	(64)	(89)	(116)
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	(12)	(5)	(17)	(34)	(61)
LIVESTOCK	(323)	(323)	(323)	(323)	(323)	(323)
IRRIGATION	6,455	6,455	6,455	6,455	6,455	6,455

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Region H Water User Group (WUG) Needs/Surplus

LIBERTY COUNTY - TRINITY-SAN JACINTO BASIN						
DAYTON	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	(1)	(1)	(2)	(4)	(6)
LIVESTOCK	(36)	(36)	(36)	(36)	(36)	(36)
IRRIGATION	0	0	0	0	0	0
MADISON COUNTY - BRAZOS BASIN						
MADISON COUNTY WSC	0	0	0	0	0	0
NORTH ZULCH MUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	(75)	(31)	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
MADISON COUNTY - TRINITY BASIN						
MADISON COUNTY WSC	0	0	0	0	0	0
MADISONVILLE	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0
NORTH ZULCH MUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	(300)	(126)	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	169	169	169	169	169	169
MONTGOMERY COUNTY - SAN JACINTO BASIN						
CHATEAU WOODS MUD	0	0	0	0	0	0
CLEVELAND	25	24	21	18	14	9
CONROE	1,577	(701)	(2,777)	(4,736)	(6,895)	(9,223)
CORINTHIAN POINT MUD 2	140	70	(9)	(8)	(7)	(7)
CUT & SHOOT	0	(11)	(57)	(130)	(235)	(374)
DOBBIN PLANTERSVILLE WSC*	(282)	(480)	(757)	(1,125)	(1,612)	(2,254)
DOMESTIC WATER	0	(42)	(91)	(88)	(87)	(86)
EAST PLANTATION UD	0	0	0	0	0	0
FAR HILLS UD	196	99	(11)	(9)	(8)	(8)
GULF UTILITY	0	5	6	8	9	10
HARRIS-MONTGOMERY COUNTIES MUD 386	0	10	16	20	21	21
HMW SUD	0	(149)	(316)	(518)	(515)	(514)
HOUSTON	353	(32)	(457)	(870)	(1,281)	(1,401)
JOHNSTON WATER UTILITY	0	(208)	(445)	(731)	(1,087)	(1,516)
KINGS MANOR MUD	0	13	13	12	12	11
LAKE BONANZA WSC	0	(54)	(117)	(193)	(291)	(410)
LAKE CONROE HILLS MUD	0	(58)	(125)	(208)	(312)	(439)
LAZY RIVER IMPROVEMENT DISTRICT	0	(60)	(128)	(127)	(126)	(126)
MAGNOLIA	129	(72)	(341)	(743)	(1,335)	(2,255)
MONTGOMERY	230	(303)	(580)	(860)	(1,147)	(1,597)
MONTGOMERY COUNTY MUD 112	0	(78)	(75)	(74)	(73)	(73)
MONTGOMERY COUNTY MUD 115	0	(56)	(119)	(117)	(116)	(116)
MONTGOMERY COUNTY MUD 119	0	(217)	(465)	(460)	(459)	(458)
MONTGOMERY COUNTY MUD 15	0	(46)	(127)	(208)	(339)	(534)
MONTGOMERY COUNTY MUD 18	844	357	62	(236)	(537)	(1,270)
MONTGOMERY COUNTY MUD 19	59	72	82	85	82	79
MONTGOMERY COUNTY MUD 56	0	(40)	(94)	(153)	(153)	(152)

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Region H Water User Group (WUG) Needs/Surplus

MONTGOMERY COUNTY MUD 8	959	942	898	850	797	676
MONTGOMERY COUNTY MUD 83	0	(124)	(132)	(142)	(154)	(163)
MONTGOMERY COUNTY MUD 84	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 88	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 89	244	219	188	156	109	92
MONTGOMERY COUNTY MUD 9	(32)	(54)	(172)	(294)	(291)	(290)
MONTGOMERY COUNTY MUD 95	0	(14)	(42)	(58)	(78)	(97)
MONTGOMERY COUNTY MUD 98	70	30	(16)	(14)	(13)	(13)
MONTGOMERY COUNTY MUD 99	4	(46)	(103)	(101)	(101)	(101)
MONTGOMERY COUNTY UD 2	108	113	108	93	73	46
MONTGOMERY COUNTY UD 3	320	246	249	216	154	94
MONTGOMERY COUNTY UD 4	310	229	233	180	45	(156)
MONTGOMERY COUNTY WCID 1	6	(2)	(16)	(45)	(77)	(118)
MSEC ENTERPRISES	46	(3,183)	(3,615)	(4,174)	(4,898)	(5,309)
NEW CANEY MUD	46	12	(34)	(108)	(216)	(350)
OAK RIDGE NORTH	11	1	(25)	(39)	(46)	(48)
PANORAMA VILLAGE	(49)	(50)	(79)	(123)	(187)	(274)
PINEHURST DECKER PRAIRIE WSC	3	(12)	(73)	(162)	(301)	(543)
POINT AQUARIUS MUD	552	556	532	497	447	380
PORTER SUD	(1,117)	(1,662)	(2,143)	(2,556)	(2,975)	(3,323)
QUADVEST	0	(1,442)	(3,155)	(5,199)	(7,707)	(10,406)
RANCH UTILITIES	0	(36)	(32)	(30)	(30)	(30)
RAYFORD ROAD MUD	26	72	(14)	(119)	(239)	(282)
RIVER PLANTATION MUD	171	141	(48)	(238)	(453)	(529)
ROMAN FOREST CONSOLIDATED MUD	0	3	(21)	(54)	(98)	(155)
SHENANDOAH	(145)	(525)	(680)	(785)	(909)	(1,068)
SOUTHERN MONTGOMERY COUNTY MUD	173	168	168	161	145	124
SPLENDORA	0	(43)	(178)	(359)	(596)	(898)
SPRING CREEK UD	0	(66)	(104)	(190)	(305)	(344)
STANLEY LAKE MUD	370	299	93	(185)	(554)	(1,018)
T & W WATER SERVICE	0	(381)	(809)	(1,318)	(1,948)	(2,699)
THE WOODLANDS	1,638	493	(701)	(2,196)	(4,473)	(7,271)
VALLEY RANCH MUD 1	0	0	0	0	0	0
WESTWOOD NORTH WSC	0	(5)	(56)	(108)	(160)	(235)
WHITE OAK UTILITIES	43	12	15	17	18	18
WHITE OAK WSC	10	(9)	(6)	(5)	(4)	(4)
WILLIS	1,596	1,587	1,534	1,448	1,320	1,138
WOOD BRANCH VILLAGE	20	19	6	(17)	(46)	(83)
COUNTY-OTHER	(5,095)	(16,814)	(32,479)	(52,735)	(78,715)	(110,797)
MANUFACTURING	(292)	(570)	(570)	(570)	(570)	(570)
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	7,610	7,610	7,610	7,610	7,610	7,610
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	858	858	858	858	858	858
POLK COUNTY - TRINITY BASIN						
LAKE LIVINGSTON WSC*	529	530	529	529	529	529
LEGGETT WSC	0	0	0	0	0	0
LIVINGSTON	3,006	2,735	2,524	2,337	2,177	2,047
MEMORIAL POINT UD	10	10	10	10	10	10
MOSCOW WSC*	8	6	5	3	2	1

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Region H Water User Group (WUG) Needs/Surplus

ONALASKA WSC	0	0	0	0	0	0
PROVIDENCE WSC	0	0	0	0	0	0
SODA WSC*	0	0	0	0	0	0
TEMPE WSC 1	0	0	0	0	0	0
COUNTY-OTHER*	12	12	12	12	12	12
MANUFACTURING*	0	0	0	0	0	0
MINING*	0	0	0	0	11	23
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	0	0	0	0	0	0
SAN JACINTO COUNTY - SAN JACINTO BASIN						
MERCY WSC	0	0	0	0	0	0
ONE FIVE O WSC	0	0	0	0	0	0
P B & S C WSC	0	0	0	0	0	0
SAN JACINTO SUD	72	72	71	72	72	71
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
SAN JACINTO COUNTY - TRINITY BASIN						
CAPE ROYALE UD	0	0	0	0	0	0
DODGE OAKHURST WSC	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	165	165	165	165	165	165
P B & S C WSC	0	0	0	0	0	0
RIVERSIDE WSC	0	0	0	0	0	0
SAN JACINTO SUD	208	208	209	208	208	209
SHEPHERD	0	0	0	0	0	0
WATERWOOD MUD 1	336	336	336	336	336	336
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	120	120	120	120	120	120
TRINITY COUNTY - TRINITY BASIN						
GLENDALE WSC	39	33	34	39	35	29
GROVETON*	310	308	310	310	308	308
LAKE LIVINGSTON WSC*	120	120	120	120	118	111
PENNINGTON WSC*	14	9	13	17	13	10
TRINITY	776	761	771	790	777	758
TRINITY RURAL WSC	0	0	0	0	0	0
WESTWOOD SHORES MUD	350	343	345	351	346	339
COUNTY-OTHER*	20	20	20	20	20	20
MINING*	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	34	34	34	34	34	34
WALKER COUNTY - SAN JACINTO BASIN						
DODGE OAKHURST WSC	0	0	0	0	0	0
HUNTSVILLE	11,977	11,843	11,759	11,643	11,525	11,420
NEW WAVERLY	0	0	0	0	0	0
PHELPS SUD	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	0	0	0	0	0	0

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Region H Water User Group (WUG) Needs/Surplus

COUNTY-OTHER	1,600	1,610	1,621	1,625	1,619	1,613
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
WALKER COUNTY - TRINITY BASIN						
DODGE OAKHURST WSC	0	0	0	0	0	0
HUNTSVILLE	2,452	2,426	2,408	2,386	2,360	2,340
LAKE LIVINGSTON WSC*	12	11	12	11	11	11
PHELPS SUD	0	0	0	0	0	0
RIVERSIDE WSC	10	10	10	10	10	10
THE CONSOLIDATED WSC*	6	7	8	8	9	9
TRINITY RURAL WSC	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	0	0	0	0	0	0
COUNTY-OTHER	999	994	996	991	983	976
MANUFACTURING	337	337	337	337	337	337
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
WALLER COUNTY - BRAZOS BASIN						
BROOKSHIRE MWD	0	0	0	0	0	0
G & W WSC*	0	0	0	(9)	(59)	(113)
HEMPSTEAD	0	0	0	0	0	(225)
PATTISON WSC	0	0	0	0	0	0
PRAIRIE VIEW	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0
QUADVEST	0	0	0	0	0	0
COUNTY-OTHER	(266)	(511)	(797)	(1,121)	(1,491)	(1,895)
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	(18)	(18)	(18)	(18)	(18)	(18)
WALLER COUNTY - SAN JACINTO BASIN						
G & W WSC*	0	0	0	(29)	(182)	(349)
KATY	0	0	0	0	0	0
OAK HOLLOW UTILITY	0	0	0	0	0	0
PRAIRIE VIEW	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0
WALLER	0	0	0	0	0	0
WHITE OAK UTILITIES	0	0	0	0	0	0
COUNTY-OTHER	(369)	(597)	(863)	(1,166)	(1,511)	(1,888)
MANUFACTURING	16	16	16	16	16	16
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

Second-tier needs are WUG split needs adjusted to include the implementation of recommended demand reduction and direct reuse water management strategies.

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AUSTIN COUNTY - BRAZOS BASIN						
AUSTIN COUNTY WSC	0	0	0	0	0	0
BELLVILLE	0	0	0	0	0	0
SEALY	0	0	0	0	0	0
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	69	297	576	894	1,227
MANUFACTURING	0	0	0	0	0	0
MINING	0	147	99	51	4	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
AUSTIN COUNTY - BRAZOS-COLORADO BASIN						
AUSTIN COUNTY WSC	0	0	0	0	0	0
SEALY	0	0	0	0	0	0
WALLIS	0	0	0	0	0	0
COUNTY-OTHER	0	0	25	97	181	267
MANUFACTURING	0	0	0	0	0	0
MINING	0	43	29	15	1	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
AUSTIN COUNTY - COLORADO BASIN						
WEST END WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	3	2	1	0	0
LIVESTOCK	0	0	0	0	0	0
BRAZORIA COUNTY - BRAZOS BASIN						
BRAZORIA	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
LAKE JACKSON	0	0	0	0	0	0
VARNER CREEK UD	0	0	0	0	0	0
WEST COLUMBIA	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	189
MANUFACTURING	0	0	0	0	0	0
MINING	0	31	59	89	122	161
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
BRAZORIA COUNTY - BRAZOS-COLORADO BASIN						
BRAZORIA	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
SWEENY	0	0	0	0	0	0
WEST COLUMBIA	0	0	0	0	0	0
COUNTY-OTHER	0	433	975	1,505	2,061	2,603
MANUFACTURING	21,772	27,812	27,812	27,812	27,812	27,855
MINING	0	58	110	167	228	306
LIVESTOCK	0	0	0	0	0	8
IRRIGATION	0	0	0	0	0	0

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BRAZORIA COUNTY - SAN JACINTO-BRAZOS BASIN						
ALVIN	0	0	0	0	0	0
ANGLETON	0	0	0	0	0	0
BRAZORIA COUNTY MUD 2	0	0	0	0	0	0
BRAZORIA COUNTY MUD 21	0	0	0	0	0	0
BRAZORIA COUNTY MUD 25	0	0	0	0	0	0
BRAZORIA COUNTY MUD 29	0	0	0	0	0	0
BRAZORIA COUNTY MUD 3	0	0	0	0	0	0
BRAZORIA COUNTY MUD 31	0	0	0	0	0	0
BRAZORIA COUNTY MUD 6	0	0	0	0	0	0
CLUTE	0	0	0	0	0	0
DANBURY	0	0	0	0	0	0
FREEPORT	0	0	0	0	0	0
HILLCREST VILLAGE	0	0	0	0	0	0
LAKE JACKSON	0	0	0	0	0	0
MANVEL	0	0	0	0	0	0
OYSTER CREEK	0	0	0	0	0	0
PEARLAND	0	0	0	0	0	0
QUADVEST	0	0	0	0	0	0
RICHWOOD	0	0	0	0	0	0
SEDONA LAKES MUD 1	0	0	0	0	0	0
SURFSIDE BEACH	0	18	16	14	13	12
TDCJ RAMSEY AREA	0	0	0	0	0	0
COUNTY-OTHER	0	690	4,014	7,922	12,367	17,196
MANUFACTURING	0	0	0	0	0	0
MINING	0	132	252	385	524	696
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	38,229	38,229	38,229	38,229	38,229	38,229
CHAMBERS COUNTY - NECHES-TRINITY BASIN						
ANAHUAC	0	0	0	0	0	0
TRINITY BAY CONSERVATION DISTRICT	272	501	758	1,021	1,316	1,620
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
CHAMBERS COUNTY - TRINITY BASIN						
ANAHUAC	0	0	0	0	0	0
MONT BELVIEU	0	0	325	929	1,580	2,257
TRINITY BAY CONSERVATION DISTRICT	70	130	197	265	342	421
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	2,753	3,452	3,452	3,452	3,452	3,452
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	4,695	4,695	4,695	4,695	4,695	4,695
CHAMBERS COUNTY - TRINITY-SAN JACINTO BASIN						
BAYTOWN	0	0	0	0	0	0
CHAMBERS COUNTY MUD 1	0	0	0	0	0	0
MONT BELVIEU	0	0	98	280	476	679

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
CHAMBERS COUNTY - TRINITY-SAN JACINTO BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	1,387	1,387	1,387	1,387	1,387	1,387
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	1,616	1,616	1,616	1,616	1,616	1,616
FORT BEND COUNTY - BRAZOS BASIN						
FIRST COLONY MUD 9	0	124	120	119	117	116
FORT BEND COUNTY FWSD 2	0	82	101	119	137	154
FORT BEND COUNTY MUD 115	0	185	176	172	170	170
FORT BEND COUNTY MUD 116	0	309	407	480	555	626
FORT BEND COUNTY MUD 121	0	117	115	112	109	104
FORT BEND COUNTY MUD 128	0	0	0	0	0	0
FORT BEND COUNTY MUD 129	0	305	302	299	296	292
FORT BEND COUNTY MUD 140	0	129	126	124	123	121
FORT BEND COUNTY MUD 149	0	67	83	76	73	67
FORT BEND COUNTY MUD 152	0	55	68	66	65	62
FORT BEND COUNTY MUD 155	0	135	168	160	157	152
FORT BEND COUNTY MUD 158	0	86	107	103	102	98
FORT BEND COUNTY MUD 162	0	96	117	112	109	103
FORT BEND COUNTY MUD 187	0	90	86	83	80	77
FORT BEND COUNTY MUD 25	0	31	30	30	30	30
FORT BEND COUNTY MUD 46	0	0	0	0	0	0
FORT BEND COUNTY MUD 5	0	90	84	80	77	73
FORT BEND COUNTY MUD 81	0	0	0	0	0	0
FORT BEND COUNTY WCID 3	0	200	199	198	197	197
FULSHEAR	0	270	272	262	255	242
NEEDVILLE	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	0	0	0	0	0	0
PECAN GROVE MUD 1	0	0	0	0	0	0
PLANTATION MUD	0	91	81	73	70	65
QUADVEST	0	157	228	309	406	506
RICHMOND	0	412	430	488	551	584
ROSENBERG	0	0	0	0	0	0
ROYAL VALLEY UTILITIES	0	256	321	317	314	311
SIENNA PLANTATION	0	0	0	0	0	0
SUGAR LAND	0	4,383	4,908	5,538	6,028	6,395
TDCJ JESTER UNITS	0	146	144	142	142	141
COUNTY-OTHER	582	4,731	4,648	5,751	7,255	8,387
MANUFACTURING	194	949	949	949	949	949
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FORT BEND COUNTY - BRAZOS-COLORADO BASIN						
KENDLETON	0	0	0	0	0	0
NEEDVILLE	0	0	0	0	0	0

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY - BRAZOS-COLORADO BASIN						
ROSENBERG	0	0	0	0	0	0
COUNTY-OTHER	0	0	913	3,099	6,296	10,892
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FORT BEND COUNTY - SAN JACINTO BASIN						
BLUE RIDGE WEST MUD	0	275	266	261	256	247
FORT BEND COUNTY WCID 2	0	640	796	951	1,105	1,265
FULSHEAR	0	65	106	102	101	95
HOUSTON	0	225	514	545	609	652
KATY	0	1,636	1,601	1,578	1,562	1,545
MEADOWS PLACE	0	156	150	150	154	158
NORTH FORT BEND WATER AUTHORITY	0	16,331	21,401	23,747	24,993	25,148
SUGAR LAND	0	149	158	171	179	181
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	0	0	0	0	0
COUNTY-OTHER	93	189	183	153	105	69
MANUFACTURING	62	137	137	137	137	137
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
FORT BEND COUNTY - SAN JACINTO-BRAZOS BASIN						
BLUE RIDGE WEST MUD	0	23	23	22	22	22
FIRST COLONY MUD 9	0	396	387	380	376	370
FORT BEND COUNTY FWSD 1	0	30	35	40	45	50
FORT BEND COUNTY MUD 115	0	98	92	90	90	89
FORT BEND COUNTY MUD 23	0	365	380	392	406	412
FORT BEND COUNTY MUD 24	0	50	62	58	56	52
FORT BEND COUNTY MUD 25	0	225	220	218	223	223
FORT BEND COUNTY MUD 26	0	227	293	285	279	271
FORT BEND COUNTY MUD 42	0	330	323	317	313	309
FORT BEND COUNTY MUD 46	0	0	0	0	0	0
FORT BEND COUNTY MUD 47	0	0	0	0	0	0
FORT BEND COUNTY MUD 48	0	106	103	100	97	93
FORT BEND COUNTY MUD 49	0	80	77	75	75	74
FORT BEND COUNTY WCID 2	0	2,245	2,870	3,491	4,109	4,754
FORT BEND COUNTY WCID 3	0	21	21	21	21	21
FULSHEAR	0	625	615	585	565	526
HOUSTON	0	145	330	351	392	421
MEADOWCREEK MUD	0	146	143	139	137	133
MEADOWS PLACE	0	16	15	16	16	16
MISSOURI CITY	0	193	201	208	219	226
NORTH FORT BEND WATER AUTHORITY	0	7,777	11,923	14,032	15,150	15,327
PALMER PLANTATION MUD 1	0	200	196	193	192	190
PALMER PLANTATION MUD 2	0	94	91	89	87	84
PEARLAND	0	0	0	0	0	0
PECAN GROVE MUD 1	0	0	0	0	0	0
QUAIL VALLEY UD	0	0	56	12	0	0
SIENNA PLANTATION	0	0	0	0	0	0

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY - SAN JACINTO-BRAZOS BASIN						
SUGAR LAND	0	1,446	1,171	1,358	1,472	1,527
TDCJ JESTER UNITS	0	216	215	213	212	210
THUNDERBIRD UD	0	462	449	441	437	431
COUNTY-OTHER	0	0	0	0	556	1,302
MANUFACTURING	0	0	0	0	0	0
MINING	4	10	7	5	4	2
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
GALVESTON COUNTY - NECHES-TRINITY BASIN						
BOLIVAR PENINSULA SUD	0	0	0	0	0	0
COUNTY-OTHER	4	5	6	8	11	12
MINING	70	76	83	89	95	103
LIVESTOCK	53	53	53	53	53	53
IRRIGATION	0	0	0	0	0	0
GALVESTON COUNTY - SAN JACINTO-BRAZOS BASIN						
BACLIFF MUD	0	0	0	0	0	0
BAYVIEW MUD	0	0	0	0	0	0
FRIENDSWOOD	0	0	0	0	0	0
GALVESTON	0	0	0	0	0	0
GALVESTON COUNTY FWSD 6	31	20	17	15	15	14
GALVESTON COUNTY MUD 12	0	0	0	0	0	0
GALVESTON COUNTY WCID 1	0	0	0	87	282	444
GALVESTON COUNTY WCID 12	716	1,066	1,091	1,120	1,153	1,181
GALVESTON COUNTY WCID 8	0	0	0	0	0	0
HITCHCOCK	0	0	0	0	0	0
JAMAICA BEACH	0	0	0	0	0	0
LA MARQUE	391	371	217	77	0	0
LEAGUE CITY	0	0	0	0	0	0
SAN LEON MUD	0	0	0	0	0	0
TEXAS CITY	0	0	0	0	0	0
COUNTY-OTHER	996	856	781	703	633	554
MANUFACTURING	138	0	0	0	0	0
MINING	273	292	322	348	373	397
LIVESTOCK	184	184	184	184	184	184
IRRIGATION	2,765	2,765	2,765	2,765	2,765	2,765
HARRIS COUNTY - SAN JACINTO BASIN						
BAKER ROAD MUD	0	84	139	138	137	137
BAYTOWN	0	0	0	0	0	0
BELLAIRE	0	0	0	0	0	0
BLUE BELL MANOR UTILITY	0	171	316	338	366	387
BUNKER HILL VILLAGE	0	0	0	0	0	0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	0	718	1,960	2,045	2,155	2,224
CHIMNEY HILL MUD	0	0	0	0	0	0
CROSBY MUD	0	0	0	0	0	0
DEER PARK	0	0	0	0	0	0
DOUGLAS UTILITY	0	56	93	92	92	93
EL DORADO UD	0	94	167	166	166	162

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY - SAN JACINTO BASIN						
FOREST HILLS MUD	0	71	152	143	139	135
FORT BEND COUNTY WCID 2	0	118	262	309	358	409
GALENA PARK	0	0	0	0	0	0
GREEN TRAILS MUD	0	164	287	288	288	288
GREENWOOD UD	0	0	0	0	0	0
HARRIS COUNTY FWSD 58	0	112	208	224	240	255
HARRIS COUNTY MUD 106	0	366	675	682	684	690
HARRIS COUNTY MUD 11	0	46	113	115	122	126
HARRIS COUNTY MUD 119	0	103	218	218	224	227
HARRIS COUNTY MUD 122	2	21	41	37	35	33
HARRIS COUNTY MUD 132	0	269	463	463	462	461
HARRIS COUNTY MUD 148	0	0	0	0	0	0
HARRIS COUNTY MUD 151	0	280	490	485	483	480
HARRIS COUNTY MUD 152	0	285	520	531	541	545
HARRIS COUNTY MUD 153	0	332	581	573	568	564
HARRIS COUNTY MUD 154	0	260	464	471	487	501
HARRIS COUNTY MUD 158	0	0	0	0	0	0
HARRIS COUNTY MUD 180	0	136	251	238	227	215
HARRIS COUNTY MUD 189	0	101	182	192	202	213
HARRIS COUNTY MUD 216	0	38	65	61	58	55
HARRIS COUNTY MUD 221	0	133	238	247	256	262
HARRIS COUNTY MUD 23	0	0	0	0	0	0
HARRIS COUNTY MUD 278	0	0	0	0	0	0
HARRIS COUNTY MUD 290	0	183	349	358	365	364
HARRIS COUNTY MUD 321	0	0	0	0	0	0
HARRIS COUNTY MUD 342	0	0	0	0	0	0
HARRIS COUNTY MUD 344	0	0	0	0	0	0
HARRIS COUNTY MUD 345	0	229	396	388	386	383
HARRIS COUNTY MUD 36	0	114	190	187	187	188
HARRIS COUNTY MUD 361	0	0	0	0	0	0
HARRIS COUNTY MUD 372	0	0	0	0	0	0
HARRIS COUNTY MUD 400	0	378	695	739	762	770
HARRIS COUNTY MUD 412	0	0	0	0	0	0
HARRIS COUNTY MUD 420	0	0	0	0	0	0
HARRIS COUNTY MUD 46	0	154	265	259	257	254
HARRIS COUNTY MUD 49	0	0	0	0	0	0
HARRIS COUNTY MUD 5	0	0	0	0	0	0
HARRIS COUNTY MUD 50	0	0	0	0	0	0
HARRIS COUNTY MUD 58	0	75	135	131	131	129
HARRIS COUNTY MUD 6	0	78	171	164	161	156
HARRIS COUNTY MUD 8	0	0	0	0	0	0
HARRIS COUNTY MUD 96	0	0	0	0	0	0
HARRIS COUNTY UD 14	0	68	126	135	147	167
HARRIS COUNTY UD 15	0	155	300	297	300	304
HARRIS COUNTY WCID 1	0	0	0	0	0	0
HARRIS COUNTY WCID 133	0	165	300	326	363	401
HARRIS COUNTY WCID 70	0	60	101	95	91	84

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY - SAN JACINTO BASIN						
HARRIS COUNTY WCID 74	0	143	240	228	226	221
HARRIS COUNTY WCID 96	0	0	0	0	0	0
HARRIS COUNTY WCID-FONDREN ROAD	0	0	0	0	0	0
HILSHIRE VILLAGE	0	0	0	0	0	0
HMW SUD	0	139	289	353	333	313
HOUSTON	0	33,727	82,195	95,154	112,780	130,077
HUMBLE	0	0	0	0	0	0
JACINTO CITY	0	0	0	0	0	0
JERSEY VILLAGE	0	0	0	0	0	0
KATY	0	902	1,616	1,666	1,717	1,764
KINGS MANOR MUD	0	0	0	0	0	0
LA PORTE	0	0	0	0	0	0
LAKE MUD	0	0	0	0	0	0
LONGHORN TOWN UD	0	91	158	156	155	155
LUCE BAYOU PUD	0	37	70	67	63	62
MASON CREEK UD	0	357	616	608	603	597
MEMORIAL VILLAGES WATER AUTHORITY	2,069	2,388	2,758	3,168	3,623	4,108
MORGANS POINT	0	0	0	0	0	0
MOUNT HOUSTON ROAD MUD	0	235	455	505	541	562
NEWPORT MUD	0	0	0	0	0	0
NORTH BELT UD	0	121	220	226	236	245
NORTH CHANNEL WATER AUTHORITY	0	0	0	0	0	0
NORTH FOREST MUD	0	37	66	57	51	43
NORTH FORT BEND WATER AUTHORITY	0	0	0	0	0	0
NORTH GREEN MUD	0	123	215	214	218	220
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	0	37,548	65,909	67,771	70,388	71,779
NORTHWEST HARRIS COUNTY MUD 16	0	140	238	232	230	225
PARKWAY MUD	0	0	0	0	0	0
PASADENA	0	0	0	0	0	0
PINE VILLAGE PUD	0	0	0	0	0	0
PINEWOOD COMMUNITY	0	30	51	49	48	47
QUADVEST	0	73	163	213	278	342
ROLLING FORK PUD	0	64	148	145	143	141
SEQUOIA IMPROVEMENT DISTRICT	0	43	80	77	77	75
SOUTH HOUSTON	0	0	0	0	0	0
SOUTHERN WATER	0	128	214	207	203	198
SOUTHSIDE PLACE	0	0	0	0	0	0
SOUTHWEST HARRIS COUNTY MUD 1	0	0	0	0	0	0
SPRING VALLEY	0	0	0	0	0	0
SUBURBAN UTILITY	0	71	130	124	121	116
SUNBELT FWSD	0	0	0	0	0	0
THE COMMONS WATER SUPPLY	0	112	204	211	214	215
THE WOODLANDS	0	1,260	2,367	2,561	2,700	2,795
TOMBALL	0	846	1,546	1,594	1,666	1,710
TRAIL OF THE LAKES MUD	0	269	477	473	472	465
WALLER	0	0	0	0	0	0
WEST HARRIS COUNTY MUD 6	0	109	192	199	205	208

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY - SAN JACINTO BASIN						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	11,961	28,679	30,962	31,522	31,359
WEST UNIVERSITY PLACE	0	0	0	0	0	0
WOODCREEK MUD	0	96	167	164	163	164
COUNTY-OTHER	0	4,781	8,390	8,535	10,825	12,806
MANUFACTURING	0	0	0	0	0	0
MINING	2,622	2,605	2,559	2,531	2,508	2,491
STEAM ELECTRIC POWER	3,412	3,412	3,412	3,412	3,412	3,412
LIVESTOCK	383	766	1,022	1,022	1,022	1,022
IRRIGATION	0	0	0	0	0	0
HARRIS COUNTY - SAN JACINTO-BRAZOS BASIN						
BAYBROOK MUD 1	0	0	0	0	0	0
CLEAR BROOK CITY MUD	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	0	0	0	0	0	0
DEER PARK	0	0	0	0	0	0
FRIENDSWOOD	0	0	0	0	0	0
HARRIS COUNTY MUD 55	0	0	0	0	0	0
HARRIS COUNTY WCID 156	0	0	0	0	0	0
HARRIS COUNTY WCID 50	0	0	0	0	0	0
HARRIS COUNTY WCID 89	0	0	0	0	0	0
HOUSTON	0	1,564	3,207	3,771	4,502	5,213
KIRK MONT MUD	0	0	0	0	0	0
LA PORTE	0	0	0	0	0	0
LEAGUE CITY	0	0	0	0	0	0
MORGANS POINT	0	0	0	0	0	0
NASSAU BAY	0	0	0	0	0	0
PASADENA	0	0	0	0	0	0
PEARLAND	0	0	0	0	0	0
SAGEMEADOW UD	0	0	0	0	0	0
SEABROOK	0	0	0	0	0	0
SHOREACRES	0	0	0	0	0	0
WEBSTER	0	0	0	0	0	0
COUNTY-OTHER	216	322	294	33	179	303
MANUFACTURING	0	0	0	0	0	0
MINING	176	175	172	170	169	167
STEAM ELECTRIC POWER	169	169	169	169	169	169
HARRIS COUNTY - TRINITY-SAN JACINTO BASIN						
BAYTOWN	0	0	0	0	0	0
COUNTRY TERRACE WATER	0	0	0	0	0	0
HARRIS COUNTY FWSD 1-A	0	0	0	0	0	0
HARRIS COUNTY FWSD 27	0	0	0	0	0	0
HARRIS COUNTY WCID 1	0	0	0	0	0	0
HOUSTON	0	0	7	9	10	11
LAKE MUD	0	0	0	0	0	0
SPRING MEADOWS MUD	0	0	0	0	0	0
COUNTY-OTHER	615	891	1,262	1,504	1,738	1,944
MANUFACTURING	7,404	20,900	21,962	22,731	21,907	20,903
MINING	148	147	144	142	141	140

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY - TRINITY-SAN JACINTO BASIN						
LIVESTOCK	101	101	101	101	101	101
IRRIGATION	0	0	0	0	0	0
LEON COUNTY - BRAZOS BASIN						
CONCORD-ROBBINS WSC	0	0	0	0	0	0
HILLTOP LAKES WSC	0	0	0	0	0	0
JEWETT	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0
SOUTHEAST WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	24	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LEON COUNTY - TRINITY BASIN						
BUFFALO	0	0	0	0	0	0
CENTERVILLE	0	0	0	0	0	0
CONCORD-ROBBINS WSC	0	0	0	0	0	0
FLO COMMUNITY WSC*	0	0	0	0	0	0
JEWETT	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0
SOUTHEAST WSC	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	143	143	143	143	143
MINING	0	55	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
LIBERTY COUNTY - NECHES BASIN						
DAISETTA	0	0	0	0	0	0
DEVERS	0	0	0	0	0	0
HARDIN WSC	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	0	0	0	0	0	0
WEST HARDIN WSC*	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	2	1	4	7	12
LIVESTOCK	55	55	55	55	55	55
IRRIGATION	3,905	3,905	3,905	3,905	3,905	3,905
LIBERTY COUNTY - NECHES-TRINITY BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	1	0	2	3	5
LIVESTOCK	30	30	30	30	30	30
IRRIGATION	0	0	0	0	0	0
LIBERTY COUNTY - SAN JACINTO BASIN						
CLEVELAND	0	0	0	0	0	0
MERCY WSC	0	0	0	0	0	0
SOUTH CLEVELAND WSC	0	0	0	0	0	0
T & W WATER SERVICE	0	0	0	0	0	0
TARKINGTON SUD	0	0	0	0	0	0

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
LIBERTY COUNTY - SAN JACINTO BASIN						
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	4	2	6	11	18
LIVESTOCK	94	94	94	94	94	94
IRRIGATION	710	710	710	710	710	710
LIBERTY COUNTY - TRINITY BASIN						
DAISETTA	0	0	0	0	0	0
DAYTON	0	0	0	0	0	0
DEVERS	0	0	0	0	0	0
HARDIN WSC	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	0	0	0	0	0	0
LIBERTY	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	0	0	0	0	0	0
T & W WATER SERVICE	0	0	0	0	0	0
TARKINGTON SUD	0	0	0	0	0	0
WOODCREEK WATER OF LIBERTY	0	1	20	39	60	79
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	12	5	17	34	61
LIVESTOCK	323	323	323	323	323	323
IRRIGATION	0	0	0	0	0	0
LIBERTY COUNTY - TRINITY-SAN JACINTO BASIN						
DAYTON	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	1	1	2	4	6
LIVESTOCK	36	36	36	36	36	36
IRRIGATION	0	0	0	0	0	0
MADISON COUNTY - BRAZOS BASIN						
MADISON COUNTY WSC	0	0	0	0	0	0
NORTH ZULCH MUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	75	31	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
MADISON COUNTY - TRINITY BASIN						
MADISON COUNTY WSC	0	0	0	0	0	0
MADISONVILLE	0	0	0	0	0	0
NORMANGEE	0	0	0	0	0	0
NORTH ZULCH MUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	300	126	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
MONTGOMERY COUNTY - SAN JACINTO BASIN						
CHATEAU WOODS MUD	0	0	0	0	0	0
CLEVELAND	0	0	0	0	0	0
CONROE	0	70	1,966	3,715	5,634	7,681

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY - SAN JACINTO BASIN						
CORINTHIAN POINT MUD 2	0	0	0	0	0	0
CUT & SHOOT	0	0	30	94	188	306
DOBBIN PLANTERSVILLE WSC*	258	432	683	1,008	1,462	2,059
DOMESTIC WATER	0	31	76	70	67	63
EAST PLANTATION UD	0	0	0	0	0	0
FAR HILLS UD	0	0	0	0	0	0
GULF UTILITY	0	0	0	0	0	0
HARRIS-MONTGOMERY COUNTIES MUD 386	0	0	0	0	0	0
HMW SUD	0	97	249	423	380	336
HOUSTON	0	0	303	635	964	1,023
JOHNSTON WATER UTILITY	0	180	408	682	1,023	1,432
KINGS MANOR MUD	0	0	0	0	0	0
LAKE BONANZA WSC	0	40	98	167	256	359
LAKE CONROE HILLS MUD	0	39	95	163	248	354
LAZY RIVER IMPROVEMENT DISTRICT	0	52	117	115	113	112
MAGNOLIA	0	19	270	650	1,213	2,081
MONTGOMERY	0	249	505	766	1,037	1,467
MONTGOMERY COUNTY MUD 112	0	66	62	60	58	57
MONTGOMERY COUNTY MUD 115	0	46	106	102	100	98
MONTGOMERY COUNTY MUD 119	0	183	419	408	404	398
MONTGOMERY COUNTY MUD 15	0	17	92	162	279	448
MONTGOMERY COUNTY MUD 18	0	0	0	129	413	1,110
MONTGOMERY COUNTY MUD 19	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 56	0	32	84	141	140	137
MONTGOMERY COUNTY MUD 8	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 83	0	108	114	122	132	138
MONTGOMERY COUNTY MUD 84	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 88	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 89	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 9	0	0	106	211	199	185
MONTGOMERY COUNTY MUD 95	0	5	30	44	62	78
MONTGOMERY COUNTY MUD 98	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 99	0	30	78	70	65	60
MONTGOMERY COUNTY UD 2	0	0	0	0	0	0
MONTGOMERY COUNTY UD 3	0	0	0	0	0	0
MONTGOMERY COUNTY UD 4	0	0	0	0	0	73
MONTGOMERY COUNTY WCID 1	0	0	0	20	47	79
MSEC ENTERPRISES	0	2,919	3,281	3,762	4,393	4,699
NEW CANEY MUD	0	0	0	29	132	258
OAK RIDGE NORTH	0	0	0	1	7	9
PANORAMA VILLAGE	33	27	54	93	152	231
PINEHURST DECKER PRAIRIE WSC	0	10	68	154	289	523
POINT AQUARIUS MUD	0	0	0	0	0	0
PORTER SUD	1,117	1,662	2,143	2,556	2,975	3,323
QUADVEST	0	1,189	2,806	4,694	6,981	9,382
RANCH UTILITIES	0	27	22	18	17	15
RAYFORD ROAD MUD	0	0	0	36	143	166

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Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY - SAN JACINTO BASIN						
RIVER PLANTATION MUD	0	0	0	148	354	422
ROMAN FOREST CONSOLIDATED MUD	0	0	7	37	78	129
SHENANDOAH	112	463	597	691	810	969
SOUTHERN MONTGOMERY COUNTY MUD	0	0	0	0	0	0
SPLENDORA	0	0	73	206	382	582
SPRING CREEK UD	0	10	39	111	204	180
STANLEY LAKE MUD	0	0	0	126	475	910
T & W WATER SERVICE	0	315	725	1,207	1,797	2,448
THE WOODLANDS	0	0	196	1,523	3,584	6,093
VALLEY RANCH MUD 1	0	0	0	0	0	0
WESTWOOD NORTH WSC	0	0	32	79	127	196
WHITE OAK UTILITIES	0	0	0	0	0	0
WHITE OAK WSC	0	4	0	0	0	0
WILLIS	0	0	0	0	0	0
WOOD BRANCH VILLAGE	0	0	0	17	46	83
COUNTY-OTHER	4,416	14,491	28,088	45,491	67,799	94,649
MANUFACTURING	292	570	570	570	570	570
MINING	0	0	0	0	0	0
STEAM ELECTRIC POWER	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
POLK COUNTY - TRINITY BASIN						
LAKE LIVINGSTON WSC*	0	0	0	0	0	0
LEGGETT WSC	0	0	0	0	0	0
LIVINGSTON	0	0	0	0	0	0
MEMORIAL POINT UD	0	0	0	0	0	0
MOSCOW WSC*	0	0	0	0	0	0
ONALASKA WSC	0	0	0	0	0	0
PROVIDENCE WSC	0	0	0	0	0	0
SODA WSC*	0	0	0	0	0	0
TEMPE WSC 1	0	0	0	0	0	0
COUNTY-OTHER*	0	0	0	0	0	0
MANUFACTURING*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	0	0	0	0	0	0
SAN JACINTO COUNTY - SAN JACINTO BASIN						
MERCY WSC	0	0	0	0	0	0
ONE FIVE O WSC	0	0	0	0	0	0
P B & S C WSC	0	0	0	0	0	0
SAN JACINTO SUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
SAN JACINTO COUNTY - TRINITY BASIN						
CAPE ROYALE UD	0	0	0	0	0	0
DODGE OAKHURST WSC	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	0	0	0	0	0	0
P B & S C WSC	0	0	0	0	0	0
RIVERSIDE WSC	0	0	0	0	0	0
SAN JACINTO SUD	0	0	0	0	0	0
SHEPHERD	0	0	0	0	0	0
WATERWOOD MUD 1	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
TRINITY COUNTY - TRINITY BASIN						
GLENDALE WSC	0	0	0	0	0	0
GROVETON*	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	0	0	0	0	0	0
PENNINGTON WSC*	0	0	0	0	0	0
TRINITY	0	0	0	0	0	0
TRINITY RURAL WSC	0	0	0	0	0	0
WESTWOOD SHORES MUD	0	0	0	0	0	0
COUNTY-OTHER*	0	0	0	0	0	0
MINING*	0	0	0	0	0	0
LIVESTOCK*	0	0	0	0	0	0
IRRIGATION*	0	0	0	0	0	0
WALKER COUNTY - SAN JACINTO BASIN						
DODGE OAKHURST WSC	0	0	0	0	0	0
HUNTSVILLE	0	0	0	0	0	0
NEW WAVERLY	0	0	0	0	0	0
PHELPS SUD	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
WALKER COUNTY - TRINITY BASIN						
DODGE OAKHURST WSC	0	0	0	0	0	0
HUNTSVILLE	0	0	0	0	0	0
LAKE LIVINGSTON WSC*	0	0	0	0	0	0
PHELPS SUD	0	0	0	0	0	0
RIVERSIDE WSC	0	0	0	0	0	0
THE CONSOLIDATED WSC*	0	0	0	0	0	0
TRINITY RURAL WSC	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	0	0	0	0	0	0
COUNTY-OTHER	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Water User Group (WUG) Second-Tier Identified Water Needs

	WUG SECOND-TIER NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
WALKER COUNTY - TRINITY BASIN						
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
WALLER COUNTY - BRAZOS BASIN						
BROOKSHIRE MWD	0	0	0	0	0	0
G & W WSC*	0	0	0	0	33	79
HEMPSTEAD	0	0	0	0	0	105
PATTISON WSC	0	0	0	0	0	0
PRAIRIE VIEW	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0
QUADVEST	0	0	0	0	0	0
COUNTY-OTHER	212	417	679	970	1,304	1,649
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0
WALLER COUNTY - SAN JACINTO BASIN						
G & W WSC*	0	0	0	0	102	245
KATY	0	0	0	0	0	0
OAK HOLLOW UTILITY	0	0	0	0	0	0
PRAIRIE VIEW	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0
WALLER	0	0	0	0	0	0
WHITE OAK UTILITIES	0	0	0	0	0	0
COUNTY-OTHER	320	510	754	1,025	1,335	1,659
MANUFACTURING	0	0	0	0	0	0
MINING	0	0	0	0	0	0
LIVESTOCK	0	0	0	0	0	0
IRRIGATION	0	0	0	0	0	0

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Source Water Balance (Availability - WUG Supply)

GROUNDWATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
BRAZOS RIVER ALLUVIUM AQUIFER	AUSTIN	BRAZOS	FRESH	7,944	7,944	7,944	7,944	7,944	7,944
BRAZOS RIVER ALLUVIUM AQUIFER	WALLER	BRAZOS	FRESH	12,027	12,027	12,027	12,027	12,027	12,027
CARRIZO-WILCOX AQUIFER	LEON	BRAZOS	FRESH	1,647	1,433	1,448	1,619	1,769	1,856
CARRIZO-WILCOX AQUIFER	LEON	TRINITY	FRESH	4,212	4,467	4,940	5,438	5,693	5,796
CARRIZO-WILCOX AQUIFER	MADISON	BRAZOS	FRESH	154	144	125	108	107	107
CARRIZO-WILCOX AQUIFER	MADISON	TRINITY	FRESH	1,190	1,104	1,005	974	1,174	1,298
CARRIZO-WILCOX AQUIFER	TRINITY	TRINITY	FRESH	99	99	99	99	99	99
CARRIZO-WILCOX AQUIFER	WALKER	TRINITY	FRESH	2,099	2,099	2,099	2,099	2,099	2,099
GULF COAST AQUIFER SYSTEM	AUSTIN	BRAZOS	FRESH	3,354	3,142	2,946	2,696	2,406	2,110
GULF COAST AQUIFER SYSTEM	AUSTIN	BRAZOS-COLORADO	FRESH	11,498	11,317	11,217	11,089	10,941	10,781
GULF COAST AQUIFER SYSTEM	AUSTIN	COLORADO	FRESH	82	77	71	63	55	49
GULF COAST AQUIFER SYSTEM	BRAZORIA	BRAZOS	FRESH/BRACKISH	1,696	1,303	1,021	721	561	505
GULF COAST AQUIFER SYSTEM	BRAZORIA	BRAZOS-COLORADO	FRESH	1,420	1,165	920	556	192	0
GULF COAST AQUIFER SYSTEM	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	11,591	8,367	6,803	5,127	2,945	502
GULF COAST AQUIFER SYSTEM	CHAMBERS	NECHES-TRINITY	FRESH	6,760	6,739	6,717	6,693	6,666	6,637
GULF COAST AQUIFER SYSTEM	CHAMBERS	TRINITY	FRESH	2,626	1,689	1,263	1,012	735	441
GULF COAST AQUIFER SYSTEM	CHAMBERS	TRINITY-SAN JACINTO	FRESH	221	188	153	115	72	26
GULF COAST AQUIFER SYSTEM	FORT BEND	BRAZOS	FRESH	16	16	16	16	16	16
GULF COAST AQUIFER SYSTEM	FORT BEND	BRAZOS-COLORADO	FRESH	0	0	1,274	3,758	7,408	12,756
GULF COAST AQUIFER SYSTEM	FORT BEND	SAN JACINTO	FRESH	0	0	0	0	0	0
GULF COAST AQUIFER SYSTEM	FORT BEND	SAN JACINTO-BRAZOS	FRESH	367	216	268	322	375	438
GULF COAST AQUIFER SYSTEM	GALVESTON	NECHES-TRINITY	FRESH	20	23	28	33	39	46
GULF COAST AQUIFER SYSTEM	GALVESTON	SAN JACINTO-BRAZOS	FRESH	5,697	6,634	6,644	6,653	6,663	6,672
GULF COAST AQUIFER SYSTEM	HARRIS	SAN JACINTO	FRESH	107	60	29	29	29	29
GULF COAST AQUIFER SYSTEM	HARRIS	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
GULF COAST AQUIFER SYSTEM	HARRIS	TRINITY-SAN JACINTO	FRESH	0	0	0	0	0	0
GULF COAST AQUIFER SYSTEM	LIBERTY	NECHES	FRESH	4,436	4,382	4,360	4,334	4,308	4,282
GULF COAST AQUIFER SYSTEM	LIBERTY	NECHES-TRINITY	FRESH	271	270	269	269	268	267
GULF COAST AQUIFER SYSTEM	LIBERTY	SAN JACINTO	FRESH	2,334	2,211	2,085	1,929	1,746	1,567
GULF COAST AQUIFER SYSTEM	LIBERTY	TRINITY	FRESH	13,558	12,460	11,395	10,244	9,048	7,870
GULF COAST AQUIFER SYSTEM	LIBERTY	TRINITY-SAN JACINTO	FRESH	7,996	7,979	7,963	7,942	7,919	7,897
GULF COAST AQUIFER SYSTEM	MONTGOMERY	SAN JACINTO	BRACKISH	0	0	0	0	0	0
GULF COAST AQUIFER SYSTEM	MONTGOMERY	SAN JACINTO	FRESH	0	0	0	0	0	0
GULF COAST AQUIFER SYSTEM	POLK	TRINITY	FRESH	17,659	17,407	17,213	17,035	16,865	16,718
GULF COAST AQUIFER SYSTEM	SAN JACINTO	SAN JACINTO	FRESH	8,792	8,708	8,644	8,557	8,483	8,416
GULF COAST AQUIFER SYSTEM	SAN JACINTO	TRINITY	FRESH	8,219	8,070	7,947	7,790	7,646	7,516
GULF COAST AQUIFER SYSTEM	TRINITY	TRINITY	FRESH	31	245	247	263	255	256
GULF COAST AQUIFER SYSTEM	WALKER	SAN JACINTO	FRESH	7,668	7,646	7,636	7,617	7,596	7,579

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Source Water Balance (Availability - WUG Supply)

GROUNDWATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
GULF COAST AQUIFER SYSTEM	WALKER	TRINITY	FRESH	5,612	5,536	5,505	5,465	5,424	5,386
GULF COAST AQUIFER SYSTEM	WALLER	BRAZOS	FRESH	10,086	9,763	9,399	8,993	8,554	8,189
GULF COAST AQUIFER SYSTEM	WALLER	SAN JACINTO	FRESH	20,070	19,467	18,784	18,078	17,418	16,809
QUEEN CITY AQUIFER	LEON	BRAZOS	FRESH	69	70	68	62	55	48
QUEEN CITY AQUIFER	LEON	TRINITY	FRESH	11	13	15	16	18	19
QUEEN CITY AQUIFER	MADISON	BRAZOS	FRESH	1	1	1	1	1	1
QUEEN CITY AQUIFER	MADISON	TRINITY	FRESH	340	339	337	334	332	330
QUEEN CITY AQUIFER	TRINITY	TRINITY	FRESH	0	0	0	0	0	0
QUEEN CITY AQUIFER	WALKER	TRINITY	FRESH	128	128	128	128	128	128
SAN BERNARD RIVER ALLUVIUM AQUIFER	AUSTIN	BRAZOS-COLORADO	FRESH	520	520	520	520	520	520
SAN JACINTO RIVER ALLUVIUM AQUIFER	WALKER	SAN JACINTO	FRESH	1,450	1,450	1,450	1,450	1,450	1,450
SPARTA AQUIFER	LEON	BRAZOS	FRESH	0	0	0	0	0	0
SPARTA AQUIFER	LEON	TRINITY	FRESH	2	3	4	4	5	6
SPARTA AQUIFER	MADISON	BRAZOS	FRESH	2	5	5	4	4	4
SPARTA AQUIFER	MADISON	TRINITY	FRESH	1,073	965	862	721	573	421
SPARTA AQUIFER	TRINITY	TRINITY	FRESH	29	29	29	29	29	29
SPARTA AQUIFER	WALKER	SAN JACINTO	FRESH	266	266	266	266	266	266
SPARTA AQUIFER	WALKER	TRINITY	FRESH	2,084	2,084	2,084	2,084	2,084	2,084
TRINITY RIVER ALLUVIUM AQUIFER	WALKER	TRINITY	FRESH	3,913	3,913	3,913	3,913	3,913	3,913
YEGUA-JACKSON AQUIFER	LEON	TRINITY	FRESH	0	0	0	0	0	0
YEGUA-JACKSON AQUIFER	MADISON	BRAZOS	FRESH	8	8	8	8	8	8
YEGUA-JACKSON AQUIFER	MADISON	TRINITY	FRESH	473	469	466	462	457	452
YEGUA-JACKSON AQUIFER	POLK	TRINITY	FRESH	0	0	0	0	0	0
YEGUA-JACKSON AQUIFER	TRINITY	TRINITY	FRESH	1,342	1,317	1,325	1,348	1,328	1,303
YEGUA-JACKSON AQUIFER	WALKER	SAN JACINTO	FRESH	351	351	351	351	351	351
YEGUA-JACKSON AQUIFER	WALKER	TRINITY	FRESH	2,606	2,545	2,514	2,481	2,453	2,429
GROUNDWATER SOURCE WATER BALANCE TOTAL				196,227	188,873	184,850	181,889	179,520	178,748

REUSE SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
DIRECT REUSE	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
DIRECT REUSE	FORT BEND	BRAZOS	FRESH	0	0	0	0	0	0
DIRECT REUSE	FORT BEND	SAN JACINTO	FRESH	0	0	0	0	0	0
DIRECT REUSE	FORT BEND	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
DIRECT REUSE	GALVESTON	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
DIRECT REUSE	HARRIS	SAN JACINTO	FRESH	0	0	0	0	0	0
DIRECT REUSE	HARRIS	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
DIRECT REUSE	LEON	TRINITY	FRESH	0	0	0	0	0	0
DIRECT REUSE	MONTGOMERY	SAN JACINTO	FRESH	0	0	0	0	0	0
DIRECT REUSE	WALLER	SAN JACINTO	FRESH	0	0	0	0	0	0
INDIRECT REUSE	HARRIS	SAN JACINTO	FRESH	0	0	0	0	0	0

* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Source Water Balance (Availability - WUG Supply)

REUSE SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
INDIRECT REUSE	MONTGOMERY	SAN JACINTO	FRESH	0	0	0	0	0	0
INDIRECT REUSE	WALKER	SAN JACINTO	FRESH	0	0	0	0	0	0
REUSE SOURCE WATER BALANCE TOTAL				0	0	0	0	0	0

SURFACE WATER SOURCE TYPE				SOURCE WATER BALANCE (ACRE-FEET PER YEAR)					
SOURCE NAME	COUNTY	BASIN	SALINITY*	2020	2030	2040	2050	2060	2070
BRAZOS RUN-OF-RIVER	BRAZORIA	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS RUN-OF-RIVER	FORT BEND	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS RUN-OF-RIVER	WALLER	BRAZOS	FRESH	0	0	0	0	0	0
BRAZOS-COLORADO RUN-OF-RIVER	BRAZORIA	BRAZOS-COLORADO	FRESH	0	0	0	0	0	0
CONROE LAKE/RESERVOIR	RESERVOIR**	SAN JACINTO	FRESH	0	0	0	0	0	0
HOUSTON LAKE/RESERVOIR	RESERVOIR**	SAN JACINTO	FRESH	0	0	0	0	0	0
LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	RESERVOIR**	TRINITY	FRESH	0	0	0	0	0	0
NECHES RUN-OF-RIVER	LIBERTY	NECHES	FRESH	176	176	176	176	176	176
NECHES-TRINITY RUN-OF-RIVER	CHAMBERS	NECHES-TRINITY	FRESH	7	7	7	7	7	7
SAN JACINTO RUN-OF-RIVER	HARRIS	SAN JACINTO	FRESH	0	0	0	0	0	0
SAN JACINTO RUN-OF-RIVER	LIBERTY	SAN JACINTO	FRESH	9	9	9	9	9	9
SAN JACINTO RUN-OF-RIVER	MONTGOMERY	SAN JACINTO	FRESH	0	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	BRAZORIA	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	FORT BEND	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	GALVESTON	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	HARRIS	SAN JACINTO-BRAZOS	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	CHAMBERS	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	LEON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	LIBERTY	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	MADISON	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	POLK	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	TRINITY	TRINITY	FRESH	0	0	0	0	0	0
TRINITY RUN-OF-RIVER	WALKER	TRINITY	FRESH	1	1	1	1	1	1
TRINITY-SAN JACINTO RUN-OF-RIVER	CHAMBERS	TRINITY-SAN JACINTO	FRESH	0	0	0	0	0	0
TRINITY-SAN JACINTO RUN-OF-RIVER	HARRIS	TRINITY-SAN JACINTO	FRESH	0	0	0	0	0	0
TRINITY-SAN JACINTO RUN-OF-RIVER	LIBERTY	TRINITY-SAN JACINTO	FRESH	0	0	0	0	0	0
SURFACE WATER SOURCE WATER BALANCE TOTAL				193	193	193	193	193	193

REGION H SOURCE WATER BALANCE TOTAL				196,420	189,066	185,043	182,082	179,713	178,941
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* Salinity field indicates whether the source availability is considered 'fresh' (less than 1,000 mg/L), 'brackish' (1,000 to 10,000 mg/L), 'saline' (10,001 mg/L to 34,999 mg/L), or 'seawater' (35,000 mg/L or greater). Sources can also be labeled as 'fresh/brackish' or 'brackish/saline', if a combination of the salinity types is appropriate.

** Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
AUSTIN COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,332	2,054	-11.9%	3,578	2,186	-38.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,332	2,054	-11.9%	4,839	4,363	-9.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1,261	2,177	72.6%
AUSTIN COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,478	6,007	-7.3%	6,478	6,007	-7.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	6,478	6,007	-7.3%	6,478	6,007	-7.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
AUSTIN COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,523	1,108	-27.2%	1,523	1,108	-27.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,523	1,108	-27.2%	1,523	1,108	-27.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
AUSTIN COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	108	106	-1.9%	117	114	-2.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	108	106	-1.9%	158	114	-27.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	41	0	-100.0%
AUSTIN COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	127	127	0.0%	90	90	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	127	127	0.0%	90	90	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
AUSTIN COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,966	3,113	5.0%	4,471	4,904	9.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,989	3,113	4.1%	4,706	4,904	4.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	23	0	-100.0%	235	0	-100.0%
BRAZORIA COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	13,652	15,250	11.7%	13,126	18,330	39.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	16,734	15,250	-8.9%	40,306	42,688	5.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	4,825	0	-100.0%	27,180	24,358	-10.4%
BRAZORIA COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	37,951	32,858	-13.4%	33,861	32,775	-3.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	109,803	90,575	-17.5%	109,803	90,575	-17.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	71,852	57,717	-19.7%	75,942	57,800	-23.9%
BRAZORIA COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,411	1,495	6.0%	992	1,487	49.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,650	1,495	-9.4%	1,650	1,495	-9.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	239	0	-100.0%	658	8	-98.8%
BRAZORIA COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	197,920	226,013	14.2%	209,132	224,314	7.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	247,938	198,410	-20.0%	346,081	232,153	-32.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	63,890	21,772	-65.9%	146,453	27,855	-81.0%
BRAZORIA COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	234	968	313.7%	164	963	487.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	968	968	0.0%	2,126	2,126	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	734	0	-100.0%	1,962	1,163	-40.7%

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Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
BRAZORIA COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	43,104	46,606	8.1%	47,628	56,291	18.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	37,776	40,570	7.4%	52,735	51,856	-1.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	48	0	-100.0%	6,039	25	-99.6%
CHAMBERS COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,653	2,532	-4.6%	4,110	3,877	-5.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,422	1,561	9.8%	2,879	3,133	8.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
CHAMBERS COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	139,629	145,587	4.3%	139,609	145,587	4.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	84,266	128,320	52.3%	84,266	128,320	52.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	3,760	12,572	234.4%	3,780	12,572	232.6%
CHAMBERS COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	554	497	-10.3%	468	497	6.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	554	497	-10.3%	554	497	-10.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	86	0	-100.0%
CHAMBERS COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	33,064	39,768	20.3%	33,064	39,768	20.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	11,043	20,182	82.8%	15,681	23,519	50.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	2,753	100.0%	835	3,452	313.4%
CHAMBERS COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	5,509	5,621	2.0%	5,509	5,621	2.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	5,621	5,621	0.0%	5,621	5,621	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	112	0	-100.0%	112	0	-100.0%
CHAMBERS COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	8,152	6,373	-21.8%	12,093	8,098	-33.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	5,891	5,959	1.2%	12,566	12,930	2.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	40	410	925.0%	2,819	5,662	100.9%
CHAMBERS COUNTY STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	31,120	7,319	-76.5%	31,120	7,319	-76.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,536	8,706	146.2%	7,573	8,706	15.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	1,387	100.0%	0	1,387	100.0%
FORT BEND COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	17,958	16,030	-10.7%	25,786	38,590	49.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	25,842	15,014	-41.9%	77,413	67,164	-13.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	7,884	1,414	-82.1%	51,627	28,574	-44.7%
FORT BEND COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	34,503	31,053	-10.0%	29,395	31,053	5.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	46,800	30,600	-34.6%	46,800	30,600	-34.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	12,297	0	-100.0%	17,405	0	-100.0%
FORT BEND COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	716	832	16.2%	552	832	50.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,052	832	-20.9%	1,052	832	-20.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	336	0	-100.0%	500	0	-100.0%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
FORT BEND COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,266	6,384	1.9%	3,783	4,975	31.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,971	5,403	-39.8%	8,739	5,941	-32.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	2,705	256	-90.5%	4,956	1,086	-78.1%
FORT BEND COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	511	446	-12.7%	387	395	2.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	72	72	0.0%	19	19	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	13	4	-69.2%	5	2	-60.0%
FORT BEND COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	133,457	175,010	31.1%	120,779	168,794	39.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	142,568	157,857	10.7%	239,860	256,969	7.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	19,456	170	-99.1%	123,681	93,936	-24.0%
FORT BEND COUNTY STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	129,631	124,743	-3.8%	130,621	124,622	-4.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	67,762	62,017	-8.5%	156,964	62,017	-60.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	26,343	0	-100.0%
GALVESTON COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	519	130	-75.0%	568	85	-85.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,559	1,172	-54.2%	3,490	724	-79.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	2,040	1,042	-48.9%	2,922	639	-78.1%
GALVESTON COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	246	301	22.4%	246	301	22.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	6,300	5,105	-19.0%	6,300	5,105	-19.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	6,054	4,804	-20.6%	6,054	4,804	-20.6%
GALVESTON COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	22	26	18.2%	20	26	30.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	254	263	3.5%	254	263	3.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	232	237	2.2%	234	237	1.3%
GALVESTON COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	56,205	54,966	-2.2%	57,921	54,836	-5.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	56,394	55,104	-2.3%	62,263	64,333	3.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	189	138	-27.0%	4,342	9,497	118.7%
GALVESTON COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	33	38	15.2%	41	55	34.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	381	381	0.0%	555	555	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	348	343	-1.4%	514	500	-2.7%
GALVESTON COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	81,424	85,616	5.1%	82,644	85,818	3.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	54,625	55,324	1.3%	69,764	71,532	2.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,811	1,374	-24.1%	2,688	4,287	59.5%
HARRIS COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	71,297	15,809	-77.8%	68,804	12,182	-82.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	34,106	16,532	-51.5%	50,683	30,064	-40.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	2,016	900	-55.4%	3,720	17,882	380.7%

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	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
HARRIS COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	9,658	14,997	55.3%	11,133	14,997	34.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	7,240	9,440	30.4%	7,240	9,440	30.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
HARRIS COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	619	919	48.5%	269	280	4.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,667	1,403	-15.8%	1,667	1,403	-15.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,048	484	-53.8%	1,398	1,123	-19.7%
HARRIS COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	410,016	435,854	6.3%	417,762	439,879	5.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	424,761	311,627	-26.6%	470,956	364,350	-22.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	20,499	7,404	-63.9%	53,194	20,903	-60.7%
HARRIS COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	196	327	66.8%	250	312	24.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,273	3,273	0.0%	3,110	3,110	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	3,077	2,946	-4.3%	2,860	2,798	-2.2%
HARRIS COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	742,096	878,433	18.4%	683,477	695,863	1.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	785,616	801,269	2.0%	999,279	1,018,603	1.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	87,294	5,867	-93.3%	354,881	372,110	4.9%
HARRIS COUNTY STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	22,087	25,412	15.1%	25,020	25,412	1.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	23,556	28,993	23.1%	54,106	28,993	-46.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	1,469	3,581	143.8%	29,086	3,581	-87.7%
LEON COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	757	256	-66.2%	1,019	167	-83.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	681	256	-62.4%	943	167	-82.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
LEON COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	284	492	73.2%	284	492	73.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	284	492	73.2%	284	492	73.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
LEON COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,728	2,904	68.1%	1,728	2,904	68.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,728	2,904	68.1%	1,728	2,904	68.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
LEON COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	834	904	8.4%	861	926	7.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	834	846	1.4%	1,415	1,069	-24.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	554	143	-74.2%
LEON COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,402	2,402	0.0%	634	634	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,402	2,402	0.0%	634	634	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%

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LEON COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,484	2,162	45.7%	1,803	2,941	63.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,484	2,162	45.7%	1,803	2,941	63.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
LIBERTY COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,437	4,661	5.0%	3,948	5,886	49.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,437	4,661	5.0%	4,608	5,886	27.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	660	0	-100.0%
LIBERTY COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	55,156	54,483	-1.2%	55,156	54,483	-1.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	61,885	43,200	-30.2%	61,885	43,200	-30.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	14,158	9,344	-34.0%	14,158	9,344	-34.0%
LIBERTY COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	454	454	0.0%	454	454	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	873	992	13.6%	873	992	13.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	419	538	28.4%	419	538	28.4%
LIBERTY COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	366	245	-33.1%	366	289	-21.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	440	245	-44.3%	756	289	-61.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	74	0	-100.0%	390	0	-100.0%
LIBERTY COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	252	437	73.4%	252	437	73.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	437	437	0.0%	539	539	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	185	0	-100.0%	287	102	-64.5%
LIBERTY COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,563	7,898	4.4%	13,246	13,354	0.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	7,466	7,817	4.7%	13,083	13,388	2.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	116	100.0%
MADISON COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,808	1,310	-27.5%	2,293	1,672	-27.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,808	1,310	-27.5%	2,307	1,672	-27.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	14	0	-100.0%
MADISON COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	185	291	57.3%	185	291	57.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	16	122	662.5%	16	122	662.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
MADISON COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,024	1,406	37.3%	1,024	1,406	37.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,024	1,406	37.3%	1,024	1,406	37.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
MADISON COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	226	0	-100.0%	226	0	-100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	226	0	-100.0%	337	0	-100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	111	0	-100.0%

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Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
MADISON COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	597	597	0.0%	194	194	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	597	597	0.0%	194	194	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
MADISON COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	884	1,274	44.1%	1,124	1,620	44.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	884	1,274	44.1%	1,124	1,620	44.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
MADISON COUNTY STEAM ELECTRIC POWER WUG TYPE						
PROJECTED DEMAND TOTAL (acre-feet per year)	238	0	-100.0%	546	0	-100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	238	0	-100.0%	546	0	-100.0%
MONTGOMERY COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	24,065	17,224	-28.4%	24,065	18,019	-25.1%
PROJECTED DEMAND TOTAL (acre-feet per year)	35,816	22,319	-37.7%	153,649	128,816	-16.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	11,751	5,095	-56.6%	129,584	110,797	-14.5%
MONTGOMERY COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,649	6,500	294.2%	1,649	6,500	294.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	737	5,642	665.5%	737	5,642	665.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
MONTGOMERY COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	398	537	34.9%	398	537	34.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	521	537	3.1%	521	537	3.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	123	0	-100.0%	123	0	-100.0%
MONTGOMERY COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,408	1,843	30.9%	1,408	1,843	30.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,135	2,135	0.0%	3,372	2,413	-28.4%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	727	292	-59.8%	1,964	570	-71.0%
MONTGOMERY COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,110	1,453	30.9%	1,110	728	-34.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,453	1,453	0.0%	728	728	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	343	0	-100.0%	0	0	0.0%
MONTGOMERY COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	59,977	87,359	45.7%	62,441	87,280	39.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	61,223	78,705	28.6%	113,173	143,202	26.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	4,638	1,625	-65.0%	51,322	58,620	14.2%
MONTGOMERY COUNTY STEAM ELECTRIC POWER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	14,186	12,455	-12.2%	14,186	12,455	-12.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	8,537	4,845	-43.2%	19,611	4,845	-75.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	5,425	0	-100.0%
POLK COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,972	1,552	-21.3%	2,411	1,606	-33.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,942	1,540	-20.7%	2,381	1,594	-33.1%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
POLK COUNTY IRRIGATION WUG TYPE						

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Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	332	100.0%	0	332	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	0	332	100.0%	0	332	100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
POLK COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	144	181	25.7%	144	181	25.7%
PROJECTED DEMAND TOTAL (acre-feet per year)	144	181	25.7%	144	181	25.7%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
POLK COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	5	100.0%	0	5	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	0	5	100.0%	0	5	100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
POLK COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	124	124	0.0%	41	32	-22.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	124	124	0.0%	9	9	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
POLK COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7,510	8,166	8.7%	8,146	9,142	12.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,939	4,613	17.1%	5,560	6,555	17.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
SAN JACINTO COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,411	1,454	-39.7%	3,096	1,871	-39.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,075	1,454	-29.9%	2,760	1,871	-32.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
SAN JACINTO COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	315	268	-14.9%	315	268	-14.9%
PROJECTED DEMAND TOTAL (acre-feet per year)	259	148	-42.9%	259	148	-42.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
SAN JACINTO COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	386	413	7.0%	386	413	7.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	386	413	7.0%	386	413	7.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
SAN JACINTO COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	11	9	-18.2%	16	10	-37.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	11	9	-18.2%	16	10	-37.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
SAN JACINTO COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	8	8	0.0%	8	9	12.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	8	8	0.0%	9	9	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	1	0	-100.0%
SAN JACINTO COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,490	2,729	83.2%	1,820	3,389	86.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,068	1,948	82.4%	1,408	2,608	85.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TRINITY COUNTY COUNTY-OTHER WUG TYPE						

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Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	405	56	-86.2%	404	46	-88.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	214	36	-83.2%	232	26	-88.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TRINITY COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	309	100.0%	0	309	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	0	275	100.0%	0	275	100.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TRINITY COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	249	201	-19.3%	249	201	-19.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	249	201	-19.3%	249	201	-19.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
TRINITY COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	0	5	100.0%	0	5	100.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	5	5	0.0%	5	5	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	5	0	-100.0%	5	0	-100.0%
TRINITY COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,182	2,988	36.9%	2,165	3,048	40.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,045	1,379	32.0%	1,131	1,493	32.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	52	0	-100.0%	110	0	-100.0%
WALKER COUNTY COUNTY-OTHER WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	6,232	5,496	-11.8%	6,164	5,496	-10.8%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,232	2,897	-10.4%	3,274	2,907	-11.2%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALKER COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	675	560	-17.0%	675	560	-17.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	675	560	-17.0%	675	560	-17.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALKER COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	652	753	15.5%	652	753	15.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	652	753	15.5%	652	753	15.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALKER COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	649	586	-9.7%	649	640	-1.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	312	249	-20.2%	312	303	-2.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALKER COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	11	11	0.0%	11	11	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	11	11	0.0%	11	11	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALKER COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	21,173	24,260	14.6%	21,453	24,714	15.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	9,611	9,803	2.0%	10,722	10,924	1.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	22	0	-100.0%	39	0	-100.0%
WALKER COUNTY COUNTY-OTHER WUG TYPE						

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Region H Water User Group (WUG) Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	3,045	2,164	-28.9%	4,978	2,164	-56.5%
PROJECTED DEMAND TOTAL (acre-feet per year)	3,045	2,799	-8.1%	6,534	5,947	-9.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	635	100.0%	1,556	3,783	143.1%
WALLER COUNTY IRRIGATION WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	21,096	22,026	4.4%	21,096	22,026	4.4%
PROJECTED DEMAND TOTAL (acre-feet per year)	21,096	22,044	4.5%	21,096	22,044	4.5%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	18	100.0%	0	18	100.0%
WALLER COUNTY LIVESTOCK WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	1,069	1,179	10.3%	1,069	1,179	10.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	1,069	1,179	10.3%	1,069	1,179	10.3%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALLER COUNTY MANUFACTURING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	134	150	11.9%	144	152	5.6%
PROJECTED DEMAND TOTAL (acre-feet per year)	134	134	0.0%	208	136	-34.6%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	64	0	-100.0%
WALLER COUNTY MINING WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	7	7	0.0%	7	7	0.0%
PROJECTED DEMAND TOTAL (acre-feet per year)	7	7	0.0%	7	7	0.0%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	0	0	0.0%	0	0	0.0%
WALLER COUNTY MUNICIPAL WUG TYPE						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	4,838	4,587	-5.2%	9,566	9,686	1.3%
PROJECTED DEMAND TOTAL (acre-feet per year)	4,846	4,587	-5.3%	10,185	10,373	1.8%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	8	0	-100.0%	619	687	11.0%
REGION H						
EXISTING WUG SUPPLY TOTAL (acre-feet per year)	2,505,969	2,700,854	7.8%	2,482,310	2,562,410	3.2%
PROJECTED DEMAND TOTAL (acre-feet per year)	2,488,883	2,336,763	-6.1%	3,415,333	3,076,799	-9.9%
WATER SUPPLY NEEDS TOTAL (acre-feet per year)*	347,034	145,122	-58.2%	1,161,764	883,136	-24.0%

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Region H Source Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
AUSTIN COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	30,778	36,096	17.3%	30,778	36,096	17.3%
BRAZORIA COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	50,396	71,022	40.9%	50,396	71,450	41.8%
REUSE AVAILABILITY TOTAL (acre-feet per year)	1,672	3,721	122.5%	2,512	4,561	81.6%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	203,569	210,961	3.6%	218,618	209,149	-4.3%
CHAMBERS COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	21,707	22,951	5.7%	21,707	22,951	5.7%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	129,748	99,531	-23.3%	129,748	99,531	-23.3%
FORT BEND COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	108,705	146,175	34.5%	92,490	173,291	87.4%
REUSE AVAILABILITY TOTAL (acre-feet per year)	1,874	4,621	146.6%	1,874	4,621	146.6%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	253,591	292,546	15.4%	260,888	292,070	12.0%
GALVESTON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	5,257	11,788	124.2%	5,815	14,303	146.0%
REUSE AVAILABILITY TOTAL (acre-feet per year)	1,042	1,257	20.6%	1,042	1,257	20.6%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	36	36	0.0%	36	36	0.0%
HARRIS COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	262,946	430,930	63.9%	210,976	252,881	19.9%
REUSE AVAILABILITY TOTAL (acre-feet per year)	19,564	23,821	21.8%	19,564	27,282	39.5%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	15,097	15,285	1.2%	15,097	15,285	1.2%
LEON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	15,094	14,903	-1.3%	15,815	15,639	-1.1%
REUSE AVAILABILITY TOTAL (acre-feet per year)	27	58	114.8%	27	58	114.8%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	156	158	1.3%	156	158	1.3%
LIBERTY COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	43,033	43,229	0.5%	43,033	43,231	0.5%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	52,982	51,172	-3.4%	52,982	51,172	-3.4%
MADISON COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	7,670	7,950	3.7%	7,353	7,635	3.8%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	169	169	0.0%	169	169	0.0%
MONTGOMERY COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	66,020	90,819	37.6%	66,020	90,819	37.6%
REUSE AVAILABILITY TOTAL (acre-feet per year)	1,806	6,414	255.1%	1,806	10,428	477.4%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	141	141	0.0%	141	141	0.0%
POLK COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	21,830	21,810	-0.1%	21,783	21,810	0.1%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	26,510	26,510	0.0%	26,510	26,510	0.0%
RESERVOIR* COUNTY						
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	1,602,300	1,582,300	-1.2%	1,588,800	1,507,900	-5.1%
SAN JACINTO COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	19,179	20,983	9.4%	19,179	20,983	9.4%
TRINITY COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	3,594	2,419	-32.7%	3,594	2,658	-26.0%
WALKER COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	32,204	34,841	8.2%	32,128	34,841	8.4%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	439	460	4.8%	439	460	4.8%

* Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Source Data Comparison to 2016 Regional Water Plan (RWP)

	2020 PLANNING DECADE			2070 PLANNING DECADE		
	2016 RWP	2021 RWP	DIFFERENCE (%)	2016 RWP	2021 RWP	DIFFERENCE (%)
WALLER COUNTY						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	53,654	72,212	34.6%	53,654	72,212	34.6%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	61	43	-29.5%	61	43	-29.5%
REGION H						
GROUNDWATER AVAILABILITY TOTAL (acre-feet per year)	742,067	1,028,128	38.5%	674,721	880,800	30.5%
REUSE AVAILABILITY TOTAL (acre-feet per year)	25,985	39,892	53.5%	26,825	48,207	79.7%
SURFACE WATER AVAILABILITY TOTAL (acre-feet per year)	2,284,799	2,279,312	-0.2%	2,293,645	2,202,624	-4.0%

* Since reservoir sources can exist across multiple counties, the county field value, 'reservoir' is applied to all reservoir sources.

Region H Water User Group (WUG) Unmet Needs

WUG supplies and projected demands are entered for each of a WUG’s region-county-basin divisions. The unmet needs shown in the WUG Unmet Needs report are calculated by first deducting the WUG split’s projected demand from the sum of its total existing water supply volume and all associated recommended water management strategy water volumes. If the WUG split has a greater future supply volume than projected demand in any given decade, this amount is considered a surplus volume. In order to display only unmet needs associated with the WUG split, these surplus volumes are updated to a zero and the unmet needs water volumes are shown as absolute values.

	WUG UNMET NEEDS (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
BRAZORIA COUNTY - BRAZOS-COLORADO BASIN						
LIVESTOCK	0	0	0	0	0	8
BRAZORIA COUNTY - SAN JACINTO-BRAZOS BASIN						
IRRIGATION	38,229	38,229	38,229	38,229	38,229	38,229
CHAMBERS COUNTY - TRINITY BASIN						
IRRIGATION	4,695	4,695	4,695	4,695	4,695	4,695
CHAMBERS COUNTY - TRINITY-SAN JACINTO BASIN						
IRRIGATION	1,616	1,616	1,616	1,616	1,616	1,616
GALVESTON COUNTY - NECHES-TRINITY BASIN						
LIVESTOCK	53	53	53	53	53	53
GALVESTON COUNTY - SAN JACINTO-BRAZOS BASIN						
LIVESTOCK	184	184	184	184	184	184
IRRIGATION	2,765	2,765	2,765	2,765	2,765	2,765
HARRIS COUNTY - SAN JACINTO BASIN						
LIVESTOCK	383	766	1,022	1,022	1,022	1,022
HARRIS COUNTY - TRINITY-SAN JACINTO BASIN						
LIVESTOCK	101	101	101	101	101	101

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
ALVIN	H	MUNICIPAL CONSERVATION, ALVIN	DEMAND REDUCTION	\$912	\$620	131	225	273	331	401	494
ANAHUAC	H	MUNICIPAL CONSERVATION, ANAHUAC	DEMAND REDUCTION	\$959	\$670	9	13	15	17	18	22
ANAHUAC	H	WATER LOSS REDUCTION, ANAHUAC	DEMAND REDUCTION	\$625	\$578	4	10	16	21	26	31
ANGLETON	H	DOW RESERVOIR AND PUMP STATION EXPANSION	H DOW HARRIS RESERVOIR EXPANSION	N/A	\$131	0	6,048	6,048	6,048	6,048	6,048
ANGLETON	H	MUNICIPAL CONSERVATION, ANGLETON	DEMAND REDUCTION	\$1253	\$646	67	127	147	172	191	233
ANGLETON	H	WATER LOSS REDUCTION, ANGLETON	DEMAND REDUCTION	\$625	\$578	15	41	63	82	101	102
AUSTIN COUNTY WSC	H	MUNICIPAL CONSERVATION, AUSTIN COUNTY WSC	DEMAND REDUCTION	\$1071	\$752	10	17	22	28	34	43
AUSTIN COUNTY WSC	H	WATER LOSS REDUCTION, AUSTIN COUNTY WSC	DEMAND REDUCTION	\$625	\$578	1	4	5	6	8	9
BACLIFF MUD	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$368	0	280	281	282	282	283
BACLIFF MUD	H	MUNICIPAL CONSERVATION, BACLIFF MUD	DEMAND REDUCTION	\$1385	N/A	22	17	0	0	0	0
BAKER ROAD MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1844	0	84	139	138	137	137
BAKER ROAD MUD	H	MUNICIPAL CONSERVATION, BAKER ROAD MUD	DEMAND REDUCTION	\$598	\$491	7	10	12	12	13	13
BAYBROOK MUD 1	H	MUNICIPAL CONSERVATION, BAYBROOK MUD 1	DEMAND REDUCTION	\$689	\$508	7	11	14	16	17	17
BAYBROOK MUD 1	H	WATER LOSS REDUCTION, BAYBROOK MUD 1	DEMAND REDUCTION	\$625	\$578	2	5	8	8	9	9
BAYTOWN	H	MUNICIPAL CONSERVATION, BAYTOWN	DEMAND REDUCTION	\$1034	\$633	293	490	563	663	746	916
BAYTOWN	H	WATER LOSS REDUCTION, BAYTOWN	DEMAND REDUCTION	\$625	\$578	60	171	217	219	225	231
BAYVIEW MUD	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$562	0	91	91	92	92	92
BAYVIEW MUD	H	MUNICIPAL CONSERVATION, BAYVIEW MUD	DEMAND REDUCTION	\$1312	\$745	5	10	11	14	15	19
BELLAIRE	H	MUNICIPAL CONSERVATION, BELLAIRE	DEMAND REDUCTION	\$725	\$576	118	186	221	272	335	414
BELLVILLE	H	MUNICIPAL CONSERVATION, BELLVILLE	DEMAND REDUCTION	\$840	\$542	32	56	70	79	86	91
BLUE BELL MANOR UTILITY	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1459	0	171	316	338	366	387
BLUE BELL MANOR UTILITY	H	MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY	DEMAND REDUCTION	\$615	\$550	16	21	23	26	29	34
BLUE RIDGE WEST MUD	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$327	0	217	217	217	217	217

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
BLUE RIDGE WEST MUD	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1063	0	130	222	317	338	338
BLUE RIDGE WEST MUD	H	MUNICIPAL CONSERVATION, BLUE RIDGE WEST MUD	DEMAND REDUCTION	\$721	\$576	36	49	52	56	60	68
BOLIVAR PENINSULA SUD	H	WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	DEMAND REDUCTION	\$625	\$578	2	6	12	19	27	38
BRAZORIA	H	MUNICIPAL CONSERVATION, BRAZORIA	DEMAND REDUCTION	\$1224	\$717	11	19	21	24	27	33
BRAZORIA COUNTY MUD 2	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 2	DEMAND REDUCTION	\$354	\$350	39	48	51	53	55	56
BRAZORIA COUNTY MUD 2	H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD 2	DEMAND REDUCTION	\$625	\$578	21	59	94	125	154	179
BRAZORIA COUNTY MUD 21	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 21	DEMAND REDUCTION	\$861	\$621	20	31	36	43	48	56
BRAZORIA COUNTY MUD 25	H	MANVEL SUPPLY EXPANSION	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$1300	0	103	103	103	101	97
BRAZORIA COUNTY MUD 25	H	MANVEL SUPPLY EXPANSION	H MANVEL MUSTANG BAYOU RESERVOIR	N/A	\$1667	0	25	25	25	25	25
BRAZORIA COUNTY MUD 25	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 25	DEMAND REDUCTION	\$883	\$704	12	18	21	27	32	41
BRAZORIA COUNTY MUD 29	H	MANVEL SUPPLY EXPANSION	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$1214	0	167	167	167	162	156
BRAZORIA COUNTY MUD 29	H	MANVEL SUPPLY EXPANSION	H MANVEL MUSTANG BAYOU RESERVOIR	N/A	\$1580	0	40	40	40	40	40
BRAZORIA COUNTY MUD 29	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 29	DEMAND REDUCTION	\$933	\$657	15	32	48	59	64	75
BRAZORIA COUNTY MUD 3	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 3	DEMAND REDUCTION	\$718	\$593	20	27	29	33	35	40
BRAZORIA COUNTY MUD 31	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 31	DEMAND REDUCTION	\$869	\$663	14	22	28	36	43	51
BRAZORIA COUNTY MUD 6	H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 6	DEMAND REDUCTION	\$577	\$507	32	41	44	47	49	52
BROOKSHIRE MWD	H	MUNICIPAL CONSERVATION, BROOKSHIRE MWD	DEMAND REDUCTION	\$830	\$661	17	29	37	48	60	80
BROOKSHIRE MWD	H	WATER LOSS REDUCTION, BROOKSHIRE MWD	DEMAND REDUCTION	\$625	\$578	7	24	46	71	102	138
BUFFALO	H	MUNICIPAL CONSERVATION, BUFFALO	DEMAND REDUCTION	\$949	\$579	11	19	23	24	25	26
BUFFALO	H	WATER LOSS REDUCTION, BUFFALO	DEMAND REDUCTION	\$625	\$578	4	11	17	24	29	35
BUNKER HILL VILLAGE	H	MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	DEMAND REDUCTION	\$360	\$385	40	51	57	64	72	83
CAPE ROYALE UD	H	MUNICIPAL CONSERVATION, CAPE ROYALE UD	DEMAND REDUCTION	\$835	\$632	9	14	16	19	22	25
CAPE ROYALE UD	H	WATER LOSS REDUCTION, CAPE ROYALE UD	DEMAND REDUCTION	\$625	\$578	2	6	10	13	13	14

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
CENTERVILLE	H	MUNICIPAL CONSERVATION, CENTERVILLE	DEMAND REDUCTION	\$1298	\$680	7	15	18	20	22	23
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	CHCRWA GRP	H HOUSTON LAKE/RESERVOIR	N/A	\$407	0	5,466	5,466	5,466	5,466	5,466
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	DEMAND REDUCTION	\$1059	\$653	164	285	337	417	487	622
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$2546	0	47	79	110	138	168
CHAMBERS COUNTY MUD 1	H	MUNICIPAL CONSERVATION, CHAMBERS COUNTY MUD 1	DEMAND REDUCTION	\$1087	\$749	9	16	20	27	31	34
CHATEAU WOODS MUD	H	MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	DEMAND REDUCTION	\$984	\$677	9	16	19	22	23	27
CHIMNEY HILL MUD	H	MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	DEMAND REDUCTION	\$978	\$674	18	28	31	35	38	45
CLEAR BROOK CITY MUD	H	MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	DEMAND REDUCTION	\$1128	\$660	60	106	128	164	197	255
CLEAR LAKE CITY WATER AUTHORITY	H	MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	DEMAND REDUCTION	\$732	\$566	352	526	610	729	864	1,030
CLEAR LAKE CITY WATER AUTHORITY	H	WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	DEMAND REDUCTION	\$625	\$578	80	232	354	372	390	410
CLEVELAND	H	MUNICIPAL CONSERVATION, CLEVELAND	DEMAND REDUCTION	\$768	\$535	42	65	74	79	81	83
CLEVELAND	H	WATER LOSS REDUCTION, CLEVELAND	DEMAND REDUCTION	\$625	\$578	14	39	61	83	103	123
CLUTE	H	MUNICIPAL CONSERVATION, CLUTE	DEMAND REDUCTION	\$940	\$692	40	59	64	73	81	98
CONCORD-ROBBINS WSC	H	MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	DEMAND REDUCTION	\$1096	N/A	13	17	3	0	0	0
CONROE	H	MUNICIPAL CONSERVATION, CONROE	DEMAND REDUCTION	\$753	\$564	356	631	811	1,021	1,261	1,542
CONROE	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$331	0	5,581	7,438	9,190	8,648	8,648
CONROE	H	SJRA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$331	0	0	0	0	0	1,815
CORINTHIAN POINT MUD 2	H	MUNICIPAL CONSERVATION, CORINTHIAN POINT MUD 2	DEMAND REDUCTION	\$580	\$475	6	10	14	15	16	18
CORINTHIAN POINT MUD 2	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1497	0	64	143	142	141	141
COUNTRY TERRACE WATER	H	MUNICIPAL CONSERVATION, COUNTRY TERRACE WATER	DEMAND REDUCTION	\$1148	\$718	5	9	10	12	14	17
COUNTY-OTHER, AUSTIN	H	EXPANDED USE OF GROUNDWATER, AUSTIN COUNTY	H GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	N/A	\$1030	0	400	550	1,250	1,450	1,900

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
COUNTY-OTHER, AUSTIN	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, AUSTIN	DEMAND REDUCTION	\$960	\$706	67	116	147	194	245	331
COUNTY-OTHER, AUSTIN	H	WATER LOSS REDUCTION, COUNTY-OTHER, AUSTIN	DEMAND REDUCTION	\$625	\$578	19	63	117	183	262	355
COUNTY-OTHER, BRAZORIA	H	MANVEL SUPPLY EXPANSION	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$1066	0	3,438	3,438	3,438	3,340	3,213
COUNTY-OTHER, BRAZORIA	H	MANVEL SUPPLY EXPANSION	H GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	\$3665	N/A	331	331	0	0	0	0
COUNTY-OTHER, BRAZORIA	H	MANVEL SUPPLY EXPANSION	H MANVEL MUSTANG BAYOU RESERVOIR	N/A	\$1433	0	831	831	831	831	831
COUNTY-OTHER, BRAZORIA	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, BRAZORIA	DEMAND REDUCTION	\$813	\$657	451	813	1,100	1,493	1,927	2,630
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BRA	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$565	0	0	0	0	2,061	2,603
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BWA	H BRAZOS RUN-OF-RIVER	N/A	\$106	0	1,380	1,321	1,261	1,197	1,128
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BWA	H GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	N/A	\$5655	0	3,055	3,542	3,178	3,137	502
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BWA	H GULF COAST AQUIFER SYSTEM FRESH/BRACKISH BRAZORIA COUNTY	N/A	\$4203	0	55	55	721	561	505
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH GCWA	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$270	0	690	4,014	5,259	3,402	1,427
COUNTY-OTHER, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH GCWA	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$260	0	0	0	2,663	4,798	11,010
COUNTY-OTHER, BRAZORIA	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$896	0	314	615	955	1,328	1,740
COUNTY-OTHER, CHAMBERS	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, CHAMBERS	DEMAND REDUCTION	\$731	\$613	44	70	88	112	137	178
COUNTY-OTHER, FORT BEND	H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$466	0	0	1,100	3,450	6,900	11,850
COUNTY-OTHER, FORT BEND	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, FORT BEND	DEMAND REDUCTION	\$844	\$696	452	838	1,150	1,757	2,615	4,036
COUNTY-OTHER, FORT BEND	H	NEW / EXPANDED CONTRACT WITH GCWA	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	\$2553	\$283	675	3,675	2,589	2,692	3,265	3,615
COUNTY-OTHER, FORT BEND	H	NFBWA GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$842	0	3,644	3,720	3,803	3,879	3,970
COUNTY-OTHER, FORT BEND	H	RICHMOND GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$387	0	304	1,012	1,342	1,210	1,075
COUNTY-OTHER, FORT BEND	H	RICHMOND GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$387	0	692	692	692	692	692
COUNTY-OTHER, FORT BEND	H	RICHMOND GRP	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$598	0	0	0	701	1,793	2,840
COUNTY-OTHER, FORT BEND	H	RICHMOND GRP	H DIRECT NON-POTABLE REUSE	\$1108	\$156	440	440	440	440	440	440

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

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						2020	2030	2040	2050	2060	2070
COUNTY-OTHER, FORT BEND	H	RICHMOND GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1524	0	143	143	143	143	143
COUNTY-OTHER, FORT BEND	H	SUGAR LAND IWRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1134	0	505	852	852	852	852
COUNTY-OTHER, FORT BEND	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$919	0	581	754	1,408	2,322	3,448
COUNTY-OTHER, GALVESTON	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, GALVESTON	DEMAND REDUCTION	\$1086	\$661	42	63	64	68	68	73
COUNTY-OTHER, GALVESTON	H	NEW / EXPANDED CONTRACT WITH GCWA	H BRAZOS RUN-OF-RIVER	\$2404	\$1066	996	996	996	996	996	996
COUNTY-OTHER, GALVESTON	H	NEW / EXPANDED CONTRACT WITH LNVA	I SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	\$0	\$0	4	5	6	8	11	12
COUNTY-OTHER, HARRIS	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1046	0	2,949	3,954	4,100	4,257	4,432
COUNTY-OTHER, HARRIS	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$628	0	0	742	763	780	799
COUNTY-OTHER, HARRIS	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, HARRIS	DEMAND REDUCTION	\$787	\$641	482	828	993	1,150	1,395	1,833
COUNTY-OTHER, HARRIS	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$1891	\$453	831	3,047	5,677	5,657	8,170	10,306
COUNTY-OTHER, HARRIS	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$2416	0	304	420	478	738	996
COUNTY-OTHER, LEON	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, LEON	DEMAND REDUCTION	\$1114	\$697	10	15	15	17	17	18
COUNTY-OTHER, LEON	H	WATER LOSS REDUCTION, COUNTY-OTHER, LEON	DEMAND REDUCTION	\$625	\$578	3	8	12	15	16	17
COUNTY-OTHER, LIBERTY	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, LIBERTY	DEMAND REDUCTION	\$883	\$656	144	225	259	307	351	429
COUNTY-OTHER, LIBERTY	H	WATER LOSS REDUCTION, COUNTY-OTHER, LIBERTY	DEMAND REDUCTION	\$625	\$578	54	165	274	382	495	607
COUNTY-OTHER, MADISON	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, MADISON	DEMAND REDUCTION	\$969	\$679	43	69	79	94	107	132
COUNTY-OTHER, MADISON	H	WATER LOSS REDUCTION, COUNTY-OTHER, MADISON	DEMAND REDUCTION	\$625	\$578	16	46	77	109	141	173
COUNTY-OTHER, MONTGOMERY	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, MONTGOMERY	DEMAND REDUCTION	\$858	\$703	679	1,398	2,234	3,516	5,198	7,980
COUNTY-OTHER, MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	N/A	\$1007	0	0	11,322	5,648	2,110	123
COUNTY-OTHER, MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1007	0	0	0	16,801	44,797	36,141
COUNTY-OTHER, MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H SAN JACINTO INDIRECT REUSE	N/A	\$956	0	0	0	0	306	31,566
COUNTY-OTHER, MONTGOMERY	H	SJRA AQUIFER STORAGE AND RECOVERY	H GULF COAST AQUIFER ASR MONTGOMERY COUNTY	N/A	\$3256	0	0	0	0	0	9,426

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

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						2020	2030	2040	2050	2060	2070
COUNTY-OTHER, MONTGOMERY	H	SJRA CATAHOULA AQUIFER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$1063	0	0	2,287	10,500	10,500	10,500
COUNTY-OTHER, MONTGOMERY	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$376	0	597	597	597	597	597
COUNTY-OTHER, MONTGOMERY	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	\$1889	\$1008	4,416	16,548	14,151	12,298	9,969	6,958
COUNTY-OTHER, MONTGOMERY	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$896	0	925	2,157	3,728	5,718	8,168
COUNTY-OTHER, POLK*	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, POLK	DEMAND REDUCTION	\$1031	\$679	53	86	98	114	124	145
COUNTY-OTHER, POLK*	H	WATER LOSS REDUCTION, COUNTY-OTHER, POLK	DEMAND REDUCTION	\$625	\$578	10	28	42	42	42	41
COUNTY-OTHER, SAN JACINTO	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, SAN JACINTO	DEMAND REDUCTION	\$1012	\$682	48	80	93	111	127	155
COUNTY-OTHER, SAN JACINTO	H	WATER LOSS REDUCTION, COUNTY-OTHER, SAN JACINTO	DEMAND REDUCTION	\$625	\$578	9	28	47	52	54	56
COUNTY-OTHER, WALKER	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, WALKER	DEMAND REDUCTION	\$670	\$559	79	109	117	129	139	159
COUNTY-OTHER, WALLER	H	EXPANDED USE OF GROUNDWATER, WALLER COUNTY	H GULF COAST AQUIFER SYSTEM WALLER COUNTY	\$1339	\$911	975	975	2,050	2,050	3,400	3,400
COUNTY-OTHER, WALLER	H	MUNICIPAL CONSERVATION, COUNTY-OTHER, WALLER	DEMAND REDUCTION	\$906	\$686	88	150	191	250	314	419
COUNTY-OTHER, WALLER	H	WATER LOSS REDUCTION, COUNTY-OTHER, WALLER	DEMAND REDUCTION	\$625	\$578	15	31	36	42	49	56
CROSBY MUD	H	MUNICIPAL CONSERVATION, CROSBY MUD	DEMAND REDUCTION	\$946	\$675	11	17	19	22	24	28
CROSBY MUD	H	WATER LOSS REDUCTION, CROSBY MUD	DEMAND REDUCTION	\$625	\$578	3	10	16	22	27	32
CUT & SHOOT	H	MUNICIPAL CONSERVATION, CUT AND SHOOT	DEMAND REDUCTION	\$1142	\$792	13	22	27	36	47	68
CUT & SHOOT	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1180	0	11	57	130	235	374
DAISETTA	H	MUNICIPAL CONSERVATION, DAISETTA	DEMAND REDUCTION	\$1028	\$695	4	7	8	10	12	15
DANBURY	H	MUNICIPAL CONSERVATION, DANBURY	DEMAND REDUCTION	\$1119	\$716	6	10	11	12	13	15
DAYTON	H	MUNICIPAL CONSERVATION, DAYTON	DEMAND REDUCTION	\$621	\$555	63	108	148	210	271	338
DEER PARK	H	MUNICIPAL CONSERVATION, DEER PARK	DEMAND REDUCTION	\$1153	\$653	135	245	289	352	405	508
DEER PARK	H	WATER LOSS REDUCTION, DEER PARK	DEMAND REDUCTION	\$625	\$578	51	150	241	330	417	502
DEVERS	H	MUNICIPAL CONSERVATION, DEVERS	DEMAND REDUCTION	\$563	\$532	5	7	8	9	11	13
DOBBIN PLANTERSVILLE WSC*	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	\$6806	\$1249	258	432	683	1,008	1,462	2,059

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
DOBBIN PLANTERSVILLE WSC*	H	MUNICIPAL CONSERVATION, DOBBIN PLANTERSVILLE WSC	DEMAND REDUCTION	\$1154	\$798	24	48	74	117	150	195
DODGE OAKHURST WSC	H	MUNICIPAL CONSERVATION, DODGE OAKHURST WSC	DEMAND REDUCTION	\$1010	\$662	6	10	11	14	15	19
DOMESTIC WATER	H	MUNICIPAL CONSERVATION, DOMESTIC WATER	DEMAND REDUCTION	\$1010	\$684	6	11	15	18	20	23
DOMESTIC WATER	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1958	0	42	91	88	87	86
DOUGLAS UTILITY	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$2141	0	56	93	92	92	93
DOUGLAS UTILITY	H	MUNICIPAL CONSERVATION, DOUGLAS UTILITY	DEMAND REDUCTION	\$760	\$721	6	7	7	8	8	9
EAST PLANTATION UD	H	MUNICIPAL CONSERVATION, EAST PLANTATION UD	DEMAND REDUCTION	\$787	\$618	8	12	14	18	22	26
EL DORADO UD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	94	0	0	0	0
EL DORADO UD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$689	0	0	288	287	287	283
EL DORADO UD	H	MUNICIPAL CONSERVATION, EL DORADO UD	DEMAND REDUCTION	\$989	\$702	11	17	18	21	23	27
EL DORADO UD	H	WATER LOSS REDUCTION, EL DORADO UD	DEMAND REDUCTION	\$625	\$578	3	8	13	17	18	18
FAR HILLS UD	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$1073	0	97	207	205	204	204
FAR HILLS UD	H	MUNICIPAL CONSERVATION, FAR HILLS UD	DEMAND REDUCTION	\$562	\$517	10	15	20	23	25	27
FIRST COLONY MUD 9	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$272	0	366	366	366	366	366
FIRST COLONY MUD 9	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$983	0	222	378	541	576	576
FIRST COLONY MUD 9	H	MUNICIPAL CONSERVATION, FIRST COLONY MUD 9	DEMAND REDUCTION	\$599	\$507	48	68	74	79	83	90
FLO COMMUNITY WSC*	H	MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	DEMAND REDUCTION	\$861	\$657	10	17	21	26	32	41
FLO COMMUNITY WSC*	H	WATER LOSS REDUCTION, FLO COMMUNITY WSC	DEMAND REDUCTION	\$625	\$578	5	17	31	47	64	84
FOREST HILLS MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	71	0	0	0	0
FOREST HILLS MUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$709	0	0	260	251	247	243
FOREST HILLS MUD	H	MUNICIPAL CONSERVATION, FOREST HILLS MUD	DEMAND REDUCTION	\$762	\$580	10	15	17	19	20	24

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						2020	2030	2040	2050	2060	2070
FOREST HILLS MUD	H	WATER LOSS REDUCTION, FOREST HILLS MUD	DEMAND REDUCTION	\$625	\$578	3	8	13	17	19	19
FORT BEND COUNTY FWSD 1	H	NFBWA GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$3343	0	30	35	40	45	50
FORT BEND COUNTY FWSD 1	H	WATER LOSS REDUCTION, FORT BEND COUNTY FWSD 1	DEMAND REDUCTION	\$625	\$578	1	4	8	12	16	20
FORT BEND COUNTY FWSD 2	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY FWSD 2	DEMAND REDUCTION	\$1144	\$720	7	14	17	22	27	35
FORT BEND COUNTY FWSD 2	H	ROSENBERG GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1109	0	96	118	141	164	189
FORT BEND COUNTY MUD 115	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$268	0	407	405	404	389	378
FORT BEND COUNTY MUD 115	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	DEMAND REDUCTION	\$289	\$286	20	26	28	29	30	31
FORT BEND COUNTY MUD 115	H	WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	DEMAND REDUCTION	\$625	\$578	6	18	29	34	34	34
FORT BEND COUNTY MUD 116	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 116	DEMAND REDUCTION	\$637	\$553	25	37	46	56	65	77
FORT BEND COUNTY MUD 116	H	RICHMOND GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1216	0	346	453	536	620	703
FORT BEND COUNTY MUD 121	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 121	DEMAND REDUCTION	\$767	\$591	14	20	21	23	25	29
FORT BEND COUNTY MUD 121	H	RICHMOND GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$501	0	215	224	229	234	238
FORT BEND COUNTY MUD 128	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	DEMAND REDUCTION	\$509	\$473	25	32	34	36	38	41
FORT BEND COUNTY MUD 128	H	SUGAR LAND IWRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$443	0	472	472	472	472	472
FORT BEND COUNTY MUD 129	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$270	0	393	391	389	379	372
FORT BEND COUNTY MUD 129	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	DEMAND REDUCTION	\$478	\$454	29	37	39	41	43	47
FORT BEND COUNTY MUD 140	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 140	DEMAND REDUCTION	\$581	\$495	13	18	19	20	21	23
FORT BEND COUNTY MUD 140	H	RICHMOND GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$490	0	232	240	246	251	257
FORT BEND COUNTY MUD 149	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$415	0	112	146	144	137	130
FORT BEND COUNTY MUD 149	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	DEMAND REDUCTION	\$1366	\$759	9	18	23	28	31	37

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 152	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 152	DEMAND REDUCTION	\$1020	\$673	6	11	14	16	17	20
FORT BEND COUNTY MUD 152	H	ROSENBERG GRP	H BRAZOS RUN-OF-RIVER	N/A	\$407	0	66	82	82	82	82
FORT BEND COUNTY MUD 155	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 155	DEMAND REDUCTION	\$997	\$680	14	25	31	37	40	45
FORT BEND COUNTY MUD 155	H	ROSENBERG GRP	H BRAZOS RUN-OF-RIVER	N/A	\$214	0	160	199	197	197	197
FORT BEND COUNTY MUD 158	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	DEMAND REDUCTION	\$999	\$651	8	15	19	22	23	27
FORT BEND COUNTY MUD 158	H	ROSENBERG GRP	H BRAZOS RUN-OF-RIVER	N/A	\$310	0	101	126	125	125	125
FORT BEND COUNTY MUD 162	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	DEMAND REDUCTION	\$1054	\$687	10	18	23	27	29	35
FORT BEND COUNTY MUD 162	H	ROSENBERG GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1301	0	114	140	139	138	138
FORT BEND COUNTY MUD 187	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 187	DEMAND REDUCTION	\$760	\$607	13	18	19	21	23	26
FORT BEND COUNTY MUD 187	H	RICHMOND GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$515	0	180	186	191	195	200
FORT BEND COUNTY MUD 187	H	RICHMOND GRP	H DIRECT NON-POTABLE REUSE	\$1108	\$156	18	18	18	18	18	18
FORT BEND COUNTY MUD 23	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$293	0	273	273	273	273	273
FORT BEND COUNTY MUD 23	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1039	0	164	301	455	511	539
FORT BEND COUNTY MUD 23	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 23	DEMAND REDUCTION	\$1005	\$673	44	72	81	94	105	127
FORT BEND COUNTY MUD 24	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$919	0	39	39	39	39	39
FORT BEND COUNTY MUD 24	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$2094	0	23	50	72	76	76
FORT BEND COUNTY MUD 24	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 24	DEMAND REDUCTION	\$1300	\$742	6	12	15	19	20	24
FORT BEND COUNTY MUD 25	H	FORT BEND MUD 25 GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$813	0	1,120	1,120	1,120	1,120	1,120
FORT BEND COUNTY MUD 25	H	FORT BEND MUD 25 GRP	H DIRECT NON-POTABLE REUSE	N/A	\$813	0	68	68	68	68	68
FORT BEND COUNTY MUD 25	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 25	DEMAND REDUCTION	\$920	\$653	46	69	75	85	93	110
FORT BEND COUNTY MUD 26	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$365	0	162	162	162	162	162
FORT BEND COUNTY MUD 26	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1085	0	97	217	311	330	330

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

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						2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 26	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 26	DEMAND REDUCTION	\$851	\$632	19	32	41	47	51	59
FORT BEND COUNTY MUD 42	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$318	0	230	230	230	230	230
FORT BEND COUNTY MUD 42	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1119	0	139	238	341	363	363
FORT BEND COUNTY MUD 42	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 42	DEMAND REDUCTION	\$672	\$542	24	39	43	47	50	54
FORT BEND COUNTY MUD 46	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$730	0	0	89	87	68	52
FORT BEND COUNTY MUD 46	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 46	DEMAND REDUCTION	\$631	\$492	15	25	32	36	38	40
FORT BEND COUNTY MUD 47	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$4385	0	0	19	17	11	7
FORT BEND COUNTY MUD 47	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 47	DEMAND REDUCTION	\$1168	\$673	5	10	13	15	17	20
FORT BEND COUNTY MUD 48	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$411	0	143	140	138	134	132
FORT BEND COUNTY MUD 48	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 48	DEMAND REDUCTION	\$896	\$638	13	20	21	23	25	29
FORT BEND COUNTY MUD 49	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	\$11606	\$478	64	115	114	113	108	104
FORT BEND COUNTY MUD 49	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 49	DEMAND REDUCTION	\$660	\$561	6	9	11	12	12	13
FORT BEND COUNTY MUD 5	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 5	DEMAND REDUCTION	\$1101	\$695	10	18	21	24	26	30
FORT BEND COUNTY MUD 5	H	ROSENBERG GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1594	0	108	105	104	103	103
FORT BEND COUNTY MUD 81	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 81	DEMAND REDUCTION	\$338	\$370	36	44	50	57	63	71
FORT BEND COUNTY MUD 81	H	WATER LOSS REDUCTION, FORT BEND COUNTY MUD 81	DEMAND REDUCTION	\$625	\$578	9	28	41	44	47	50
FORT BEND COUNTY WCID 2	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	1,790	1,795	1,800	1,805	1,810	1,814
FORT BEND COUNTY WCID 2	H	FORT BEND WCID 2 GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$435	0	2,022	2,022	2,022	2,022	2,022
FORT BEND COUNTY WCID 2	H	FORT BEND WCID 2 GRP	H BRAZOS RUN-OF-RIVER	N/A	\$435	0	1,310	4,527	4,524	4,520	4,516
FORT BEND COUNTY WCID 2	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 2	DEMAND REDUCTION	\$639	\$524	216	356	452	561	677	820
FORT BEND COUNTY WCID 2	H	WATER LOSS REDUCTION, FORT BEND COUNTY WCID 2	DEMAND REDUCTION	\$625	\$578	51	178	206	231	257	285

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						2020	2030	2040	2050	2060	2070
FORT BEND COUNTY WCID 3	H	MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 3	DEMAND REDUCTION	\$195	\$249	12	16	17	17	18	18
FORT BEND COUNTY WCID 3	H	RICHMOND GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1399	0	237	237	236	236	236
FREEPORT	H	MUNICIPAL CONSERVATION, FREEPORT	DEMAND REDUCTION	\$987	\$642	42	66	74	91	131	174
FRIENDSWOOD	H	MUNICIPAL CONSERVATION, FRIENDSWOOD	DEMAND REDUCTION	\$816	\$601	219	360	430	529	648	796
FRIENDSWOOD	H	WATER LOSS REDUCTION, FRIENDSWOOD	DEMAND REDUCTION	\$625	\$578	60	184	311	445	586	658
FULSHEAR	H	MUNICIPAL CONSERVATION, FULSHEAR	DEMAND REDUCTION	\$1104	\$625	62	142	185	227	254	310
FULSHEAR	H	NFBWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$467	0	960	993	949	921	863
G & W WSC*	H	EXPANDED USE OF GROUNDWATER, WALLER COUNTY	H GULF COAST AQUIFER SYSTEM WALLER COUNTY	N/A	\$2379	0	0	0	0	325	325
G & W WSC*	H	MUNICIPAL CONSERVATION, G & W WSC	DEMAND REDUCTION	\$908	\$693	14	26	36	51	67	92
G & W WSC*	H	WATER LOSS REDUCTION, G & W WSC	DEMAND REDUCTION	\$625	\$578	3	11	23	32	39	46
GALENA PARK	H	MUNICIPAL CONSERVATION, GALENA PARK	DEMAND REDUCTION	\$1093	N/A	28	44	19	0	0	0
GALVESTON	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$269	0	11,891	11,900	11,909	11,918	11,927
GALVESTON	H	MUNICIPAL CONSERVATION, GALVESTON	DEMAND REDUCTION	\$659	\$551	469	698	798	954	1,116	1,330
GALVESTON	H	WATER LOSS REDUCTION, GALVESTON	DEMAND REDUCTION	\$625	\$578	320	958	1,596	2,242	2,883	3,529
GALVESTON COUNTY FWSD 6	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	31	31	31	31	31	31
GALVESTON COUNTY FWSD 6	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$779	0	54	54	54	54	55
GALVESTON COUNTY FWSD 6	H	MUNICIPAL CONSERVATION, GALVESTON COUNTY FWSD 6	DEMAND REDUCTION	\$886	\$637	12	18	20	22	23	26
GALVESTON COUNTY MUD 12	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$517	0	106	106	106	106	107
GALVESTON COUNTY MUD 12	H	MUNICIPAL CONSERVATION, GALVESTON COUNTY MUD 12	DEMAND REDUCTION	\$1229	\$725	11	18	20	23	25	30
GALVESTON COUNTY WCID 1	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$295	0	982	983	985	987	989
GALVESTON COUNTY WCID 1	H	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 1	DEMAND REDUCTION	\$1074	\$654	95	178	223	288	350	460

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						2020	2030	2040	2050	2060	2070
GALVESTON COUNTY WCID 1	H	WATER LOSS REDUCTION, GALVESTON COUNTY WCID 1	DEMAND REDUCTION	\$625	\$578	25	77	133	195	261	319
GALVESTON COUNTY WCID 12	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	716	716	716	716	716	716
GALVESTON COUNTY WCID 12	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$554	0	350	375	404	437	465
GALVESTON COUNTY WCID 12	H	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 12	DEMAND REDUCTION	\$578	\$469	47	75	88	95	99	103
GALVESTON COUNTY WCID 8	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$392	0	236	236	237	237	238
GALVESTON COUNTY WCID 8	H	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 8	DEMAND REDUCTION	\$1011	\$690	20	31	35	40	45	55
GALVESTON COUNTY WCID 8	H	WATER LOSS REDUCTION, GALVESTON COUNTY WCID 8	DEMAND REDUCTION	\$625	\$578	15	43	70	95	120	145
GLENDALE WSC	H	MUNICIPAL CONSERVATION, GLENDALE WSC	DEMAND REDUCTION	\$1198	\$704	4	7	8	9	10	12
GREEN TRAILS MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1521	0	164	287	288	288	288
GREEN TRAILS MUD	H	MUNICIPAL CONSERVATION, GREEN TRAILS MUD	DEMAND REDUCTION	\$550	\$477	16	21	22	24	25	27
GREENWOOD UD	H	MUNICIPAL CONSERVATION, GREENWOOD UD	DEMAND REDUCTION	\$1487	\$782	15	29	23	19	18	17
GREENWOOD UD	H	WATER LOSS REDUCTION, GREENWOOD UD	DEMAND REDUCTION	\$625	\$578	11	36	57	76	94	111
GROVETON*	H	GROVETON GROUNDWATER EXPANSION	H YEGUA-JACKSON AQUIFER TRINITY COUNTY	\$699	\$56	133	133	133	132	132	133
GROVETON*	H	MUNICIPAL CONSERVATION, GROVETON	DEMAND REDUCTION	\$1177	\$739	3	5	5	6	6	8
GROVETON*	H	WATER LOSS REDUCTION, GROVETON	DEMAND REDUCTION	\$625	\$578	1	3	4	5	7	8
GULF UTILITY	H	MUNICIPAL CONSERVATION, GULF UTILITY	DEMAND REDUCTION	\$719	\$576	24	33	36	39	42	46
HARDIN WSC	H	MUNICIPAL CONSERVATION, HARDIN WSC	DEMAND REDUCTION	\$1061	\$732	18	33	43	56	69	91
HARRIS COUNTY FWSD 1-A	H	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 1-A	DEMAND REDUCTION	\$1165	\$744	6	10	12	14	16	20
HARRIS COUNTY FWSD 1-A	H	WATER LOSS REDUCTION, HARRIS COUNTY FWSD 1-A	DEMAND REDUCTION	\$625	\$578	3	8	13	18	23	28
HARRIS COUNTY FWSD 27	H	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 27	DEMAND REDUCTION	\$843	\$625	7	11	12	14	16	20
HARRIS COUNTY FWSD 58	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1589	0	112	208	224	240	255

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HARRIS COUNTY FWSD 58	H	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 58	DEMAND REDUCTION	\$586	\$529	11	15	17	19	21	25
HARRIS COUNTY FWSD 58	H	WATER LOSS REDUCTION, HARRIS COUNTY FWSD 58	DEMAND REDUCTION	\$625	\$578	2	2	3	3	3	3
HARRIS COUNTY MUD 106	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 106	DEMAND REDUCTION	\$378	\$384	34	42	45	49	52	57
HARRIS COUNTY MUD 106	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 106	DEMAND REDUCTION	\$625	\$578	11	33	54	74	92	99
HARRIS COUNTY MUD 106	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	366	0	0	0	0
HARRIS COUNTY MUD 106	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$464	0	0	1,398	1,412	1,420	1,430
HARRIS COUNTY MUD 11	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	46	0	0	0	0
HARRIS COUNTY MUD 11	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$721	0	0	213	215	222	226
HARRIS COUNTY MUD 11	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 11	DEMAND REDUCTION	\$1076	\$704	11	18	20	23	26	32
HARRIS COUNTY MUD 11	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 11	DEMAND REDUCTION	\$625	\$578	1	1	1	1	1	1
HARRIS COUNTY MUD 119	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	103	0	0	0	0
HARRIS COUNTY MUD 119	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$662	0	0	409	409	415	418
HARRIS COUNTY MUD 119	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 119	DEMAND REDUCTION	\$1076	\$737	19	29	32	37	41	49
HARRIS COUNTY MUD 122	H	FORT BEND WCID 2 GRP	H BRAZOS RUN-OF-RIVER	\$10457 7	\$1051	7	29	51	49	48	48
HARRIS COUNTY MUD 122	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 122	DEMAND REDUCTION	\$875	\$673	5	8	10	12	13	15
HARRIS COUNTY MUD 132	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 132	DEMAND REDUCTION	\$781	\$598	30	42	47	50	53	57
HARRIS COUNTY MUD 132	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	269	0	0	0	0
HARRIS COUNTY MUD 132	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$476	0	0	989	990	989	989
HARRIS COUNTY MUD 148	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 148	DEMAND REDUCTION	\$1158	\$710	13	22	20	16	15	15
HARRIS COUNTY MUD 151	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 151	DEMAND REDUCTION	\$705	\$576	32	44	48	53	56	62
HARRIS COUNTY MUD 151	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	280	0	0	0	0

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 151	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$474	0	0	1,035	1,029	1,028	1,026
HARRIS COUNTY MUD 152	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 152	DEMAND REDUCTION	\$767	\$602	33	46	51	57	62	72
HARRIS COUNTY MUD 152	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	285	0	0	0	0
HARRIS COUNTY MUD 152	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$472	0	0	1,071	1,087	1,101	1,108
HARRIS COUNTY MUD 153	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1400	0	332	581	573	568	564
HARRIS COUNTY MUD 153	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 153	DEMAND REDUCTION	\$711	\$573	38	53	57	62	66	72
HARRIS COUNTY MUD 154	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	260	0	0	0	0
HARRIS COUNTY MUD 154	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$627	0	0	777	784	800	814
HARRIS COUNTY MUD 154	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 154	DEMAND REDUCTION	\$835	\$640	30	43	47	53	58	69
HARRIS COUNTY MUD 158	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 158	DEMAND REDUCTION	\$973	\$670	22	34	36	41	44	51
HARRIS COUNTY MUD 180	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 180	DEMAND REDUCTION	\$874	\$640	17	26	30	34	37	43
HARRIS COUNTY MUD 180	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 180	DEMAND REDUCTION	\$625	\$578	5	14	22	29	36	41
HARRIS COUNTY MUD 180	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1571	0	136	251	238	227	215
HARRIS COUNTY MUD 189	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	101	0	0	0	0
HARRIS COUNTY MUD 189	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$688	0	0	289	299	309	320
HARRIS COUNTY MUD 189	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 189	DEMAND REDUCTION	\$837	\$755	8	9	10	11	12	14
HARRIS COUNTY MUD 216	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$3232	0	38	65	61	58	55
HARRIS COUNTY MUD 216	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 216	DEMAND REDUCTION	\$930	\$604	5	8	9	10	11	12
HARRIS COUNTY MUD 216	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 216	DEMAND REDUCTION	\$625	\$578	2	5	8	10	12	14
HARRIS COUNTY MUD 221	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	133	0	0	0	0
HARRIS COUNTY MUD 221	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$663	0	0	373	382	391	397

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 221	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 221	DEMAND REDUCTION	\$986	\$683	14	22	25	29	32	39
HARRIS COUNTY MUD 23	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 23	DEMAND REDUCTION	\$1010	\$671	12	20	22	21	19	19
HARRIS COUNTY MUD 278	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$672	0	0	364	364	364	364
HARRIS COUNTY MUD 278	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 278	DEMAND REDUCTION	\$842	\$607	36	68	89	108	121	148
HARRIS COUNTY MUD 290	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 290	DEMAND REDUCTION	\$1093	\$693	25	42	47	56	62	74
HARRIS COUNTY MUD 290	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	183	0	0	0	0
HARRIS COUNTY MUD 290	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$485	0	0	720	734	744	746
HARRIS COUNTY MUD 321	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 321	DEMAND REDUCTION	\$719	\$532	9	16	20	23	25	25
HARRIS COUNTY MUD 342	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 342	DEMAND REDUCTION	\$601	\$536	18	24	27	30	31	34
HARRIS COUNTY MUD 344	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 344	DEMAND REDUCTION	\$540	\$485	25	37	40	43	45	49
HARRIS COUNTY MUD 345	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1469	0	229	396	388	386	383
HARRIS COUNTY MUD 345	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 345	DEMAND REDUCTION	\$607	\$512	24	33	35	38	39	42
HARRIS COUNTY MUD 36	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	114	0	0	0	0
HARRIS COUNTY MUD 36	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$681	0	0	302	299	299	300
HARRIS COUNTY MUD 36	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 36	DEMAND REDUCTION	\$519	\$418	9	13	14	15	15	14
HARRIS COUNTY MUD 361	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 361	DEMAND REDUCTION	\$891	\$655	15	22	24	27	29	34
HARRIS COUNTY MUD 372	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 372	DEMAND REDUCTION	\$446	\$437	32	39	41	44	46	50
HARRIS COUNTY MUD 400	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1265	0	378	695	739	762	770
HARRIS COUNTY MUD 400	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 400	DEMAND REDUCTION	\$608	\$503	33	47	54	61	65	69
HARRIS COUNTY MUD 412	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 412	DEMAND REDUCTION	\$760	\$607	16	24	27	32	35	41

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 412	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 412	DEMAND REDUCTION	\$625	\$578	4	12	21	29	38	39
HARRIS COUNTY MUD 420	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 420	DEMAND REDUCTION	\$1038	\$676	5	8	9	11	12	14
HARRIS COUNTY MUD 46	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 46	DEMAND REDUCTION	\$692	\$568	18	25	27	29	30	33
HARRIS COUNTY MUD 46	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	154	0	0	0	0
HARRIS COUNTY MUD 46	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$500	0	0	569	562	560	557
HARRIS COUNTY MUD 49	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 49	DEMAND REDUCTION	\$1092	\$721	21	33	37	42	47	55
HARRIS COUNTY MUD 5	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 5	DEMAND REDUCTION	\$1094	\$717	17	28	33	39	42	43
HARRIS COUNTY MUD 5	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 5	DEMAND REDUCTION	\$625	\$578	4	10	16	23	25	26
HARRIS COUNTY MUD 50	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 50	DEMAND REDUCTION	\$1021	\$675	13	20	22	26	28	33
HARRIS COUNTY MUD 50	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 50	DEMAND REDUCTION	\$625	\$578	6	16	26	35	43	51
HARRIS COUNTY MUD 55	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 55	DEMAND REDUCTION	\$1043	\$701	46	73	86	125	155	208
HARRIS COUNTY MUD 55	H	WATER LOSS REDUCTION, HARRIS COUNTY MUD 55	DEMAND REDUCTION	\$625	\$578	8	24	28	29	31	34
HARRIS COUNTY MUD 58	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1924	0	75	135	131	131	129
HARRIS COUNTY MUD 58	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 58	DEMAND REDUCTION	\$678	\$645	6	7	8	9	9	10
HARRIS COUNTY MUD 6	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 6	DEMAND REDUCTION	\$855	\$628	15	23	25	28	30	35
HARRIS COUNTY MUD 6	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$540	0	78	171	164	161	156
HARRIS COUNTY MUD 8	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 8	DEMAND REDUCTION	\$771	\$660	12	15	15	17	18	20
HARRIS COUNTY MUD 96	H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 96	DEMAND REDUCTION	\$1071	\$708	21	34	39	47	54	67
HARRIS COUNTY UD 14	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	68	0	0	0	0
HARRIS COUNTY UD 14	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$705	0	0	192	206	223	250
HARRIS COUNTY UD 14	H	WATER LOSS REDUCTION, HARRIS COUNTY UD 14	DEMAND REDUCTION	\$625	\$578	3	8	14	20	27	37
HARRIS COUNTY UD 15	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	155	0	0	0	0

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						2020	2030	2040	2050	2060	2070
HARRIS COUNTY UD 15	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$656	0	0	455	447	444	441
HARRIS COUNTY UD 15	H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD 15	DEMAND REDUCTION	\$734	\$591	15	22	26	29	30	33
HARRIS COUNTY WCID 1	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 1	DEMAND REDUCTION	\$1006	\$686	23	36	40	46	51	62
HARRIS COUNTY WCID 1	H	WATER LOSS REDUCTION, HARRIS COUNTY WCID 1	DEMAND REDUCTION	\$625	\$578	8	24	38	52	65	79
HARRIS COUNTY WCID 133	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	165	0	0	0	0
HARRIS COUNTY WCID 133	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$635	0	0	502	528	565	603
HARRIS COUNTY WCID 133	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 133	DEMAND REDUCTION	\$765	\$624	19	27	29	34	40	49
HARRIS COUNTY WCID 156	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 156	DEMAND REDUCTION	\$514	\$493	8	11	12	14	15	17
HARRIS COUNTY WCID 50	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 50	DEMAND REDUCTION	\$1109	\$687	13	21	23	27	29	35
HARRIS COUNTY WCID 70	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$2310	0	60	101	95	91	84
HARRIS COUNTY WCID 70	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 70	DEMAND REDUCTION	\$880	\$645	8	12	14	15	16	18
HARRIS COUNTY WCID 70	H	WATER LOSS REDUCTION, HARRIS COUNTY WCID 70	DEMAND REDUCTION	\$625	\$578	3	8	12	16	19	23
HARRIS COUNTY WCID 74	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	143	0	0	0	0
HARRIS COUNTY WCID 74	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$665	0	0	423	411	409	404
HARRIS COUNTY WCID 74	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 74	DEMAND REDUCTION	\$709	\$582	17	23	24	27	28	33
HARRIS COUNTY WCID 89	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 89	DEMAND REDUCTION	\$1344	\$753	21	37	41	47	52	63
HARRIS COUNTY WCID 89	H	WATER LOSS REDUCTION, HARRIS COUNTY WCID 89	DEMAND REDUCTION	\$625	\$578	5	14	21	29	35	41
HARRIS COUNTY WCID 96	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 96	DEMAND REDUCTION	\$567	\$508	43	55	58	63	66	71
HARRIS COUNTY WCID-FONDREN ROAD	H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID-FONDREN ROAD	DEMAND REDUCTION	\$941	\$656	11	19	24	28	30	36
HARRIS COUNTY WCID-FONDREN ROAD	H	WATER LOSS REDUCTION, HARRIS COUNTY WCID-FONDREN ROAD	DEMAND REDUCTION	\$625	\$578	2	7	10	10	10	10

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HARRIS-MONTGOMERY COUNTIES MUD 386	H	MUNICIPAL CONSERVATION, HARRIS-MONTGOMERY COUNTIES MUD 386	DEMAND REDUCTION	\$603	\$532	12	16	16	17	18	21
HARRIS-MONTGOMERY COUNTIES MUD 386	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	\$0	N/A	170	0	0	0	0	0
HEMPSTEAD	H	EXPANDED USE OF GROUNDWATER, WALLER COUNTY	H GULF COAST AQUIFER SYSTEM WALLER COUNTY	N/A	\$3817	0	0	0	0	0	150
HEMPSTEAD	H	MUNICIPAL CONSERVATION, HEMPSTEAD	DEMAND REDUCTION	\$664	\$532	35	57	72	87	102	120
HILLCREST VILLAGE	H	MUNICIPAL CONSERVATION, HILLCREST VILLAGE	DEMAND REDUCTION	\$705	\$625	4	5	5	6	6	7
HILLCREST VILLAGE	H	WATER LOSS REDUCTION, HILLCREST VILLAGE	DEMAND REDUCTION	\$625	\$578	1	3	4	6	7	8
HILLTOP LAKES WSC	H	MUNICIPAL CONSERVATION, HILLTOP LAKES WSC	DEMAND REDUCTION	\$896	\$646	8	13	15	17	19	22
HILSHIRE VILLAGE	H	MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	DEMAND REDUCTION	\$769	\$541	5	8	10	12	13	15
HITCHCOCK	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$354	0	353	354	355	356	357
HITCHCOCK	H	MUNICIPAL CONSERVATION, HITCHCOCK	DEMAND REDUCTION	\$946	\$693	28	46	55	66	75	91
HMW SUD	H	MUNICIPAL CONSERVATION, HMW SUD	DEMAND REDUCTION	\$1055	\$648	43	77	99	139	199	261
HMW SUD	H	NHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1394	0	139	289	353	333	313
HMW SUD	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$426	0	97	249	423	380	336
HOUSTON	H	CITY OF HOUSTON AREA 2 GROUNDWATER DEVELOPMENT	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$232	0	36,234	39,259	42,619	46,372	50,376
HOUSTON	H	CITY OF HOUSTON GRP	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$814	0	0	34,875	34,875	69,750	69,750
HOUSTON	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$561	0	0	4,060	4,060	4,059	4,059
HOUSTON	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$585	0	5,036	5,043	5,045	5,046	5,047
HOUSTON	H	CITY OF HOUSTON GRP	H SAN JACINTO INDIRECT REUSE	N/A	\$561	0	1,094	1,797	1,797	1,797	1,797
HOUSTON	H	CITY OF HOUSTON REUSE	H SAN JACINTO INDIRECT REUSE	N/A	\$139	0	0	195,085	183,938	192,105	193,657
HOUSTON	H	EAST TEXAS TRANSFER	I TOLEDO BEND LAKE/RESERVOIR	N/A	\$17	0	0	0	250,000	250,000	250,000
HOUSTON	H	MUNICIPAL CONSERVATION, HOUSTON	DEMAND REDUCTION	\$631	\$535	11,745	19,117	22,886	27,709	30,664	35,985
HOUSTON	H	SOUTHEAST TRANSMISSION LINE EXPANSION	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$126	0	15,758	15,758	15,758	15,758	15,758

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
HOUSTON	H	WATER LOSS REDUCTION, HOUSTON	DEMAND REDUCTION	\$625	\$578	4,080	12,326	20,673	29,252	38,172	47,390
HUMBLE	H	MUNICIPAL CONSERVATION, HUMBLE	DEMAND REDUCTION	\$1095	\$607	79	161	215	262	304	344
HUNTSVILLE	H	MUNICIPAL CONSERVATION, HUNTSVILLE	DEMAND REDUCTION	\$692	\$514	210	331	384	435	490	546
HUNTSVILLE	H	WATER LOSS REDUCTION, HUNTSVILLE	DEMAND REDUCTION	\$625	\$578	49	145	232	237	242	246
IRRIGATION, AUSTIN	H	IRRIGATION CONSERVATION, AUSTIN COUNTY	DEMAND REDUCTION	\$133	\$132	2,993	2,993	2,993	2,993	2,993	2,993
IRRIGATION, BRAZORIA	H	IRRIGATION CONSERVATION, BRAZORIA COUNTY	DEMAND REDUCTION	\$132	\$131	21,517	21,517	21,517	21,517	21,517	21,517
IRRIGATION, CHAMBERS	H	IRRIGATION CONSERVATION, CHAMBERS COUNTY	DEMAND REDUCTION	\$133	\$132	29,891	29,891	29,891	29,891	29,891	29,891
IRRIGATION, CHAMBERS	H	NEW / EXPANDED CONTRACT WITH LNVA	I SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	N/A	\$27	0	0	33,500	33,500	33,500	33,500
IRRIGATION, FORT BEND	H	IRRIGATION CONSERVATION, FORT BEND COUNTY	DEMAND REDUCTION	\$133	\$131	5,745	5,745	5,745	5,745	5,745	5,745
IRRIGATION, FORT BEND	H	RICHMOND GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$873	0	17	17	17	17	17
IRRIGATION, GALVESTON	H	IRRIGATION CONSERVATION, GALVESTON COUNTY	DEMAND REDUCTION	\$134	\$132	2,062	2,062	2,062	2,062	2,062	2,062
IRRIGATION, HARRIS	H	IRRIGATION CONSERVATION, HARRIS COUNTY	DEMAND REDUCTION	\$134	\$133	39	39	39	39	39	39
IRRIGATION, LIBERTY	H	EXPANDED USE OF GROUNDWATER, LIBERTY COUNTY	H GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	\$174	\$72	4,650	4,650	4,650	4,650	4,650	4,650
IRRIGATION, LIBERTY	H	IRRIGATION CONSERVATION, LIBERTY COUNTY	DEMAND REDUCTION	\$133	\$132	23,035	23,035	23,035	23,035	23,035	23,035
IRRIGATION, LIBERTY	H	NEW / EXPANDED CONTRACT WITH LNVA	I SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	N/A	\$27	0	0	33,500	33,500	33,500	33,500
IRRIGATION, WALLER	H	IRRIGATION CONSERVATION, WALLER COUNTY	DEMAND REDUCTION	\$131	\$130	8,280	8,280	8,280	8,280	8,280	8,280
IRRIGATION, WALLER	H	OTHER BRA SYSTEM OPERATION SUPPLIES	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	\$0	\$0	90	90	90	90	87	84
JACINTO CITY	H	MUNICIPAL CONSERVATION, JACINTO CITY	DEMAND REDUCTION	\$1159	N/A	25	13	0	0	0	0
JACINTO CITY	H	WATER LOSS REDUCTION, JACINTO CITY	DEMAND REDUCTION	\$625	\$578	5	14	23	29	29	30
JAMAICA BEACH	H	MUNICIPAL CONSERVATION, JAMAICA BEACH	DEMAND REDUCTION	\$718	\$546	7	10	11	12	13	15
JERSEY VILLAGE	H	MUNICIPAL CONSERVATION, JERSEY VILLAGE	DEMAND REDUCTION	\$834	\$596	50	75	85	92	97	104
JERSEY VILLAGE	H	WATER LOSS REDUCTION, JERSEY VILLAGE	DEMAND REDUCTION	\$625	\$578	12	34	54	65	67	68

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
JEWETT	H	MUNICIPAL CONSERVATION, JEWETT	DEMAND REDUCTION	\$777	\$572	8	14	17	21	24	28
JOHNSTON WATER UTILITY	H	MUNICIPAL CONSERVATION, JOHNSTON WATER UTILITY	DEMAND REDUCTION	\$455	\$463	18	28	37	49	64	84
JOHNSTON WATER UTILITY	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1353	0	208	445	731	1,087	1,516
KATY	H	MUNICIPAL CONSERVATION, KATY	DEMAND REDUCTION	\$728	\$525	143	291	366	429	486	547
KATY	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$963	0	2,538	3,217	3,244	3,279	3,309
KENDLETON	H	MUNICIPAL CONSERVATION, KENDLETON	DEMAND REDUCTION	\$701	\$560	5	9	11	13	16	18
KENDLETON	H	WATER LOSS REDUCTION, KENDLETON	DEMAND REDUCTION	\$625	\$578	4	14	25	38	52	67
KINGS MANOR MUD	H	MUNICIPAL CONSERVATION, KINGS MANOR MUD	DEMAND REDUCTION	\$910	\$661	14	21	22	24	26	30
KINGS MANOR MUD	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$0	N/A	12	0	0	0	0	0
KIRKMONT MUD	H	MUNICIPAL CONSERVATION, KIRKMONT MUD	DEMAND REDUCTION	\$746	\$617	11	17	19	23	26	31
LA MARQUE	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	391	391	391	391	391	391
LA MARQUE	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$375	0	265	265	266	268	269
LA MARQUE	H	MUNICIPAL CONSERVATION, LA MARQUE	DEMAND REDUCTION	\$693	\$562	95	144	161	189	222	262
LA MARQUE	H	WATER LOSS REDUCTION, LA MARQUE	DEMAND REDUCTION	\$625	\$578	82	250	399	536	666	786
LA PORTE	H	MUNICIPAL CONSERVATION, LA PORTE	DEMAND REDUCTION	\$1124	\$635	158	285	322	367	404	490
LA PORTE	H	WATER LOSS REDUCTION, LA PORTE	DEMAND REDUCTION	\$625	\$578	27	77	79	80	81	82
LAKE BONANZA WSC	H	MUNICIPAL CONSERVATION, LAKE BONANZA WSC	DEMAND REDUCTION	\$1105	\$752	7	14	19	26	35	51
LAKE BONANZA WSC	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$388	0	243	300	368	421	512
LAKE CONROE HILLS MUD	H	MUNICIPAL CONSERVATION, LAKE CONROE HILLS MUD	DEMAND REDUCTION	\$968	\$714	7	13	18	25	33	47
LAKE CONROE HILLS MUD	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1106	0	58	125	208	312	439
LAKE CONROE HILLS MUD	H	WATER LOSS REDUCTION, LAKE CONROE HILLS MUD	DEMAND REDUCTION	\$625	\$578	2	6	12	20	31	38
LAKE JACKSON	H	DOW RESERVOIR AND PUMP STATION EXPANSION	H DOW HARRIS RESERVOIR EXPANSION	N/A	\$176	0	560	560	560	560	560
LAKE JACKSON	H	MUNICIPAL CONSERVATION, LAKE JACKSON	DEMAND REDUCTION	\$867	\$599	151	241	275	322	377	445

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
LAKE LIVINGSTON WSC*	H	MUNICIPAL CONSERVATION, LAKE LIVINGSTON WSC	DEMAND REDUCTION	\$1240	N/A	10	0	0	0	0	0
LAKE LIVINGSTON WSC*	H	WATER LOSS REDUCTION, LAKE LIVINGSTON WSC	DEMAND REDUCTION	\$625	\$578	20	63	110	161	216	278
LAKE MUD	H	MUNICIPAL CONSERVATION, LAKE MUD	DEMAND REDUCTION	\$1352	\$756	15	27	31	35	39	46
LAKE MUD	H	WATER LOSS REDUCTION, LAKE MUD	DEMAND REDUCTION	\$625	\$578	2	5	6	6	6	6
LAZY RIVER IMPROVEMENT DISTRICT	H	MUNICIPAL CONSERVATION, LAZY RIVER IMPROVEMENT DISTRICT	DEMAND REDUCTION	\$497	\$441	5	8	11	12	13	14
LAZY RIVER IMPROVEMENT DISTRICT	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1531	0	60	128	127	126	126
LEAGUE CITY	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$315	0	600	601	601	603	604
LEAGUE CITY	H	MUNICIPAL CONSERVATION, LEAGUE CITY	DEMAND REDUCTION	\$946	\$602	439	781	952	1,182	1,367	1,691
LEAGUE CITY	H	SOUTHEAST TRANSMISSION LINE EXPANSION	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$126	0	24,080	24,080	24,080	24,080	24,080
LEAGUE CITY	H	WATER LOSS REDUCTION, LEAGUE CITY	DEMAND REDUCTION	\$625	\$578	92	290	494	529	546	559
LEGGETT WSC	H	MUNICIPAL CONSERVATION, LEGGETT WSC	DEMAND REDUCTION	\$670	\$517	9	14	17	19	21	23
LEGGETT WSC	H	WATER LOSS REDUCTION, LEGGETT WSC	DEMAND REDUCTION	\$625	\$578	7	22	37	52	67	81
LIBERTY	H	MUNICIPAL CONSERVATION, LIBERTY	DEMAND REDUCTION	\$860	\$560	45	78	95	106	115	121
LIBERTY	H	WATER LOSS REDUCTION, LIBERTY	DEMAND REDUCTION	\$625	\$578	21	63	105	147	191	235
LIBERTY COUNTY FWSD 1 HULL	H	MUNICIPAL CONSERVATION, LIBERTY COUNTY FWSD 1 HULL	DEMAND REDUCTION	\$909	\$687	4	6	7	9	11	13
LIVESTOCK, LIBERTY	H	EXPANDED USE OF GROUNDWATER, LIBERTY COUNTY	H GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	\$286	\$82	725	725	725	725	725	725
LIVINGSTON	H	MUNICIPAL CONSERVATION, LIVINGSTON	DEMAND REDUCTION	\$532	\$393	63	97	120	133	141	140
LIVINGSTON	H	WATER LOSS REDUCTION, LIVINGSTON	DEMAND REDUCTION	\$625	\$578	34	107	182	258	332	403
LONGHORN TOWN UD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1787	0	91	158	156	155	155
LONGHORN TOWN UD	H	MUNICIPAL CONSERVATION, LONGHORN TOWN UD	DEMAND REDUCTION	\$621	\$483	9	13	14	15	16	16
LONGHORN TOWN UD	H	WATER LOSS REDUCTION, LONGHORN TOWN UD	DEMAND REDUCTION	\$625	\$578	1	1	1	1	1	1
LUCE BAYOU PUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$2930	0	37	70	67	63	62

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
LUCE BAYOU PUD	H	MUNICIPAL CONSERVATION, LUCE BAYOU PUD	DEMAND REDUCTION	\$674	\$578	4	6	7	7	8	8
LUCE BAYOU PUD	H	WATER LOSS REDUCTION, LUCE BAYOU PUD	DEMAND REDUCTION	\$625	\$578	1	4	6	9	11	12
MADISON COUNTY WSC	H	MUNICIPAL CONSERVATION, MADISON COUNTY WSC	DEMAND REDUCTION	\$928	\$644	5	8	9	11	13	15
MADISON COUNTY WSC	H	WATER LOSS REDUCTION, MADISON COUNTY WSC	DEMAND REDUCTION	\$625	\$578	1	1	1	1	2	2
MADISONVILLE	H	MUNICIPAL CONSERVATION, MADISONVILLE	DEMAND REDUCTION	\$803	\$568	26	42	50	57	61	66
MADISONVILLE	H	WATER LOSS REDUCTION, MADISONVILLE	DEMAND REDUCTION	\$625	\$578	9	27	44	62	80	98
MAGNOLIA	H	MUNICIPAL CONSERVATION, MAGNOLIA	DEMAND REDUCTION	\$764	\$820	30	53	71	93	122	174
MAGNOLIA	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$392	0	19	141	208	310	461
MAGNOLIA	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1273	0	0	129	442	903	1,620
MANUFACTURING, BRAZORIA	H	BRAZOS SALTWATER BARRIER	H BRAZOS RUN-OF-RIVER	N/A	\$42	0	0	10,000	10,000	10,000	10,000
MANUFACTURING, BRAZORIA	H	DOW RESERVOIR AND PUMP STATION EXPANSION	H DOW HARRIS RESERVOIR EXPANSION	N/A	\$96	0	73,157	73,157	73,157	73,157	73,157
MANUFACTURING, BRAZORIA	H	FREEMONT SEAWATER DESALINATION	H GULF OF MEXICO SALINE	N/A	\$1293	0	0	11,200	11,200	11,200	11,200
MANUFACTURING, BRAZORIA	H	GCWA BACKUP WELLS	H GULF COAST AQUIFER SYSTEM BRAZORIA COUNTY	N/A	N/A	0	0	1,120	1,120	0	0
MANUFACTURING, BRAZORIA	H	INDUSTRIAL SUPPLY REALLOCATION	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	\$1438	\$431	21,772	27,812	27,812	27,812	27,812	27,855
MANUFACTURING, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BWA	H BRAZOS RUN-OF-RIVER	N/A	\$73	0	1,634	1,634	1,634	1,634	1,634
MANUFACTURING, BRAZORIA	H	OTHER BRA SYSTEM OPERATION SUPPLIES	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	\$0	\$0	19,341	19,341	19,341	19,341	18,792	18,077
MANUFACTURING, CHAMBERS	H	EXPANDED USE OF GROUNDWATER, CHAMBERS COUNTY	H GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	\$761	\$387	2,775	3,500	3,500	3,500	3,500	3,500
MANUFACTURING, FORT BEND	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	273	274	274	275	276	277
MANUFACTURING, FORT BEND	H	NEW / EXPANDED CONTRACT WITH GCWA	H BRAZOS RUN-OF-RIVER	\$14414	\$1307	256	1,086	1,086	1,086	1,086	1,086
MANUFACTURING, GALVESTON	H	GALVESTON COUNTY INDUSTRIAL REUSE	H DIRECT NON-POTABLE REUSE	N/A	\$279	0	22,400	22,400	22,400	22,400	22,400
MANUFACTURING, GALVESTON	H	GCWA GALVESTON COUNTY RAW WATER EXPANSION	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	\$1264	\$439	17,518	17,953	18,176	18,414	18,500	18,560
MANUFACTURING, GALVESTON	H	GCWA GALVESTON COUNTY RAW WATER EXPANSION	H BRAZOS RUN-OF-RIVER	\$1264	\$439	2,543	2,135	1,938	1,725	1,504	1,258
MANUFACTURING, GALVESTON	H	NEW / EXPANDED CONTRACT WITH GCWA	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$232	0	0	13,440	13,440	13,440	13,440
MANUFACTURING, HARRIS	H	NRG CEDAR BAYOU DESALINATION	H TRINITY-SAN JACINTO RUN-OF-RIVER BRACKISH/SALINE	N/A	\$1560	0	22,400	22,400	22,400	22,400	22,400

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

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						2020	2030	2040	2050	2060	2070
MANUFACTURING, HARRIS	H	SJRA REUSE SUPPLIES FOR MANUFACTURING	H SAN JACINTO INDIRECT REUSE	\$0	\$0	7,404	20,900	21,962	22,731	21,907	20,903
MANUFACTURING, LEON	H	EXPANDED USE OF GROUNDWATER, LEON COUNTY	H CARRIZO-WILCOX AQUIFER LEON COUNTY	N/A	\$1119	0	150	150	150	150	150
MANUFACTURING, MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	\$5520	N/A	292	570	570	0	0	0
MANUFACTURING, MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1286	0	0	0	570	570	570
MANVEL	H	MANVEL SUPPLY EXPANSION	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$1030	0	23	23	23	22	21
MANVEL	H	MANVEL SUPPLY EXPANSION	H MANVEL MUSTANG BAYOU RESERVOIR	N/A	\$1397	0	6	6	6	6	6
MANVEL	H	MUNICIPAL CONSERVATION, MANVEL	DEMAND REDUCTION	\$1202	\$724	5	13	20	29	38	47
MANVEL	H	WATER LOSS REDUCTION, MANVEL	DEMAND REDUCTION	\$625	\$578	2	7	15	26	40	58
MASON CREEK UD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1379	0	357	616	608	603	597
MASON CREEK UD	H	MUNICIPAL CONSERVATION, MASON CREEK UD	DEMAND REDUCTION	\$634	\$541	40	53	56	61	64	70
MEADOWCREEK MUD	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$446	0	104	104	104	104	104
MEADOWCREEK MUD	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1327	0	62	107	153	163	163
MEADOWCREEK MUD	H	MUNICIPAL CONSERVATION, MEADOWCREEK MUD	DEMAND REDUCTION	\$826	\$608	12	20	22	24	26	30
MEADOWS PLACE	H	FORT BEND WCID 2 GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1420	0	204	200	205	212	222
MEADOWS PLACE	H	MUNICIPAL CONSERVATION, MEADOWS PLACE	DEMAND REDUCTION	\$750	\$596	23	32	35	39	42	48
MEMORIAL POINT UD	H	MUNICIPAL CONSERVATION, MEMORIAL POINT UD	DEMAND REDUCTION	\$772	\$618	5	8	9	10	12	13
MEMORIAL POINT UD	H	WATER LOSS REDUCTION, MEMORIAL POINT UD	DEMAND REDUCTION	\$625	\$578	4	11	19	27	34	42
MEMORIAL VILLAGES WATER AUTHORITY	H	MUNICIPAL CONSERVATION, MEMORIAL VILLAGES WATER AUTHORITY	DEMAND REDUCTION	\$301	\$466	128	161	182	205	228	265
MEMORIAL VILLAGES WATER AUTHORITY	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$445	\$371	2,069	2,388	2,758	3,168	3,623	4,108
MERCY WSC	H	MUNICIPAL CONSERVATION, MERCY WSC	DEMAND REDUCTION	\$1141	\$719	7	12	14	17	20	25
MERCY WSC	H	WATER LOSS REDUCTION, MERCY WSC	DEMAND REDUCTION	\$625	\$578	3	9	15	20	27	33
MINING, AUSTIN	H	EXPANDED USE OF GROUNDWATER, AUSTIN COUNTY	H GULF COAST AQUIFER SYSTEM AUSTIN COUNTY	N/A	\$1284	0	350	350	350	350	350

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						2020	2030	2040	2050	2060	2070
MINING, BRAZORIA	H	INDUSTRIAL SUPPLY REALLOCATION	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$1156	0	58	110	167	228	306
MINING, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH BWA	H BRAZOS RUN-OF-RIVER	N/A	\$236	0	31	59	89	122	161
MINING, BRAZORIA	H	NEW / EXPANDED CONTRACT WITH GCWA	H BRAZOS RUN-OF-RIVER	N/A	\$1285	0	132	252	385	524	696
MINING, FORT BEND	H	NEW / EXPANDED CONTRACT WITH GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$241	4	10	10	10	10	10
MINING, GALVESTON	H	GCWA GALVESTON COUNTY RAW WATER EXPANSION	H BRAZOS RUN-OF-RIVER	\$5032	\$1090	273	292	322	348	373	397
MINING, GALVESTON	H	NEW / EXPANDED CONTRACT WITH LNVA	I SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	\$12774	\$2085	70	76	83	89	95	103
MINING, HARRIS	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$817	\$387	2,946	2,927	2,875	2,843	2,818	2,798
MINING, LEON	H	EXPANDED USE OF GROUNDWATER, LEON COUNTY	H CARRIZO-WILCOX AQUIFER LEON COUNTY	N/A	\$1408	0	200	200	200	200	200
MINING, LIBERTY	H	EXPANDED USE OF GROUNDWATER, LIBERTY COUNTY	H GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	N/A	\$1408	0	500	500	500	500	500
MINING, MADISON	H	EXPANDED USE OF GROUNDWATER, MADISON COUNTY	H CARRIZO-WILCOX AQUIFER MADISON COUNTY	N/A	\$1006	0	400	400	400	400	400
MISSOURI CITY	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$161	0	9,136	9,141	9,148	9,155	9,161
MISSOURI CITY	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	\$0	\$161	7	276	318	362	383	402
MISSOURI CITY	H	MISSOURI CITY GRP	H DIRECT NON-POTABLE REUSE	\$0	\$161	163	197	223	250	277	307
MISSOURI CITY	H	MUNICIPAL CONSERVATION, MISSOURI CITY	DEMAND REDUCTION	\$848	\$638	13	23	29	36	42	51
MISSOURI CITY	H	WATER LOSS REDUCTION, MISSOURI CITY	DEMAND REDUCTION	\$625	\$578	2	4	5	6	6	7
MONT BELVIEU	H	EXPANDED USE OF GROUNDWATER, CHAMBERS COUNTY	H GULF COAST AQUIFER SYSTEM CHAMBERS COUNTY	N/A	\$815	0	0	1,280	1,280	3,055	3,055
MONT BELVIEU	H	MUNICIPAL CONSERVATION, MONT BELVIEU	DEMAND REDUCTION	\$427	\$575	65	102	134	169	204	252
MONTGOMERY	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$966	0	286	286	286	286	286
MONTGOMERY	H	MUNICIPAL CONSERVATION, MONTGOMERY	DEMAND REDUCTION	\$565	\$445	16	37	54	69	81	95
MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	N/A	N/A	0	0	219	0	0	0
MONTGOMERY	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1004	0	0	0	480	751	1,181
MONTGOMERY	H	WATER LOSS REDUCTION, MONTGOMERY	DEMAND REDUCTION	\$625	\$578	4	17	21	25	29	35

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 112	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 112	DEMAND REDUCTION	\$589	\$496	7	12	13	14	15	16
MONTGOMERY COUNTY MUD 112	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$433	0	327	324	323	307	306
MONTGOMERY COUNTY MUD 115	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 115	DEMAND REDUCTION	\$679	\$563	6	10	13	15	16	18
MONTGOMERY COUNTY MUD 115	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$446	0	252	312	308	282	280
MONTGOMERY COUNTY MUD 119	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 119	DEMAND REDUCTION	\$686	\$561	21	34	46	52	55	60
MONTGOMERY COUNTY MUD 119	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$356	0	903	1,126	1,121	1,066	1,060
MONTGOMERY COUNTY MUD 15	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 15	DEMAND REDUCTION	\$1075	\$758	17	29	35	46	60	86
MONTGOMERY COUNTY MUD 15	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$2989	0	17	92	91	57	11
MONTGOMERY COUNTY MUD 15	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1110	0	0	0	71	222	437
MONTGOMERY COUNTY MUD 18	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 18	DEMAND REDUCTION	\$533	\$511	45	72	89	107	124	160
MONTGOMERY COUNTY MUD 18	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1049	0	0	0	129	413	1,110
MONTGOMERY COUNTY MUD 19	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 19	DEMAND REDUCTION	\$703	\$666	9	10	11	11	12	13
MONTGOMERY COUNTY MUD 19	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$421	0	358	349	347	337	339
MONTGOMERY COUNTY MUD 56	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 56	DEMAND REDUCTION	\$698	\$604	5	8	10	12	13	15
MONTGOMERY COUNTY MUD 56	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	N/A	N/A	0	32	84	0	0	0
MONTGOMERY COUNTY MUD 56	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$2379	0	0	0	141	140	137
MONTGOMERY COUNTY MUD 8	H	MONTGOMERY COUNTY MUDS 8 AND 9 GRP	H SAN JACINTO INDIRECT REUSE	\$1778	\$869	786	791	779	771	769	769
MONTGOMERY COUNTY MUD 8	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 8	DEMAND REDUCTION	\$1032	\$755	17	27	33	41	48	63
MONTGOMERY COUNTY MUD 83	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 83	DEMAND REDUCTION	\$718	\$564	11	16	18	20	22	25
MONTGOMERY COUNTY MUD 83	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1416	0	124	132	142	154	163

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						2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 84	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 84	DEMAND REDUCTION	\$823	\$608	13	23	26	29	31	35
MONTGOMERY COUNTY MUD 84	H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 84	DEMAND REDUCTION	\$625	\$578	3	10	15	15	15	15
MONTGOMERY COUNTY MUD 88	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 88	DEMAND REDUCTION	N/A	\$564	0	4	5	6	7	7
MONTGOMERY COUNTY MUD 88	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$601	0	100	123	120	110	110
MONTGOMERY COUNTY MUD 88	H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 88	DEMAND REDUCTION	\$625	\$578	1	2	4	5	5	5
MONTGOMERY COUNTY MUD 89	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 89	DEMAND REDUCTION	\$1054	\$686	15	24	27	32	38	47
MONTGOMERY COUNTY MUD 89	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$394	0	399	403	433	446	453
MONTGOMERY COUNTY MUD 9	H	MONTGOMERY COUNTY MUDS 8 AND 9 GRP	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	\$1778	\$869	682	682	682	682	682	682
MONTGOMERY COUNTY MUD 9	H	MONTGOMERY COUNTY MUDS 8 AND 9 GRP	H SAN JACINTO INDIRECT REUSE	\$1778	\$869	894	889	901	909	911	911
MONTGOMERY COUNTY MUD 9	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 9	DEMAND REDUCTION	\$1026	\$675	34	55	66	83	92	105
MONTGOMERY COUNTY MUD 95	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 95	DEMAND REDUCTION	\$1003	\$683	5	9	12	14	16	19
MONTGOMERY COUNTY MUD 95	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1304	0	162	198	195	195	194
MONTGOMERY COUNTY MUD 98	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 98	DEMAND REDUCTION	\$1306	\$726	6	13	17	21	23	28
MONTGOMERY COUNTY MUD 99	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 99	DEMAND REDUCTION	\$730	\$569	5	9	12	14	15	16
MONTGOMERY COUNTY MUD 99	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$625	0	73	121	119	107	102
MONTGOMERY COUNTY MUD 99	H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 99	DEMAND REDUCTION	\$625	\$578	2	7	13	17	21	25
MONTGOMERY COUNTY UD 2	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 2	DEMAND REDUCTION	\$1139	\$757	8	13	15	18	21	26
MONTGOMERY COUNTY UD 3	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 3	DEMAND REDUCTION	\$1229	\$723	24	42	48	54	59	66
MONTGOMERY COUNTY UD 3	H	WATER LOSS REDUCTION, MONTGOMERY COUNTY UD 3	DEMAND REDUCTION	\$625	\$578	13	39	62	82	100	117

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WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY UD 4	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$7207	0	0	0	0	0	73
MONTGOMERY COUNTY UD 4	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 4	DEMAND REDUCTION	\$924	\$724	17	31	36	44	58	83
MONTGOMERY COUNTY WCID 1	H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	DEMAND REDUCTION	\$1119	\$742	10	17	20	25	30	39
MONTGOMERY COUNTY WCID 1	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$572	0	56	69	95	94	122
MORGANS POINT	H	MUNICIPAL CONSERVATION, MORGANS POINT	DEMAND REDUCTION	\$527	\$392	4	6	7	8	8	9
MOUNT HOUSTON ROAD MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	235	0	0	0	0
MOUNT HOUSTON ROAD MUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$626	0	0	643	693	729	750
MOUNT HOUSTON ROAD MUD	H	MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	DEMAND REDUCTION	\$803	\$621	19	31	39	47	54	66
MSEC ENTERPRISES	H	MUNICIPAL CONSERVATION, MSEC ENTERPRISES	DEMAND REDUCTION	\$647	\$542	120	264	334	412	505	610
MSEC ENTERPRISES	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$332	0	3,682	3,887	4,226	4,393	4,699
NASSAU BAY	H	MUNICIPAL CONSERVATION, NASSAU BAY	DEMAND REDUCTION	\$792	\$569	27	40	45	49	51	54
NASSAU BAY	H	WATER LOSS REDUCTION, NASSAU BAY	DEMAND REDUCTION	\$625	\$578	6	18	28	28	28	29
NEEDVILLE	H	MUNICIPAL CONSERVATION, NEEDVILLE	DEMAND REDUCTION	\$1163	\$734	10	17	18	21	24	29
NEW CANEY MUD	H	MUNICIPAL CONSERVATION, NEW CANEY MUD	DEMAND REDUCTION	\$1326	\$1043	32	58	70	79	84	92
NEW CANEY MUD	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1121	0	0	34	108	216	350
NEW WAVERLY	H	MUNICIPAL CONSERVATION, NEW WAVERLY	DEMAND REDUCTION	\$1014	\$605	6	11	13	14	15	15
NEW WAVERLY	H	WATER LOSS REDUCTION, NEW WAVERLY	DEMAND REDUCTION	\$625	\$578	1	3	3	3	3	3
NEWPORT MUD	H	MUNICIPAL CONSERVATION, NEWPORT MUD	DEMAND REDUCTION	\$1000	\$677	33	52	58	67	73	88
NEWPORT MUD	H	WATER LOSS REDUCTION, NEWPORT MUD	DEMAND REDUCTION	\$625	\$578	6	17	20	20	20	21
NORMANGEE	H	MUNICIPAL CONSERVATION, NORMANGEE	DEMAND REDUCTION	\$1052	\$612	4	7	9	10	11	12
NORTH BELT UD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	121	0	0	0	0

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						2020	2030	2040	2050	2060	2070
NORTH BELT UD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$663	0	0	374	380	390	399
NORTH BELT UD	H	MUNICIPAL CONSERVATION, NORTH BELT UD	DEMAND REDUCTION	\$739	\$532	14	21	24	26	28	30
NORTH BELT UD	H	WATER LOSS REDUCTION, NORTH BELT UD	DEMAND REDUCTION	\$625	\$578	3	8	8	8	8	9
NORTH CHANNEL WATER AUTHORITY	H	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	DEMAND REDUCTION	\$945	\$612	300	490	556	660	748	922
NORTH CHANNEL WATER AUTHORITY	H	WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	DEMAND REDUCTION	\$625	\$578	61	175	233	236	241	246
NORTH FOREST MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	37	0	0	0	0
NORTH FOREST MUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$881	0	0	126	117	111	103
NORTH FOREST MUD	H	MUNICIPAL CONSERVATION, NORTH FOREST MUD	DEMAND REDUCTION	\$844	\$633	6	9	10	11	11	13
NORTH FOREST MUD	H	WATER LOSS REDUCTION, NORTH FOREST MUD	DEMAND REDUCTION	\$625	\$578	4	13	20	26	32	38
NORTH FORT BEND WATER AUTHORITY	H	MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	DEMAND REDUCTION	\$648	\$551	1,693	3,124	4,415	5,861	6,643	7,974
NORTH FORT BEND WATER AUTHORITY	H	NFBWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$432	0	48,238	47,667	39,106	37,750	35,840
NORTH FORT BEND WATER AUTHORITY	H	NFBWA GRP	H SAN JACINTO INDIRECT REUSE	N/A	\$488	0	10,621	13,836	22,441	23,825	25,793
NORTH FORT BEND WATER AUTHORITY	H	NFBWA MEMBER DISTRICT REUSE	H DIRECT NON-POTABLE REUSE	\$1695	\$835	3,816	3,816	3,816	3,816	3,816	3,816
NORTH FORT BEND WATER AUTHORITY	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$854	0	937	1,672	2,099	2,325	2,441
NORTH GREEN MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	123	0	0	0	0
NORTH GREEN MUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$671	0	0	363	362	366	368
NORTH GREEN MUD	H	MUNICIPAL CONSERVATION, NORTH GREEN MUD	DEMAND REDUCTION	\$689	\$612	11	13	14	15	16	18
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	DEMAND REDUCTION	\$800	\$599	3,512	5,827	6,979	8,620	9,487	11,403
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	NHCRWA GRP	H HOUSTON LAKE/RESERVOIR	N/A	\$448	0	27,446	21,004	18,677	14,324	6,782
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	NHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$448	0	90,202	90,813	75,596	75,448	75,818

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						2020	2030	2040	2050	2060	2070
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	NHCRWA GRP	H SAN JACINTO INDIRECT REUSE	N/A	\$503	0	19,858	27,630	44,932	49,222	56,255
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	NHCRWA MEMBER DISTRICT REUSE	H DIRECT NON-POTABLE REUSE	\$1913	\$905	300	300	300	300	300	300
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$214	0	439	798	1,103	1,372	1,618
NORTH ZULCH MUD	H	MUNICIPAL CONSERVATION, NORTH ZULCH MUD	DEMAND REDUCTION	\$952	\$677	7	11	12	14	16	20
NORTH ZULCH MUD	H	WATER LOSS REDUCTION, NORTH ZULCH MUD	DEMAND REDUCTION	\$625	\$578	1	4	8	10	12	12
NORTHWEST HARRIS COUNTY MUD 16	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1662	0	140	238	232	230	225
NORTHWEST HARRIS COUNTY MUD 16	H	MUNICIPAL CONSERVATION, NORTHWEST HARRIS COUNTY MUD 16	DEMAND REDUCTION	\$783	\$605	15	23	24	26	28	32
OAK HOLLOW UTILITY	H	MUNICIPAL CONSERVATION, OAK HOLLOW UTILITY	DEMAND REDUCTION	\$1054	\$723	7	13	16	22	27	37
OAK RIDGE NORTH	H	MUNICIPAL CONSERVATION, OAK RIDGE NORTH	DEMAND REDUCTION	\$856	\$555	17	28	34	38	39	39
OAK RIDGE NORTH	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$506	0	156	179	192	159	161
ONALASKA WSC	H	MUNICIPAL CONSERVATION, ONALASKA WSC	DEMAND REDUCTION	\$1213	\$746	14	27	36	46	55	70
ONALASKA WSC	H	WATER LOSS REDUCTION, ONALASKA WSC	DEMAND REDUCTION	\$625	\$578	2	9	16	22	23	25
ONE FIVE O WSC	H	MUNICIPAL CONSERVATION, ONE FIVE O WSC	DEMAND REDUCTION	\$1006	\$686	10	16	19	23	26	33
ONE FIVE O WSC	H	WATER LOSS REDUCTION, ONE FIVE O WSC	DEMAND REDUCTION	\$625	\$578	3	8	14	20	25	31
OYSTER CREEK	H	DOW RESERVOIR AND PUMP STATION EXPANSION	H DOW HARRIS RESERVOIR EXPANSION	N/A	\$96	0	11	11	11	11	11
OYSTER CREEK	H	MUNICIPAL CONSERVATION, OYSTER CREEK	DEMAND REDUCTION	\$847	\$550	7	12	13	14	15	17
P B & S C WSC	H	MUNICIPAL CONSERVATION, P B & S C WSC	DEMAND REDUCTION	\$915	\$659	8	13	15	18	20	25
PALMER PLANTATION MUD 1	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$400	0	138	138	138	138	138
PALMER PLANTATION MUD 1	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1165	0	83	143	204	218	218
PALMER PLANTATION MUD 1	H	MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 1	DEMAND REDUCTION	\$537	\$492	14	21	23	25	26	28
PALMER PLANTATION MUD 2	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$596	0	68	68	68	68	68

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						2020	2030	2040	2050	2060	2070
PALMER PLANTATION MUD 2	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1683	0	41	70	100	106	106
PALMER PLANTATION MUD 2	H	MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 2	DEMAND REDUCTION	\$739	\$590	11	15	16	18	19	22
PANORAMA VILLAGE	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	\$0	\$0	33	48	48	48	48	48
PANORAMA VILLAGE	H	MUNICIPAL CONSERVATION, PANORAMA VILLAGE	DEMAND REDUCTION	\$717	\$599	16	23	25	30	35	43
PANORAMA VILLAGE	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	N/A	N/A	0	0	6	0	0	0
PANORAMA VILLAGE	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1856	0	0	0	45	104	183
PARKWAY MUD	H	MUNICIPAL CONSERVATION, PARKWAY MUD	DEMAND REDUCTION	\$1202	\$726	20	34	38	43	47	57
PASADENA	H	MUNICIPAL CONSERVATION, PASADENA	DEMAND REDUCTION	\$741	\$551	609	951	1,084	1,247	1,434	1,645
PATTISON WSC	H	MUNICIPAL CONSERVATION, PATTISON WSC	DEMAND REDUCTION	\$736	\$620	8	13	16	21	26	32
PEARLAND	H	CITY OF PEARLAND REUSE	H DIRECT NON-POTABLE REUSE	\$854	\$142	314	1,154	1,154	1,154	1,154	1,154
PEARLAND	H	MUNICIPAL CONSERVATION, PEARLAND	DEMAND REDUCTION	\$871	\$609	560	949	1,153	1,443	1,790	2,204
PEARLAND	H	PEARLAND SWTP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$242	0	1,794	1,794	1,794	1,795	1,795
PEARLAND	H	PEARLAND SWTP	H BRAZOS RUN-OF-RIVER	N/A	\$242	0	20,606	20,606	20,606	20,605	20,605
PEARLAND	H	WATER LOSS REDUCTION, PEARLAND	DEMAND REDUCTION	\$625	\$578	101	251	274	298	322	345
PECAN GROVE MUD 1	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	402	403	403	404	406	407
PECAN GROVE MUD 1	H	MUNICIPAL CONSERVATION, PECAN GROVE MUD 1	DEMAND REDUCTION	\$742	\$581	66	93	100	109	115	126
PENNINGTON WSC*	H	MUNICIPAL CONSERVATION, PENNINGTON WSC	DEMAND REDUCTION	\$1238	\$748	4	7	8	9	10	12
PHELPS SUD	H	MUNICIPAL CONSERVATION, PHELPS SUD	DEMAND REDUCTION	\$879	\$641	7	10	11	13	14	17
PINE VILLAGE PUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$990	0	0	69	69	69	69
PINE VILLAGE PUD	H	MUNICIPAL CONSERVATION, PINE VILLAGE PUD	DEMAND REDUCTION	\$1013	\$706	8	12	14	17	19	24
PINE VILLAGE PUD	H	WATER LOSS REDUCTION, PINE VILLAGE PUD	DEMAND REDUCTION	\$625	\$578	1	1	1	1	1	1
PINEHURST DECKER PRAIRIE WSC	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1072	0	12	73	162	301	543

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
PINEHURST DECKER PRAIRIE WSC	H	WATER LOSS REDUCTION, PINEHURST DECKER PRAIRIE WSC	DEMAND REDUCTION	\$625	\$578	1	2	5	8	12	20
PINEWOOD COMMUNITY	H	MUNICIPAL CONSERVATION, PINEWOOD COMMUNITY	DEMAND REDUCTION	\$885	\$675	4	6	6	7	8	9
PINEWOOD COMMUNITY	H	NHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$3546	0	30	51	49	48	47
PLANTATION MUD	H	MUNICIPAL CONSERVATION, PLANTATION MUD	DEMAND REDUCTION	\$997	\$676	14	22	23	26	28	33
PLANTATION MUD	H	SUGAR LAND IWRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1994	0	113	104	99	98	98
POINT AQUARIUS MUD	H	MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	DEMAND REDUCTION	\$770	\$623	13	18	21	24	29	36
POINT AQUARIUS MUD	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1355	0	0	20	55	105	172
PORTER SUD	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1033	0	0	0	316	735	1,083
PORTER SUD	H	PORTER SUD JOINT GRP	H SAN JACINTO INDIRECT REUSE	\$1346	\$699	1,680	2,240	2,240	2,240	2,240	2,240
PRAIRIE VIEW	H	MUNICIPAL CONSERVATION, PRAIRIE VIEW	DEMAND REDUCTION	\$543	\$513	21	35	48	64	82	104
PROVIDENCE WSC	H	MUNICIPAL CONSERVATION, PROVIDENCE WSC	DEMAND REDUCTION	\$1182	N/A	6	5	0	0	0	0
QUADVEST	H	MUNICIPAL CONSERVATION, QUADVEST	DEMAND REDUCTION	\$737	\$630	162	290	400	580	832	1,176
QUADVEST	H	NFBWA GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1412	0	157	228	309	406	506
QUADVEST	H	NHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1312	0	73	163	213	278	342
QUADVEST	H	ROSENBERG GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$838	0	176	254	347	461	584
QUADVEST	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$429	0	2,041	2,806	4,694	6,981	6,981
QUADVEST	H	SJRA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$429	0	0	0	0	0	2,401
QUAIL VALLEY UD	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$561	0	74	74	74	74	74
QUAIL VALLEY UD	H	MISSOURI CITY GRP	H DIRECT NON-POTABLE REUSE	\$0	\$161	286	478	486	486	486	486
QUAIL VALLEY UD	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1173	0	0	138	192	202	202
QUAIL VALLEY UD	H	MUNICIPAL CONSERVATION, QUAIL VALLEY UD	DEMAND REDUCTION	\$713	\$574	67	112	156	193	222	255

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						2020	2030	2040	2050	2060	2070
RANCH UTILITIES	H	MUNICIPAL CONSERVATION, RANCH UTILITIES	DEMAND REDUCTION	\$950	\$654	5	9	10	12	13	15
RANCH UTILITIES	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$5147	0	36	32	30	30	30
RAYFORD ROAD MUD	H	MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	DEMAND REDUCTION	\$853	\$633	42	61	69	83	96	116
RAYFORD ROAD MUD	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$382	0	351	429	523	535	554
RICHMOND	H	MUNICIPAL CONSERVATION, RICHMOND	DEMAND REDUCTION	\$681	\$571	57	86	100	110	126	174
RICHMOND	H	RICHMOND GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$350	0	607	665	765	804	822
RICHMOND	H	RICHMOND GRP	H ALLENS CREEK LAKE/RESERVOIR	N/A	\$561	0	0	0	0	0	7
RICHWOOD	H	DOW RESERVOIR AND PUMP STATION EXPANSION	H DOW HARRIS RESERVOIR EXPANSION	N/A	\$257	0	224	224	224	224	224
RICHWOOD	H	MUNICIPAL CONSERVATION, RICHWOOD	DEMAND REDUCTION	\$1228	\$779	13	21	23	27	31	38
RICHWOOD	H	WATER LOSS REDUCTION, RICHWOOD	DEMAND REDUCTION	\$625	\$578	3	8	13	17	19	20
RIVER PLANTATION MUD	H	MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	DEMAND REDUCTION	\$594	\$514	17	24	31	39	48	56
RIVER PLANTATION MUD	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1468	0	0	0	148	354	422
RIVER PLANTATION MUD	H	RIVER PLANTATION AND EAST PLANTATION JOINT GRP	H DIRECT NON-POTABLE REUSE	N/A	\$0	0	5	51	51	51	51
ROLLING FORK PUD	H	MUNICIPAL CONSERVATION, ROLLING FORK PUD	DEMAND REDUCTION	\$624	\$528	13	17	19	20	21	23
ROLLING FORK PUD	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$563	0	64	148	145	143	141
ROMAN FOREST CONSOLIDATED MUD	H	MUNICIPAL CONSERVATION, ROMAN FOREST CONSOLIDATED MUD	DEMAND REDUCTION	\$840	\$668	8	12	14	17	20	26
ROMAN FOREST CONSOLIDATED MUD	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$1477	0	0	21	54	98	155
ROSENBERG	H	MUNICIPAL CONSERVATION, ROSENBERG	DEMAND REDUCTION	\$1061	\$641	140	247	294	353	408	514
ROSENBERG	H	ROSENBERG GRP	H BRAZOS RUN-OF-RIVER	N/A	\$46	0	2,697	2,617	2,620	2,620	2,620
ROYAL VALLEY UTILITIES	H	MUNICIPAL CONSERVATION, ROYAL VALLEY UTILITIES	DEMAND REDUCTION	\$493	\$455	16	25	30	33	35	38
ROYAL VALLEY UTILITIES	H	NFBWA GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1772	0	97	122	121	120	118

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
ROYAL VALLEY UTILITIES	H	SUGAR LAND IWRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1356	0	174	218	217	217	217
SAGEMEADOW UD	H	MUNICIPAL CONSERVATION, SAGEMEADOW UD	DEMAND REDUCTION	\$985	\$704	23	37	43	51	60	74
SAN JACINTO SUD	H	MUNICIPAL CONSERVATION, SAN JACINTO SUD	DEMAND REDUCTION	\$1146	\$737	10	17	20	24	28	35
SAN LEON MUD	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$340	0	420	421	422	423	424
SEABROOK	H	MUNICIPAL CONSERVATION, SEABROOK	DEMAND REDUCTION	\$955	\$671	52	78	87	97	104	115
SEALY	H	MUNICIPAL CONSERVATION, SEALY	DEMAND REDUCTION	\$818	\$567	37	63	79	92	105	117
SEDONA LAKES MUD 1	H	MUNICIPAL CONSERVATION, SEDONA LAKES MUD 1	DEMAND REDUCTION	\$921	\$698	6	10	12	15	18	22
SEDONA LAKES MUD 1	H	WATER LOSS REDUCTION, SEDONA LAKES MUD 1	DEMAND REDUCTION	\$625	\$578	1	4	7	10	11	13
SEQUOIA IMPROVEMENT DISTRICT	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$2520	0	43	80	77	77	75
SEQUOIA IMPROVEMENT DISTRICT	H	MUNICIPAL CONSERVATION, SEQUOIA IMPROVEMENT DISTRICT	DEMAND REDUCTION	\$807	\$581	5	8	9	10	10	12
SEQUOIA IMPROVEMENT DISTRICT	H	WATER LOSS REDUCTION, SEQUOIA IMPROVEMENT DISTRICT	DEMAND REDUCTION	\$625	\$578	1	3	6	7	7	7
SHENANDOAH	H	MUNICIPAL CONSERVATION, SHENANDOAH	DEMAND REDUCTION	\$707	\$456	33	62	83	94	99	99
SHENANDOAH	H	NEW / EXPANDED CONTRACT WITH SJRA	H CONROE LAKE/RESERVOIR	\$18417	N/A	112	463	597	0	0	0
SHENANDOAH	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$1081	0	0	0	691	810	969
SHEPHERD	H	MUNICIPAL CONSERVATION, SHEPHERD	DEMAND REDUCTION	\$1066	\$705	10	17	20	24	28	34
SHOREACRES	H	MUNICIPAL CONSERVATION, SHOREACRES	DEMAND REDUCTION	\$674	\$568	10	13	14	16	17	20
SIENNA PLANTATION	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$192	0	3,607	3,607	3,607	3,607	3,607
SIENNA PLANTATION	H	MISSOURI CITY GRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$192	0	0	0	0	26	334
SIENNA PLANTATION	H	MISSOURI CITY GRP	H DIRECT NON-POTABLE REUSE	\$0	\$161	1,956	2,489	3,383	4,278	5,173	5,420
SIENNA PLANTATION	H	MUNICIPAL CONSERVATION, SIENNA PLANTATION	DEMAND REDUCTION	\$728	\$604	146	257	369	540	753	1,018
SODA WSC*	H	MUNICIPAL CONSERVATION, SODA WSC	DEMAND REDUCTION	\$1136	\$728	6	10	12	15	17	21
SOUTH CLEVELAND WSC	H	MUNICIPAL CONSERVATION, SOUTH CLEVELAND WSC	DEMAND REDUCTION	\$1131	\$743	8	14	17	21	25	31

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
SOUTH HOUSTON	H	MUNICIPAL CONSERVATION, SOUTH HOUSTON	DEMAND REDUCTION	\$1054	\$573	53	100	123	136	146	164
SOUTH HOUSTON	H	WATER LOSS REDUCTION, SOUTH HOUSTON	DEMAND REDUCTION	\$625	\$578	22	61	98	132	167	202
SOUTHEAST WSC	H	MUNICIPAL CONSERVATION, SOUTHEAST WSC	DEMAND REDUCTION	\$1305	\$740	10	18	21	26	30	38
SOUTHEAST WSC	H	WATER LOSS REDUCTION, SOUTHEAST WSC	DEMAND REDUCTION	\$625	\$578	3	9	15	21	28	35
SOUTHERN MONTGOMERY COUNTY MUD	H	MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	DEMAND REDUCTION	\$878	\$685	32	44	48	53	57	66
SOUTHERN MONTGOMERY COUNTY MUD	H	WATER LOSS REDUCTION, SOUTHERN MONTGOMERY COUNTY MUD	DEMAND REDUCTION	\$625	\$578	21	60	95	128	158	188
SOUTHERN WATER	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1666	0	128	214	207	203	198
SOUTHERN WATER	H	MUNICIPAL CONSERVATION, SOUTHERN WATER	DEMAND REDUCTION	\$931	\$638	14	22	25	28	30	35
SOUTHSIDE PLACE	H	MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	DEMAND REDUCTION	\$624	\$535	9	12	13	14	15	18
SOUTHWEST HARRIS COUNTY MUD 1	H	MUNICIPAL CONSERVATION, SOUTHWEST HARRIS COUNTY MUD 1	DEMAND REDUCTION	\$1128	N/A	5	8	3	0	0	0
SPLENDORA	H	MUNICIPAL CONSERVATION, SPLENDORA	DEMAND REDUCTION	\$1117	\$1007	26	45	56	76	99	151
SPLENDORA	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$895	0	43	178	359	596	898
SPLENDORA	H	WATER LOSS REDUCTION, SPLENDORA	DEMAND REDUCTION	\$625	\$578	9	26	49	77	115	165
SPRING CREEK UD	H	MUNICIPAL CONSERVATION, SPRING CREEK UD	DEMAND REDUCTION	\$1076	\$699	33	56	65	79	101	164
SPRING CREEK UD	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$357	0	916	950	1,028	1,030	1,002
SPRING MEADOWS MUD	H	MUNICIPAL CONSERVATION, SPRING MEADOWS MUD	DEMAND REDUCTION	\$1204	\$710	11	20	22	25	27	29
SPRING VALLEY	H	MUNICIPAL CONSERVATION, SPRING VALLEY	DEMAND REDUCTION	\$583	\$512	28	40	46	53	60	69
STANLEY LAKE MUD	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$1125	0	0	0	139	169	169
STANLEY LAKE MUD	H	MUNICIPAL CONSERVATION, STANLEY LAKE MUD	DEMAND REDUCTION	\$784	\$624	19	31	43	59	79	108
STANLEY LAKE MUD	H	NEW / EXPANDED CONTRACT WITH SJRA	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$2757	0	0	0	0	306	741
STEAM ELECTRIC POWER, CHAMBERS	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$598	\$373	1,387	1,387	1,387	1,387	1,387	1,387

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
STEAM ELECTRIC POWER, HARRIS	H	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	\$481	\$372	3,581	3,581	3,581	3,581	3,581	3,581
SUBURBAN UTILITY	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$2076	0	71	130	124	121	116
SUBURBAN UTILITY	H	MUNICIPAL CONSERVATION, SUBURBAN UTILITY	DEMAND REDUCTION	\$1127	\$697	12	20	21	24	26	31
SUBURBAN UTILITY	H	WATER LOSS REDUCTION, SUBURBAN UTILITY	DEMAND REDUCTION	\$625	\$578	2	5	5	5	5	5
SUGAR LAND	H	ADDITIONAL SUPPLY FROM GCWA	H BRAZOS RUN-OF-RIVER	\$0	\$0	3,410	3,419	3,429	3,438	3,447	3,456
SUGAR LAND	H	MUNICIPAL CONSERVATION, SUGAR LAND	DEMAND REDUCTION	\$631	\$502	889	1,422	1,610	1,763	2,018	2,306
SUGAR LAND	H	SUGAR LAND IWRP	DEMAND REDUCTION	N/A	\$156	0	1,266	1,322	1,322	1,322	1,322
SUGAR LAND	H	SUGAR LAND IWRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$354	0	2,518	6,956	6,956	6,956	6,956
SUGAR LAND	H	SUGAR LAND IWRP	G BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	N/A	\$354	0	5,916	5,916	5,916	5,916	5,916
SUGAR LAND	H	SUGAR LAND IWRP	H DIRECT NON-POTABLE REUSE	N/A	\$340	0	1,232	1,680	1,680	1,680	1,680
SUGAR LAND	H	WATER LOSS REDUCTION, SUGAR LAND	DEMAND REDUCTION	\$625	\$578	38	40	43	45	46	47
SUNBELT FWSD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$624	0	0	851	851	851	851
SUNBELT FWSD	H	MUNICIPAL CONSERVATION, SUNBELT FWSD	DEMAND REDUCTION	\$1119	\$664	94	167	196	241	283	365
SUNBELT FWSD	H	WATER LOSS REDUCTION, SUNBELT FWSD	DEMAND REDUCTION	\$625	\$578	19	55	87	112	118	125
SURFSIDE BEACH	H	MUNICIPAL CONSERVATION, SURFSIDE BEACH	DEMAND REDUCTION	\$563	\$496	5	8	8	9	9	10
SURFSIDE BEACH	H	SURFSIDE BEACH SUPPLY ENHANCEMENT	H BRAZOS RUN-OF-RIVER	\$450	\$36	323	323	323	323	323	323
SWEENY	H	MUNICIPAL CONSERVATION, SWEENY	DEMAND REDUCTION	\$898	\$605	16	26	29	31	32	34
T & W WATER SERVICE	H	MUNICIPAL CONSERVATION, T & W WATER SERVICE	DEMAND REDUCTION	\$571	\$613	51	81	104	137	186	308
T & W WATER SERVICE	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$659	0	587	725	1,207	1,797	2,448
TARKINGTON SUD	H	MUNICIPAL CONSERVATION, TARKINGTON SUD	DEMAND REDUCTION	\$1097	\$718	14	25	32	40	48	62
TDCJ JESTER UNITS	H	MUNICIPAL CONSERVATION, TDCJ JESTER UNITS	DEMAND REDUCTION	\$295	\$328	31	36	37	39	40	43
TDCJ JESTER UNITS	H	SUGAR LAND IWRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1458	0	398	396	394	394	394
TDCJ RAMSEY AREA	H	MUNICIPAL CONSERVATION, TDCJ RAMSEY AREA	DEMAND REDUCTION	\$136	\$184	34	36	36	37	38	39

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						2020	2030	2040	2050	2060	2070
TEMPE WSC 1	H	MUNICIPAL CONSERVATION, TEMPE WSC 1	DEMAND REDUCTION	\$1042	\$712	7	12	14	17	19	23
TEXAS CITY	H	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	H BRAZOS RUN-OF-RIVER	N/A	\$270	0	12,455	12,460	12,465	12,470	12,475
TEXAS CITY	H	MUNICIPAL CONSERVATION, TEXAS CITY	DEMAND REDUCTION	\$1022	\$632	221	381	453	548	634	793
TEXAS CITY	H	WATER LOSS REDUCTION, TEXAS CITY	DEMAND REDUCTION	\$625	\$578	80	242	404	564	725	883
THE COMMONS WATER SUPPLY	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1579	0	112	204	211	214	215
THE COMMONS WATER SUPPLY	H	MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY	DEMAND REDUCTION	\$778	\$603	12	18	20	22	25	29
THE WOODLANDS	H	MUNICIPAL CONSERVATION, THE WOODLANDS	DEMAND REDUCTION	\$1762	\$696	174	474	592	789	1,037	1,363
THE WOODLANDS	H	NHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	1,260	0	0	0	0
THE WOODLANDS	H	NHCRWA GRP	H HOUSTON LAKE/RESERVOIR	N/A	\$455	0	0	2,367	2,561	2,700	2,795
THE WOODLANDS	H	SJRA GRP	H CONROE LAKE/RESERVOIR	\$789	\$333	1,567	7,305	8,351	9,661	10,041	10,041
THE WOODLANDS	H	SJRA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$333	0	0	0	0	1,020	3,247
THUNDERBIRD UD	H	MISSOURI CITY GRP	G BRA SYSTEM OPERATIONS PERMIT SUPPLY	N/A	\$287	0	322	322	322	322	322
THUNDERBIRD UD	H	MISSOURI CITY GRP	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	N/A	\$1038	0	196	334	478	509	509
THUNDERBIRD UD	H	MUNICIPAL CONSERVATION, THUNDERBIRD UD	DEMAND REDUCTION	\$677	\$530	34	56	64	69	72	77
TOMBALL	H	MUNICIPAL CONSERVATION, TOMBALL	DEMAND REDUCTION	\$629	\$491	81	129	157	164	173	214
TOMBALL	H	NHCRWA GRP	H HOUSTON LAKE/RESERVOIR	N/A	\$464	0	846	1,546	1,594	1,666	1,710
TOMBALL	H	WATER LOSS REDUCTION, TOMBALL	DEMAND REDUCTION	\$625	\$578	23	68	112	155	169	174
TRAIL OF THE LAKES MUD	H	MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	DEMAND REDUCTION	\$883	\$644	32	48	53	59	64	75
TRAIL OF THE LAKES MUD	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	269	0	0	0	0
TRAIL OF THE LAKES MUD	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$476	0	0	1,003	999	999	994
TRINITY	H	MUNICIPAL CONSERVATION, TRINITY	DEMAND REDUCTION	\$1053	\$707	15	25	27	30	33	41
TRINITY BAY CONSERVATION DISTRICT	H	MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	DEMAND REDUCTION	\$956	\$679	68	122	164	245	331	433

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
TRINITY BAY CONSERVATION DISTRICT	H	NEW / EXPANDED CONTRACT WITH LNVA	I SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	\$5321	\$1491	342	631	955	1,286	1,658	2,041
TRINITY RURAL WSC	H	MUNICIPAL CONSERVATION, TRINITY RURAL WSC	DEMAND REDUCTION	\$858	\$630	15	23	26	29	31	38
TRINITY RURAL WSC	H	WATER LOSS REDUCTION, TRINITY RURAL WSC	DEMAND REDUCTION	\$625	\$578	3	10	16	19	19	20
VALLEY RANCH MUD 1	H	MUNICIPAL CONSERVATION, VALLEY RANCH MUD 1	DEMAND REDUCTION	\$1099	\$733	7	12	17	20	22	26
VARNER CREEK UD	H	MUNICIPAL CONSERVATION, VARNER CREEK UD	DEMAND REDUCTION	\$1110	\$669	7	12	13	14	14	17
VARNER CREEK UD	H	WATER LOSS REDUCTION, VARNER CREEK UD	DEMAND REDUCTION	\$625	\$578	1	2	2	2	2	2
WALKER COUNTY RURAL SUD	H	MUNICIPAL CONSERVATION, WALKER COUNTY RURAL SUD	DEMAND REDUCTION	\$854	\$641	31	47	53	61	68	80
WALKER COUNTY RURAL SUD	H	WATER LOSS REDUCTION, WALKER COUNTY RURAL SUD	DEMAND REDUCTION	\$625	\$578	14	39	63	87	109	131
WALLER	H	MUNICIPAL CONSERVATION, WALLER	DEMAND REDUCTION	\$1141	\$644	15	29	37	42	46	50
WALLER	H	WATER LOSS REDUCTION, WALLER	DEMAND REDUCTION	\$625	\$578	5	13	22	32	42	54
WALLIS	H	MUNICIPAL CONSERVATION, WALLIS	DEMAND REDUCTION	\$1128	\$700	5	9	10	12	14	18
WALLIS	H	WATER LOSS REDUCTION, WALLIS	DEMAND REDUCTION	\$625	\$578	1	4	6	9	11	13
WATERWOOD MUD 1	H	MUNICIPAL CONSERVATION, WATERWOOD MUD 1	DEMAND REDUCTION	\$493	\$459	3	4	5	5	6	7
WEBSTER	H	MUNICIPAL CONSERVATION, WEBSTER	DEMAND REDUCTION	\$501	\$426	81	112	149	165	173	171
WEBSTER	H	SOUTHEAST TRANSMISSION LINE EXPANSION	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$126	0	90	90	90	90	90
WEST COLUMBIA	H	MUNICIPAL CONSERVATION, WEST COLUMBIA	DEMAND REDUCTION	\$1167	\$715	16	26	29	33	36	43
WEST END WSC*	H	MUNICIPAL CONSERVATION, WEST END WSC	DEMAND REDUCTION	\$955	\$650	6	10	12	14	17	22
WEST HARRIS COUNTY MUD 6	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$1613	0	109	192	199	205	208
WEST HARRIS COUNTY MUD 6	H	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	DEMAND REDUCTION	\$693	\$607	9	12	13	13	14	16
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	DEMAND REDUCTION	\$878	\$601	2,061	3,383	4,104	5,048	5,634	6,881
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	H DIRECT NON-POTABLE REUSE	N/A	\$339	0	245	600	962	1,087	1,197
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WHCRWA GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	\$420	0	0	78	80	71	67

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Region H Recommended Water User Group (WUG) Water Management Strategies (WMS)

WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
						2020	2030	2040	2050	2060	2070
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WHCRWA GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$447	0	72,001	71,223	58,389	56,339	53,438
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	WHCRWA GRP	H SAN JACINTO INDIRECT REUSE	N/A	\$502	0	15,844	21,065	33,899	35,949	38,850
WEST UNIVERSITY PLACE	H	MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	DEMAND REDUCTION	\$863	\$625	91	149	176	219	274	343
WESTWOOD NORTH WSC	H	MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	DEMAND REDUCTION	\$750	\$599	14	20	24	29	33	39
WESTWOOD NORTH WSC	H	SJRA GRP	H CONROE LAKE/RESERVOIR	N/A	\$377	0	419	464	511	525	587
WESTWOOD SHORES MUD	H	MUNICIPAL CONSERVATION, WESTWOOD SHORES MUD	DEMAND REDUCTION	\$1133	\$734	6	10	11	12	14	17
WESTWOOD SHORES MUD	H	WESTWOOD SHORES MUD REUSE	H DIRECT NON-POTABLE REUSE	\$1921	\$968	150	150	150	150	150	150
WHITE OAK UTILITIES	H	MUNICIPAL CONSERVATION, WHITE OAK UTILITIES	DEMAND REDUCTION	\$1370	\$745	5	11	13	15	16	19
WHITE OAK WSC	H	MUNICIPAL CONSERVATION, WHITE OAK WSC	DEMAND REDUCTION	\$905	\$675	3	5	6	7	7	8
WHITE OAK WSC	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$250	0	9	6	5	4	4
WILLIS	H	BRACKISH GROUNDWATER SUPPLIES	H GULF COAST AQUIFER SYSTEM BRACKISH MONTGOMERY COUNTY	N/A	\$882	0	9	62	148	276	458
WILLIS	H	MUNICIPAL CONSERVATION, WILLIS	DEMAND REDUCTION	\$800	\$651	26	38	43	52	61	81
WOOD BRANCH VILLAGE	H	MUNICIPAL CONSERVATION, WOOD BRANCH VILLAGE	DEMAND REDUCTION	\$1263	N/A	4	5	0	0	0	0
WOOD BRANCH VILLAGE	H	SJRA GRP	H GULF COAST AQUIFER SYSTEM MONTGOMERY COUNTY	N/A	\$2020	0	0	0	17	46	83
WOODCREEK MUD	H	CITY OF HOUSTON GRP	H GULF COAST AQUIFER SYSTEM HARRIS COUNTY	N/A	N/A	0	96	0	0	0	0
WOODCREEK MUD	H	CITY OF HOUSTON GRP	H LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	N/A	\$689	0	0	285	282	281	282
WOODCREEK MUD	H	MUNICIPAL CONSERVATION, WOODCREEK MUD	DEMAND REDUCTION	\$806	\$616	11	16	17	19	21	24
WOODCREEK WATER OF LIBERTY	H	EXPANDED USE OF GROUNDWATER, LIBERTY COUNTY	H GULF COAST AQUIFER SYSTEM LIBERTY COUNTY	N/A	\$1469	0	100	100	100	100	100
WOODCREEK WATER OF LIBERTY	H	MUNICIPAL CONSERVATION, WOODCREEK WATER OF LIBERTY	DEMAND REDUCTION	\$1085	\$711	10	17	20	25	29	37
REGION H RECOMMENDED WMS SUPPLY TOTAL						251,441	977,621	1,412,373	1,725,428	1,845,447	1,942,094

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Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
ALVIN	NO	2020	MUNICIPAL CONSERVATION, ALVIN	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$9,158,458
ANAHUAC	NO	2020	MUNICIPAL CONSERVATION, ANAHUAC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$551,746
ANAHUAC	NO	2020	WATER LOSS REDUCTION, ANAHUAC	WATER LOSS CONTROL	\$477,688
ANGLETON	NO	2020	MUNICIPAL CONSERVATION, ANGLETON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$5,502,411
ANGLETON	NO	2020	WATER LOSS REDUCTION, ANGLETON	WATER LOSS CONTROL	\$1,862,486
ANGLETON	NO	2030	WUG INFRASTRUCTURE EXPANSION - ANGLETON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
AUSTIN COUNTY WSC	NO	2020	MUNICIPAL CONSERVATION, AUSTIN COUNTY WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$922,575
AUSTIN COUNTY WSC	NO	2020	WATER LOSS REDUCTION, AUSTIN COUNTY WSC	WATER LOSS CONTROL	\$148,612
BACLIFF MUD	NO	2020	MUNICIPAL CONSERVATION, BACLIFF MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$443,750
BACLIFF MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - BACLIFF MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
BAKER ROAD MUD	NO	2020	MUNICIPAL CONSERVATION, BAKER ROAD MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$263,767
BAKER ROAD MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BAKER ROAD MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,639,722
BAYBROOK MUD 1	NO	2020	MUNICIPAL CONSERVATION, BAYBROOK MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$324,275
BAYBROOK MUD 1	NO	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$7,625,345
BAYBROOK MUD 1	NO	2020	WATER LOSS REDUCTION, BAYBROOK MUD 1	WATER LOSS CONTROL	\$196,842
BAYTOWN	YES	2020	MUNICIPAL CONSERVATION, BAYTOWN	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$20,436,770
BAYTOWN	YES	2020	WATER LOSS REDUCTION, BAYTOWN	WATER LOSS CONTROL	\$5,485,688
BAYVIEW MUD	NO	2020	MUNICIPAL CONSERVATION, BAYVIEW MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$482,092
BAYVIEW MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - BAYVIEW MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
BELLAIRE	NO	2020	MUNICIPAL CONSERVATION, BELLAIRE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$7,076,965
BELLVILLE	NO	2020	MUNICIPAL CONSERVATION, BELLVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,808,810
BLUE BELL MANOR UTILITY	NO	2020	MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$665,137
BLUE BELL MANOR UTILITY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,971,114
BLUE RIDGE WEST MUD	NO	2020	MUNICIPAL CONSERVATION, BLUE RIDGE WEST MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,539,531
BLUE RIDGE WEST MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - BLUE RIDGE WEST MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
BLUE RIDGE WEST MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE RIDGE WEST MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,656,610
BOLIVAR PENINSULA SUD	NO	2020	WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	WATER LOSS CONTROL	\$414,444
BRAZORIA	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$880,091
BRAZORIA COUNTY MUD 2	YES	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$823,243
BRAZORIA COUNTY MUD 2	YES	2020	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD 2	WATER LOSS CONTROL	\$2,807,512
BRAZORIA COUNTY MUD 21	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 21	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,211,090
BRAZORIA COUNTY MUD 25	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 25	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$859,056

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
BRAZORIA COUNTY MUD 25	NO	2030	WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 25	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
BRAZORIA COUNTY MUD 29	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 29	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,665,603
BRAZORIA COUNTY MUD 29	NO	2030	WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 29	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
BRAZORIA COUNTY MUD 3	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 3	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$908,127
BRAZORIA COUNTY MUD 31	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 31	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,044,855
BRAZORIA COUNTY MUD 6	NO	2020	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 6	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,094,213
BRAZOS RIVER AUTHORITY	YES	2040	ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION	\$109,633,890
BRAZOSPORT WATER AUTHORITY	YES	2030	BWA BRACKISH GROUNDWATER DEVELOPMENT	MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT	\$33,246,167
BRAZOSPORT WATER AUTHORITY	YES	2030	BWA CONVENTIONAL TREATMENT EXPANSION	WATER TREATMENT PLANT EXPANSION	\$19,085,165
BRAZOSPORT WATER AUTHORITY	YES	2030	BWA TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE	\$77,755,692
BRAZOSPORT WATER AUTHORITY	YES	2030	DOW RESERVOIR AND PUMP STATION EXPANSION	PUMP STATION; RESERVOIR CONSTRUCTION; SURFACE WATER INTAKE MODIFICATION	\$350,000,000
BROOKSHIRE MWD	NO	2020	MUNICIPAL CONSERVATION, BROOKSHIRE MWD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,374,269
BROOKSHIRE MWD	NO	2020	WATER LOSS REDUCTION, BROOKSHIRE MWD	WATER LOSS CONTROL	\$1,566,564
BUFFALO	NO	2020	MUNICIPAL CONSERVATION, BUFFALO	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$624,950
BUFFALO	NO	2020	WATER LOSS REDUCTION, BUFFALO	WATER LOSS CONTROL	\$527,570
BUNKER HILL VILLAGE	NO	2020	MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,055,808
CAPE ROYALE UD	NO	2020	MUNICIPAL CONSERVATION, CAPE ROYALE UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$550,180
CAPE ROYALE UD	NO	2020	WATER LOSS REDUCTION, CAPE ROYALE UD	WATER LOSS CONTROL	\$271,092
CENTERVILLE	NO	2020	MUNICIPAL CONSERVATION, CENTERVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$593,213
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2030	CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	CONVEYANCE/TRANSMISSION PIPELINE	\$17,202,167
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2030	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION	\$26,588,846
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2030	COH, NHCRWA, AND CHCRWA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE	\$12,962,627
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2020	MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$13,212,771
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$1,185,366
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	NO	2030	WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
CHAMBERS COUNTY MUD 1	NO	2020	MUNICIPAL CONSERVATION, CHAMBERS COUNTY MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$875,945
CHATEAU WOODS MUD	NO	2020	MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$685,178
CHIMNEY HILL MUD	NO	2020	MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,131,187
CLEAR BROOK CITY MUD	NO	2020	MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$5,251,696
CLEAR LAKE CITY WATER AUTHORITY	YES	2020	MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$19,115,857

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
CLEAR LAKE CITY WATER AUTHORITY	YES	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$9,531,151
CLEAR LAKE CITY WATER AUTHORITY	YES	2020	WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	WATER LOSS CONTROL	\$8,789,400
CLEVELAND	NO	2020	MUNICIPAL CONSERVATION, CLEVELAND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,888,402
CLEVELAND	NO	2020	WATER LOSS REDUCTION, CLEVELAND	WATER LOSS CONTROL	\$1,861,664
CLUTE	NO	2020	MUNICIPAL CONSERVATION, CLUTE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,459,986
CONCORD-ROBBINS WSC	NO	2020	MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$291,400
CONROE	YES	2020	MUNICIPAL CONSERVATION, CONROE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$24,823,603
CONROE	YES	2030	WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
CONROE	YES	2050	WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
CORINTHIAN POINT MUD 2	NO	2020	MUNICIPAL CONSERVATION, CORINTHIAN POINT MUD 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$312,033
CORINTHIAN POINT MUD 2	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CORINTHIAN POINT MUD 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,639,722
COUNTRY TERRACE WATER	NO	2020	MUNICIPAL CONSERVATION, COUNTRY TERRACE WATER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$412,853
COUNTY-OTHER, AUSTIN	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, AUSTIN	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$6,096,913
COUNTY-OTHER, AUSTIN	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, AUSTIN	WATER LOSS CONTROL	\$4,035,700
COUNTY-OTHER, AUSTIN	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 1	MULTIPLE WELLS/WELL FIELD	\$3,441,360
COUNTY-OTHER, AUSTIN	NO	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 2	MULTIPLE WELLS/WELL FIELD	\$4,258,013
COUNTY-OTHER, AUSTIN	NO	2070	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 3	MULTIPLE WELLS/WELL FIELD	\$3,611,806
COUNTY-OTHER, AUSTIN	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	MULTIPLE WELLS/WELL FIELD	\$2,438,190
COUNTY-OTHER, AUSTIN	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	MULTIPLE WELLS/WELL FIELD	\$2,619,463
COUNTY-OTHER, BRAZORIA	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, BRAZORIA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$41,728,911
COUNTY-OTHER, BRAZORIA	NO	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	\$15,708,984
COUNTY-OTHER, BRAZORIA	NO	2070	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
COUNTY-OTHER, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B-C)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,941,462
COUNTY-OTHER, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
COUNTY-OTHER, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SJB) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
COUNTY-OTHER, BRAZORIA	NO	2050	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SJB) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
COUNTY-OTHER, BRAZORIA	NO	2060	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (BRA CUSTOMERS)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
COUNTY-OTHER, BRAZORIA	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (SJ-B)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
COUNTY-OTHER, CHAMBERS	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, CHAMBERS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,974,809
COUNTY-OTHER, FORT BEND	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, FORT BEND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$52,235,580

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
COUNTY-OTHER, FORT BEND	NO	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$19,636,871
COUNTY-OTHER, FORT BEND	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (B)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,234,868
COUNTY-OTHER, FORT BEND	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
COUNTY-OTHER, FORT BEND	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,181,277
COUNTY-OTHER, FORT BEND	NO	2050	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
COUNTY-OTHER, FORT BEND	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (RICHMOND GRP PARTICIPANTS)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,438,190
COUNTY-OTHER, FORT BEND	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,736,107
COUNTY-OTHER, FORT BEND	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,249,858
COUNTY-OTHER, FORT BEND	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 1	MULTIPLE WELLS/WELL FIELD	\$10,797,073
COUNTY-OTHER, FORT BEND	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 2	MULTIPLE WELLS/WELL FIELD	\$21,793,514
COUNTY-OTHER, FORT BEND	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$14,533,180
COUNTY-OTHER, GALVESTON	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, GALVESTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,393,819
COUNTY-OTHER, GALVESTON	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON (SJ-B)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$22,350,770
COUNTY-OTHER, HARRIS	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, HARRIS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$33,280,639
COUNTY-OTHER, HARRIS	NO	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$9,659,892
COUNTY-OTHER, HARRIS	NO	2040	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS (COH GRP PARTICIPANTS)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
COUNTY-OTHER, HARRIS	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
COUNTY-OTHER, HARRIS	NO	2060	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,234,868
COUNTY-OTHER, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
COUNTY-OTHER, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
COUNTY-OTHER, HARRIS	NO	2050	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
COUNTY-OTHER, HARRIS	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$10,797,073
COUNTY-OTHER, HARRIS	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$6,701,048
COUNTY-OTHER, LEON	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, LEON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$602,069
COUNTY-OTHER, LEON	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, LEON	WATER LOSS CONTROL	\$332,846
COUNTY-OTHER, LIBERTY	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, LIBERTY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$9,389,886
COUNTY-OTHER, LIBERTY	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, LIBERTY	WATER LOSS CONTROL	\$8,518,966

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
COUNTY-OTHER, MADISON	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, MADISON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,004,737
COUNTY-OTHER, MADISON	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, MADISON	WATER LOSS CONTROL	\$2,419,194
COUNTY-OTHER, MONTGOMERY	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, MONTGOMERY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$102,431,548
COUNTY-OTHER, MONTGOMERY	NO	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$61,122,692
COUNTY-OTHER, MONTGOMERY	NO	2040	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$135,200,904
COUNTY-OTHER, MONTGOMERY	NO	2050	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$182,942,688
COUNTY-OTHER, MONTGOMERY	NO	2060	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 3	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$226,672,248
COUNTY-OTHER, MONTGOMERY	NO	2070	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 4	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$195,769,996
COUNTY-OTHER, MONTGOMERY	NO	2030	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJRA GRP PARTICIPANTS)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383
COUNTY-OTHER, MONTGOMERY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY (SJRA GRP PARTICIPANTS)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$43,587,028
COUNTY-OTHER, POLK	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, POLK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,754,828
COUNTY-OTHER, POLK	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, POLK	WATER LOSS CONTROL	\$1,006,838
COUNTY-OTHER, SAN JACINTO	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, SAN JACINTO	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,586,962
COUNTY-OTHER, SAN JACINTO	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, SAN JACINTO	WATER LOSS CONTROL	\$1,169,018
COUNTY-OTHER, WALKER	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, WALKER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,386,395
COUNTY-OTHER, WALLER	NO	2020	MUNICIPAL CONSERVATION, COUNTY-OTHER, WALLER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$7,575,420
COUNTY-OTHER, WALLER	NO	2020	WATER LOSS REDUCTION, COUNTY-OTHER, WALLER	WATER LOSS CONTROL	\$1,069,898
COUNTY-OTHER, WALLER	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,611,806
COUNTY-OTHER, WALLER	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,922,350
COUNTY-OTHER, WALLER	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 3	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$4,258,013
COUNTY-OTHER, WALLER	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,922,350
COUNTY-OTHER, WALLER	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,736,107
COUNTY-OTHER, WALLER	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 3	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$4,126,156
CROSBY MUD	YES	2020	MUNICIPAL CONSERVATION, CROSBY MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$696,747
CROSBY MUD	YES	2020	WATER LOSS REDUCTION, CROSBY MUD	WATER LOSS CONTROL	\$483,816
CUT & SHOOT	NO	2020	MUNICIPAL CONSERVATION, CUT AND SHOOT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,304,038
CUT & SHOOT	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CUT AND SHOOT	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,971,114
DAISETTA	NO	2020	MUNICIPAL CONSERVATION, DAISETTA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$325,959

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
DANBURY	NO	2020	MUNICIPAL CONSERVATION, DANBURY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$417,428
DAYTON	NO	2020	MUNICIPAL CONSERVATION, DAYTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$4,833,472
DEER PARK	NO	2020	MUNICIPAL CONSERVATION, DEER PARK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$11,227,591
DEER PARK	NO	2020	WATER LOSS REDUCTION, DEER PARK	WATER LOSS CONTROL	\$7,383,436
DEVERS	NO	2020	MUNICIPAL CONSERVATION, DEVERS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$222,301
DOBBIN PLANTERSVILLE WSC	NO	2020	MUNICIPAL CONSERVATION, DOBBIN PLANTERSVILLE WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$4,024,611
DOBBIN PLANTERSVILLE WSC	NO	2020	WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$10,531,344
DOBBIN PLANTERSVILLE WSC	NO	2050	WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$16,729,502
DODGE OAKHURST WSC	NO	2020	MUNICIPAL CONSERVATION, DODGE OAKHURST WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$433,549
DOMESTIC WATER	NO	2020	MUNICIPAL CONSERVATION, DOMESTIC WATER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$553,116
DOMESTIC WATER	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOMESTIC WATER	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
DOUGLAS UTILITY	NO	2020	MUNICIPAL CONSERVATION, DOUGLAS UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$267,845
DOUGLAS UTILITY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOUGLAS UTILITY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
DOW INC.	YES	2040	BRAZOS SALTWATER BARRIER	SALTWATER BARRIER	\$67,552,043
DOW INC.	YES	2030	DOW RESERVOIR AND PUMP STATION EXPANSION	PUMP STATION; RESERVOIR CONSTRUCTION; SURFACE WATER INTAKE MODIFICATION	\$0
DOW INC.	YES	2040	FREEPORT SEAWATER DESALINATION	NEW WATER TREATMENT PLANT; CONVEYANCE/TRANSMISSION PIPELINE	\$155,877,822
EAST PLANTATION UD	NO	2020	MUNICIPAL CONSERVATION, EAST PLANTATION UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$501,373
EL DORADO UD	NO	2020	MUNICIPAL CONSERVATION, EL DORADO UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$719,479
EL DORADO UD	NO	2020	WATER LOSS REDUCTION, EL DORADO UD	WATER LOSS CONTROL	\$363,044
EL DORADO UD	NO	2040	WUG INFRASTRUCTURE EXPANSION - EL DORADO UD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348
FAR HILLS UD	NO	2020	MUNICIPAL CONSERVATION, FAR HILLS UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$506,584
FAR HILLS UD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FAR HILLS UD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
FIRST COLONY MUD 9	NO	2020	MUNICIPAL CONSERVATION, FIRST COLONY MUD 9	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,841,255
FIRST COLONY MUD 9	NO	2030	WUG INFRASTRUCTURE EXPANSION - FIRST COLONY MUD 9	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
FIRST COLONY MUD 9	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FIRST COLONY MUD 9	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,710,267
FLO COMMUNITY WSC	NO	2020	MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$767,401
FLO COMMUNITY WSC	NO	2020	WATER LOSS REDUCTION, FLO COMMUNITY WSC	WATER LOSS CONTROL	\$1,024,682
FOREST HILLS MUD	NO	2020	MUNICIPAL CONSERVATION, FOREST HILLS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$524,989
FOREST HILLS MUD	NO	2020	WATER LOSS REDUCTION, FOREST HILLS MUD	WATER LOSS CONTROL	\$369,452
FOREST HILLS MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - FOREST HILLS MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
FORT BEND COUNTY FWSD 1	NO	2020	WATER LOSS REDUCTION, FORT BEND COUNTY FWSD 1	WATER LOSS CONTROL	\$255,490
FORT BEND COUNTY FWSD 1	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
FORT BEND COUNTY FWSD 2	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY FWSD 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$727,898
FORT BEND COUNTY FWSD 2	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,867,909
FORT BEND COUNTY MUD 115	YES	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$372,829
FORT BEND COUNTY MUD 115	YES	2020	WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	WATER LOSS CONTROL	\$743,632
FORT BEND COUNTY MUD 115	YES	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 115	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
FORT BEND COUNTY MUD 116	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 116	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,316,313
FORT BEND COUNTY MUD 116	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,302,385
FORT BEND COUNTY MUD 116	NO	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,867,909
FORT BEND COUNTY MUD 121	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 121	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$667,197
FORT BEND COUNTY MUD 121	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
FORT BEND COUNTY MUD 128	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$780,546
FORT BEND COUNTY MUD 128	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 128	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$10,439,739
FORT BEND COUNTY MUD 129	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$854,414
FORT BEND COUNTY MUD 129	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 129	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
FORT BEND COUNTY MUD 140	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 140	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$461,403
FORT BEND COUNTY MUD 140	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 140	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
FORT BEND COUNTY MUD 149	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,015,781
FORT BEND COUNTY MUD 149	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 149	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 152	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 152	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$501,262
FORT BEND COUNTY MUD 152	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 152	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
FORT BEND COUNTY MUD 155	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 155	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,141,173
FORT BEND COUNTY MUD 155	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 155	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 158	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$654,285
FORT BEND COUNTY MUD 158	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 158	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 162	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$869,534
FORT BEND COUNTY MUD 162	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 162	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,639,722

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
FORT BEND COUNTY MUD 187	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 187	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$613,870
FORT BEND COUNTY MUD 187	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 187	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 23	YES	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 23	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,045,122
FORT BEND COUNTY MUD 23	YES	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 23	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
FORT BEND COUNTY MUD 23	YES	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 23	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,710,267
FORT BEND COUNTY MUD 24	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 24	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$643,907
FORT BEND COUNTY MUD 24	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 24	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
FORT BEND COUNTY MUD 24	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 24	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
FORT BEND COUNTY MUD 25	NO	2030	FORT BEND MUD 25 GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$26,718,250
FORT BEND COUNTY MUD 25	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 25	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,692,798
FORT BEND COUNTY MUD 26	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 26	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,341,630
FORT BEND COUNTY MUD 26	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 26	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 26	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 26	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,656,610
FORT BEND COUNTY MUD 42	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 42	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,160,139
FORT BEND COUNTY MUD 42	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 42	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
FORT BEND COUNTY MUD 42	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 42	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,971,114
FORT BEND COUNTY MUD 46	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 46	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$757,086
FORT BEND COUNTY MUD 46	NO	2040	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 46	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
FORT BEND COUNTY MUD 47	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 47	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$484,464
FORT BEND COUNTY MUD 47	NO	2040	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 47	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
FORT BEND COUNTY MUD 48	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 48	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$722,151
FORT BEND COUNTY MUD 48	NO	2030	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 48	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 49	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 49	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$286,729
FORT BEND COUNTY MUD 49	NO	2020	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 49	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
FORT BEND COUNTY MUD 5	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 5	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$813,007
FORT BEND COUNTY MUD 5	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 5	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,514,472
FORT BEND COUNTY MUD 81	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 81	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$881,584
FORT BEND COUNTY MUD 81	NO	2020	WATER LOSS REDUCTION, FORT BEND COUNTY MUD 81	WATER LOSS CONTROL	\$1,040,860
FORT BEND COUNTY WCID 2	YES	2030	FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$31,767,983

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
FORT BEND COUNTY WCID 2	YES	2040	FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$31,767,983
FORT BEND COUNTY WCID 2	YES	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$12,603,207
FORT BEND COUNTY WCID 2	YES	2020	WATER LOSS REDUCTION, FORT BEND COUNTY WCID 2	WATER LOSS CONTROL	\$5,695,680
FORT BEND COUNTY WCID 3	NO	2020	MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 3	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$173,630
FORT BEND COUNTY WCID 3	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY WCID 3	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,232,657
FREEPORT	YES	2020	MUNICIPAL CONSERVATION, FREEPORT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,395,490
FRIENDSWOOD	NO	2020	MUNICIPAL CONSERVATION, FRIENDSWOOD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$14,598,439
FRIENDSWOOD	NO	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$12,644,220
FRIENDSWOOD	NO	2020	WATER LOSS REDUCTION, FRIENDSWOOD	WATER LOSS CONTROL	\$9,832,174
FULSHEAR	NO	2020	MUNICIPAL CONSERVATION, FULSHEAR	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$6,645,648
FULSHEAR	NO	2030	WUG INFRASTRUCTURE EXPANSION - FULSHEAR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
G & W WSC	NO	2020	MUNICIPAL CONSERVATION, G & W WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,500,104
G & W WSC	NO	2020	WATER LOSS REDUCTION, G & W WSC	WATER LOSS CONTROL	\$669,858
G & W WSC	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - G & W WSC (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,656,610
GALENA PARK	YES	2020	MUNICIPAL CONSERVATION, GALENA PARK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$778,850
GALVESTON	YES	2020	MUNICIPAL CONSERVATION, GALVESTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$23,845,085
GALVESTON	YES	2020	WATER LOSS REDUCTION, GALVESTON	WATER LOSS CONTROL	\$49,732,012
GALVESTON	YES	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$27,394,984
GALVESTON COUNTY FWSD 6	NO	2020	MUNICIPAL CONSERVATION, GALVESTON COUNTY FWSD 6	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$660,142
GALVESTON COUNTY FWSD 6	NO	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY FWSD 6	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
GALVESTON COUNTY MUD 12	NO	2020	MUNICIPAL CONSERVATION, GALVESTON COUNTY MUD 12	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$843,197
GALVESTON COUNTY MUD 12	NO	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY MUD 12	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
GALVESTON COUNTY WCID 1	YES	2020	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$8,749,682
GALVESTON COUNTY WCID 1	YES	2020	WATER LOSS REDUCTION, GALVESTON COUNTY WCID 1	WATER LOSS CONTROL	\$4,300,622
GALVESTON COUNTY WCID 1	YES	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
GALVESTON COUNTY WCID 12	NO	2020	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 12	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,940,157
GALVESTON COUNTY WCID 12	NO	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 12	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
GALVESTON COUNTY WCID 8	NO	2020	MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 8	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,351,775
GALVESTON COUNTY WCID 8	NO	2020	WATER LOSS REDUCTION, GALVESTON COUNTY WCID 8	WATER LOSS CONTROL	\$2,130,160
GALVESTON COUNTY WCID 8	NO	2030	WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 8	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
GLENDALE WSC	NO	2020	MUNICIPAL CONSERVATION, GLENDALE WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$310,753
GREEN TRAILS MUD	NO	2020	MUNICIPAL CONSERVATION, GREEN TRAILS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$531,758

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
GREEN TRAILS MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,475,822
GREENWOOD UD	NO	2020	MUNICIPAL CONSERVATION, GREENWOOD UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,033,036
GREENWOOD UD	NO	2020	WATER LOSS REDUCTION, GREENWOOD UD	WATER LOSS CONTROL	\$1,699,188
GROVETON	NO	2020	GROVETON WELL DEVELOPMENT	CONVEYANCE/TRANSMISSION PIPELINE; SINGLE WELL	\$2,211,952
GROVETON	NO	2020	MUNICIPAL CONSERVATION, GROVETON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$221,313
GROVETON	NO	2020	WATER LOSS REDUCTION, GROVETON	WATER LOSS CONTROL	\$124,064
GULF COAST WATER AUTHORITY	YES	2030	GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$90,746,960
GULF COAST WATER AUTHORITY	YES	2040	GCWA BACKUP WELL DEVELOPMENT	MULTIPLE WELLS/WELL FIELD	\$1,346,492
GULF COAST WATER AUTHORITY	YES	2020	GCWA INDUSTRIAL RAW WATER LINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT	\$45,110,104
GULF COAST WATER AUTHORITY	YES	2030	GCWA SHANNON PUMP STATION EXPANSION	PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT	\$65,801,381
GULF COAST WATER AUTHORITY	YES	2030	GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	NEW WATER TREATMENT PLANT; WATER RIGHT/PERMIT AMENDMENT NO IBT	\$167,919,105
GULF COAST WATER AUTHORITY	YES	2030	SEWPP ADDITIONAL MODULE	WATER TREATMENT PLANT EXPANSION	\$97,597,266
GULF COAST WATER AUTHORITY	YES	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$53,117,789
GULF UTILITY	NO	2020	MUNICIPAL CONSERVATION, GULF UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,062,643
HARDIN WSC	NO	2020	MUNICIPAL CONSERVATION, HARDIN WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,848,734
HARRIS COUNTY FWSD 1-A	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 1-A	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$502,670
HARRIS COUNTY FWSD 1-A	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY FWSD 1-A	WATER LOSS CONTROL	\$403,944
HARRIS COUNTY FWSD 27	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 27	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$423,459
HARRIS COUNTY FWSD 58	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 58	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$459,976
HARRIS COUNTY FWSD 58	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY FWSD 58	WATER LOSS CONTROL	\$79,994
HARRIS COUNTY FWSD 58	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY FWSD 58	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,354,239
HARRIS COUNTY MUD 106	YES	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 106	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$834,843
HARRIS COUNTY MUD 106	YES	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 106	WATER LOSS CONTROL	\$1,632,142
HARRIS COUNTY MUD 106	YES	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 106	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,941,462
HARRIS COUNTY MUD 11	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 11	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$794,241
HARRIS COUNTY MUD 11	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 11	WATER LOSS CONTROL	\$30,798
HARRIS COUNTY MUD 11	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 11	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348
HARRIS COUNTY MUD 119	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 119	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,337,662
HARRIS COUNTY MUD 119	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 119	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,439,739
HARRIS COUNTY MUD 122	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 122	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$363,203

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
HARRIS COUNTY MUD 122	NO	2020	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 122	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
HARRIS COUNTY MUD 132	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 132	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,411,667
HARRIS COUNTY MUD 132	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 132	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,734,155
HARRIS COUNTY MUD 148	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 148	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$724,913
HARRIS COUNTY MUD 151	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 151	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,414,243
HARRIS COUNTY MUD 151	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 151	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,734,155
HARRIS COUNTY MUD 152	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 152	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,605,807
HARRIS COUNTY MUD 152	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 152	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,760,392
HARRIS COUNTY MUD 153	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 153	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,659,589
HARRIS COUNTY MUD 153	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 153	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,710,267
HARRIS COUNTY MUD 154	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 154	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,615,878
HARRIS COUNTY MUD 154	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 154	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,707,918
HARRIS COUNTY MUD 158	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 158	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,329,396
HARRIS COUNTY MUD 180	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 180	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,033,945
HARRIS COUNTY MUD 180	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 180	WATER LOSS CONTROL	\$656,498
HARRIS COUNTY MUD 180	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 180	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,232,657
HARRIS COUNTY MUD 189	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 189	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$414,976
HARRIS COUNTY MUD 189	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 189	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,289,100
HARRIS COUNTY MUD 216	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 216	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$296,293
HARRIS COUNTY MUD 216	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 216	WATER LOSS CONTROL	\$229,162
HARRIS COUNTY MUD 216	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 216	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
HARRIS COUNTY MUD 221	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 221	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$956,227
HARRIS COUNTY MUD 221	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 221	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,289,100
HARRIS COUNTY MUD 23	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 23	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$711,142
HARRIS COUNTY MUD 278	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 278	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,073,353
HARRIS COUNTY MUD 278	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 278	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
HARRIS COUNTY MUD 290	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 290	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,859,607
HARRIS COUNTY MUD 290	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 290	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,531,772
HARRIS COUNTY MUD 321	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 321	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$519,460
HARRIS COUNTY MUD 342	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 342	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$725,230

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
HARRIS COUNTY MUD 344	YES	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 344	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$939,967
HARRIS COUNTY MUD 345	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 345	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$881,421
HARRIS COUNTY MUD 345	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 345	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,971,114
HARRIS COUNTY MUD 36	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 36	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$270,358
HARRIS COUNTY MUD 36	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 36	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348
HARRIS COUNTY MUD 361	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 361	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$860,548
HARRIS COUNTY MUD 372	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 372	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$877,602
HARRIS COUNTY MUD 400	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 400	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,345,326
HARRIS COUNTY MUD 400	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 400	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$8,357,842
HARRIS COUNTY MUD 412	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 412	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$867,134
HARRIS COUNTY MUD 412	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 412	WATER LOSS CONTROL	\$642,432
HARRIS COUNTY MUD 420	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 420	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$357,369
HARRIS COUNTY MUD 46	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 46	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$760,176
HARRIS COUNTY MUD 46	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 46	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,475,383
HARRIS COUNTY MUD 49	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 49	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,495,295
HARRIS COUNTY MUD 5	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 5	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,291,089
HARRIS COUNTY MUD 5	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 5	WATER LOSS CONTROL	\$480,908
HARRIS COUNTY MUD 50	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 50	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$849,066
HARRIS COUNTY MUD 50	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 50	WATER LOSS CONTROL	\$781,538
HARRIS COUNTY MUD 55	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 55	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$4,204,948
HARRIS COUNTY MUD 55	NO	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$9,246,023
HARRIS COUNTY MUD 55	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY MUD 55	WATER LOSS CONTROL	\$739,672
HARRIS COUNTY MUD 58	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 58	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$261,523
HARRIS COUNTY MUD 58	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 58	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,639,722
HARRIS COUNTY MUD 6	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 6	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$846,222
HARRIS COUNTY MUD 6	NO	2030	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 6	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
HARRIS COUNTY MUD 8	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 8	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$544,419
HARRIS COUNTY MUD 96	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 96	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,591,503
HARRIS COUNTY UD 14	YES	2020	WATER LOSS REDUCTION, HARRIS COUNTY UD 14	WATER LOSS CONTROL	\$450,426
HARRIS COUNTY UD 14	YES	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 14	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
HARRIS COUNTY UD 15	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY UD 15	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$765,332
HARRIS COUNTY UD 15	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 15	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,439,739
HARRIS COUNTY WCID 1	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,532,752
HARRIS COUNTY WCID 1	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY WCID 1	WATER LOSS CONTROL	\$1,161,412
HARRIS COUNTY WCID 133	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 133	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$995,379
HARRIS COUNTY WCID 133	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 133	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,475,383
HARRIS COUNTY WCID 156	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 156	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$293,775
HARRIS COUNTY WCID 50	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 50	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$918,862
HARRIS COUNTY WCID 70	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 70	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$460,540
HARRIS COUNTY WCID 70	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY WCID 70	WATER LOSS CONTROL	\$359,774
HARRIS COUNTY WCID 70	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID 70	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
HARRIS COUNTY WCID 74	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 74	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$747,914
HARRIS COUNTY WCID 74	NO	2040	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 74	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,439,739
HARRIS COUNTY WCID 89	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 89	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,806,032
HARRIS COUNTY WCID 89	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY WCID 89	WATER LOSS CONTROL	\$644,648
HARRIS COUNTY WCID 96	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 96	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,474,603
HARRIS COUNTY WCID-FONDREN ROAD	NO	2020	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID-FONDREN ROAD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$854,344
HARRIS COUNTY WCID-FONDREN ROAD	NO	2020	WATER LOSS REDUCTION, HARRIS COUNTY WCID-FONDREN ROAD	WATER LOSS CONTROL	\$239,530
HARRIS-MONTGOMERY COUNTIES MUD 386	NO	2020	MUNICIPAL CONSERVATION, HARRIS-MONTGOMERY COUNTIES MUD 386	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$439,183
HEMPSTEAD	NO	2020	MUNICIPAL CONSERVATION, HEMPSTEAD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,915,369
HEMPSTEAD	NO	2070	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD (B)	SINGLE WELL; CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK	\$5,639,722
HILLCREST VILLAGE	NO	2020	MUNICIPAL CONSERVATION, HILLCREST VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$174,463
HILLCREST VILLAGE	NO	2020	WATER LOSS REDUCTION, HILLCREST VILLAGE	WATER LOSS CONTROL	\$130,034
HILLTOP LAKES WSC	NO	2020	MUNICIPAL CONSERVATION, HILLTOP LAKES WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$500,706
HILSHIRE VILLAGE	NO	2020	MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$270,831
HITCHCOCK	NO	2020	MUNICIPAL CONSERVATION, HITCHCOCK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,113,980
HITCHCOCK	NO	2030	WUG INFRASTRUCTURE EXPANSION - HITCHCOCK	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
HMW SUD	NO	2020	MUNICIPAL CONSERVATION, HMW SUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$4,907,597
HMW SUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - HMW SUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,439,739
HMW SUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HMW SUD, HARRIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,656,610

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
HOUSTON	YES	2040	ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION	\$255,812,411
HOUSTON	YES	2030	CITY OF HOUSTON AREA 2 GROUNDWATER INFRASTRUCTURE	MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$122,751,076
HOUSTON	YES	2030	CITY OF HOUSTON GRP TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE	\$31,986,905
HOUSTON	YES	2040	CITY OF HOUSTON REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION	\$555,093,731
HOUSTON	YES	2040	CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 1	NEW WATER TREATMENT PLANT; CONVEYANCE/TRANSMISSION PIPELINE	\$768,820,060
HOUSTON	YES	2060	CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 2	WATER TREATMENT PLANT EXPANSION	\$190,437,474
HOUSTON	YES	2040	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION	\$435,882,718
HOUSTON	YES	2030	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION	\$278,964,939
HOUSTON	YES	2030	COH, NHCRWA, AND CHCRWA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE	\$231,771,408
HOUSTON	YES	2040	CWA TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE	\$119,336,981
HOUSTON	YES	2050	EAST TEXAS TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	\$458,840,377
HOUSTON	YES	2020	MUNICIPAL CONSERVATION, HOUSTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$616,098,371
HOUSTON	YES	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$17,466,666
HOUSTON	YES	2020	WATER LOSS REDUCTION, HOUSTON	WATER LOSS CONTROL	\$650,324,980
HUMBLE	NO	2020	MUNICIPAL CONSERVATION, HUMBLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$7,106,206
HUNTSVILLE	YES	2020	MUNICIPAL CONSERVATION, HUNTSVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$10,124,011
HUNTSVILLE	YES	2020	WATER LOSS REDUCTION, HUNTSVILLE	WATER LOSS CONTROL	\$5,562,578
IRRIGATION, AUSTIN	NO	2020	IRRIGATION CONSERVATION, AUSTIN COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$43,758
IRRIGATION, BRAZORIA	NO	2020	IRRIGATION CONSERVATION, BRAZORIA COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$358,717
IRRIGATION, CHAMBERS	NO	2020	IRRIGATION CONSERVATION, CHAMBERS COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$457,755
IRRIGATION, FORT BEND	NO	2020	IRRIGATION CONSERVATION, FORT BEND COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$92,166
IRRIGATION, FORT BEND	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, FORT BEND (RICHMOND GRP PARTICIPANTS)	MULTIPLE WELLS/WELL FIELD	\$368,069
IRRIGATION, GALVESTON	NO	2020	IRRIGATION CONSERVATION, GALVESTON COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$30,154
IRRIGATION, HARRIS	NO	2020	IRRIGATION CONSERVATION, HARRIS COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$570
IRRIGATION, LIBERTY	NO	2020	IRRIGATION CONSERVATION, LIBERTY COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$352,849
IRRIGATION, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	MULTIPLE WELLS/WELL FIELD	\$5,719,027
IRRIGATION, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (SJ)	MULTIPLE WELLS/WELL FIELD	\$1,019,057
IRRIGATION, WALLER	NO	2020	IRRIGATION CONSERVATION, WALLER COUNTY	CANAL LINING; CONSERVATION - AGRICULTURAL	\$153,186
JACINTO CITY	YES	2020	MUNICIPAL CONSERVATION, JACINTO CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$387,170
JACINTO CITY	YES	2020	WATER LOSS REDUCTION, JACINTO CITY	WATER LOSS CONTROL	\$615,350
JAMAICA BEACH	NO	2020	MUNICIPAL CONSERVATION, JAMAICA BEACH	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$317,328
JERSEY VILLAGE	NO	2020	MUNICIPAL CONSERVATION, JERSEY VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,508,448
JERSEY VILLAGE	NO	2020	WATER LOSS REDUCTION, JERSEY VILLAGE	WATER LOSS CONTROL	\$1,427,144
JEWETT	NO	2020	MUNICIPAL CONSERVATION, JEWETT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$505,991
JOHNSTON WATER UTILITY	NO	2020	MUNICIPAL CONSERVATION, JOHNSTON WATER UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$909,187

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
JOHNSTON WATER UTILITY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$8,357,842
JOHNSTON WATER UTILITY	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$8,357,842
KATY	NO	2020	MUNICIPAL CONSERVATION, KATY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$9,786,615
KATY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$24,927,006
KENDLETON	NO	2020	MUNICIPAL CONSERVATION, KENDLETON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$308,272
KENDLETON	NO	2020	WATER LOSS REDUCTION, KENDLETON	WATER LOSS CONTROL	\$830,346
KINGS MANOR MUD	NO	2020	MUNICIPAL CONSERVATION, KINGS MANOR MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$781,873
KIRKMONT MUD	NO	2020	MUNICIPAL CONSERVATION, KIRKMONT MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$622,350
LA MARQUE	NO	2020	MUNICIPAL CONSERVATION, LA MARQUE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$5,040,112
LA MARQUE	NO	2020	WATER LOSS REDUCTION, LA MARQUE	WATER LOSS CONTROL	\$11,988,988
LA MARQUE	NO	2030	WUG INFRASTRUCTURE EXPANSION - LA MARQUE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
LA PORTE	YES	2020	MUNICIPAL CONSERVATION, LA PORTE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$11,421,772
LA PORTE	YES	2020	WATER LOSS REDUCTION, LA PORTE	WATER LOSS CONTROL	\$2,115,106
LAKE BONANZA WSC	NO	2020	MUNICIPAL CONSERVATION, LAKE BONANZA WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$869,771
LAKE BONANZA WSC	NO	2030	WUG INFRASTRUCTURE EXPANSION - LAKE BONANZA WSC	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383
LAKE CONROE HILLS MUD	NO	2020	MUNICIPAL CONSERVATION, LAKE CONROE HILLS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$761,566
LAKE CONROE HILLS MUD	NO	2020	WATER LOSS REDUCTION, LAKE CONROE HILLS MUD	WATER LOSS CONTROL	\$443,734
LAKE CONROE HILLS MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAKE CONROE HILLS MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,136,749
LAKE JACKSON	YES	2020	MUNICIPAL CONSERVATION, LAKE JACKSON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$9,206,747
LAKE JACKSON	YES	2030	WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383
LAKE LIVINGSTON WSC	NO	2020	MUNICIPAL CONSERVATION, LAKE LIVINGSTON WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$123,980
LAKE LIVINGSTON WSC	NO	2020	WATER LOSS REDUCTION, LAKE LIVINGSTON WSC	WATER LOSS CONTROL	\$3,555,784
LAKE MUD	NO	2020	MUNICIPAL CONSERVATION, LAKE MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,338,515
LAKE MUD	NO	2020	WATER LOSS REDUCTION, LAKE MUD	WATER LOSS CONTROL	\$153,638
LAZY RIVER IMPROVEMENT DISTRICT	NO	2020	MUNICIPAL CONSERVATION, LAZY RIVER IMPROVEMENT DISTRICT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$224,097
LAZY RIVER IMPROVEMENT DISTRICT	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAZY RIVER IMPROVEMENT DISTRICT	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,514,472
LEAGUE CITY	NO	2020	MUNICIPAL CONSERVATION, LEAGUE CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$33,336,181
LEAGUE CITY	NO	2020	WATER LOSS REDUCTION, LEAGUE CITY	WATER LOSS CONTROL	\$11,996,792
LEAGUE CITY	NO	2030	WUG INFRASTRUCTURE EXPANSION - LEAGUE CITY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383
LEGGETT WSC	NO	2020	MUNICIPAL CONSERVATION, LEGGETT WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$432,296
LEGGETT WSC	NO	2020	WATER LOSS REDUCTION, LEGGETT WSC	WATER LOSS CONTROL	\$1,149,658

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
LIBERTY	NO	2020	MUNICIPAL CONSERVATION, LIBERTY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,562,430
LIBERTY	NO	2020	WATER LOSS REDUCTION, LIBERTY	WATER LOSS CONTROL	\$3,277,750
LIBERTY COUNTY FWSD 1 HULL	NO	2020	MUNICIPAL CONSERVATION, LIBERTY COUNTY FWSD 1 HULL	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$286,690
LIVESTOCK, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	MULTIPLE WELLS/WELL FIELD	\$368,069
LIVESTOCK, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	MULTIPLE WELLS/WELL FIELD	\$368,069
LIVESTOCK, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (SJ)	MULTIPLE WELLS/WELL FIELD	\$368,069
LIVESTOCK, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	MULTIPLE WELLS/WELL FIELD	\$623,739
LIVESTOCK, LIBERTY	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	MULTIPLE WELLS/WELL FIELD	\$368,069
LIVINGSTON	NO	2020	MUNICIPAL CONSERVATION, LIVINGSTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,240,443
LIVINGSTON	NO	2020	WATER LOSS REDUCTION, LIVINGSTON	WATER LOSS CONTROL	\$5,674,944
LONGHORN TOWN UD	NO	2020	MUNICIPAL CONSERVATION, LONGHORN TOWN UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$328,108
LONGHORN TOWN UD	NO	2020	WATER LOSS REDUCTION, LONGHORN TOWN UD	WATER LOSS CONTROL	\$30,798
LONGHORN TOWN UD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
LOWER NECHES VALLEY AUTHORITY	YES	2050	EAST TEXAS TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	\$0
LOWER NECHES VALLEY AUTHORITY	YES	2040	LNVA NECHES-TRINITY BASIN INTERCONNECT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	\$103,316,000
LUCE BAYOU PUD	NO	2020	MUNICIPAL CONSERVATION, LUCE BAYOU PUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$182,005
LUCE BAYOU PUD	NO	2020	WATER LOSS REDUCTION, LUCE BAYOU PUD	WATER LOSS CONTROL	\$191,766
LUCE BAYOU PUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LUCE BAYOU PUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
MADISON COUNTY WSC	NO	2020	MUNICIPAL CONSERVATION, MADISON COUNTY WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$332,849
MADISON COUNTY WSC	NO	2020	WATER LOSS REDUCTION, MADISON COUNTY WSC	WATER LOSS CONTROL	\$37,206
MADISONVILLE	NO	2020	MUNICIPAL CONSERVATION, MADISONVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,392,349
MADISONVILLE	NO	2020	WATER LOSS REDUCTION, MADISONVILLE	WATER LOSS CONTROL	\$1,380,364
MAGNOLIA	NO	2020	MUNICIPAL CONSERVATION, MAGNOLIA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,218,685
MAGNOLIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - MAGNOLIA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,439,739
MAGNOLIA	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$8,959,413
MAGNOLIA	NO	2070	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,840,663
MANUFACTURING, BRAZORIA	NO	2020	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$274,414,032
MANUFACTURING, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$11,005,558
MANUFACTURING, CHAMBERS	NO	2020	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T)	MULTIPLE WELLS/WELL FIELD; CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK	\$10,797,073
MANUFACTURING, FORT BEND	NO	2020	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (B)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$22,350,770

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
MANUFACTURING, FORT BEND	NO	2020	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$13,645,034
MANUFACTURING, GALVESTON	NO	2020	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, GALVESTON COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$193,683,755
MANUFACTURING, LEON	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,438,190
MANUFACTURING, MONTGOMERY	NO	2020	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$14,932,881
MANVEL	YES	2020	MANVEL SUPPLY EXPANSION - GROUNDWATER DEVELOPMENT	MULTIPLE WELLS/WELL FIELD	\$1,559,906
MANVEL	YES	2030	MANVEL SUPPLY EXPANSION - MUSTANG BAYOU RIGHT AND STORAGE	NEW WATER RIGHT/PERMIT NO IBT; PUMP STATION; RESERVOIR CONSTRUCTION	\$5,785,521
MANVEL	YES	2030	MANVEL SUPPLY EXPANSION - TREATMENT AND TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	\$261,707,181
MANVEL	YES	2020	MUNICIPAL CONSERVATION, MANVEL	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$802,914
MANVEL	YES	2020	WATER LOSS REDUCTION, MANVEL	WATER LOSS CONTROL	\$567,794
MASON CREEK UD	NO	2020	MUNICIPAL CONSERVATION, MASON CREEK UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,540,569
MASON CREEK UD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,840,663
MEADOWCREEK MUD	NO	2020	MUNICIPAL CONSERVATION, MEADOWCREEK MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$696,029
MEADOWCREEK MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - MEADOWCREEK MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
MEADOWCREEK MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWCREEK MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
MEADOWS PLACE	NO	2020	MUNICIPAL CONSERVATION, MEADOWS PLACE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,100,139
MEADOWS PLACE	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWS PLACE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
MEMORIAL POINT UD	NO	2020	MUNICIPAL CONSERVATION, MEMORIAL POINT UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$283,930
MEMORIAL POINT UD	NO	2020	WATER LOSS REDUCTION, MEMORIAL POINT UD	WATER LOSS CONTROL	\$590,716
MEMORIAL VILLAGES WATER AUTHORITY	NO	2020	MUNICIPAL CONSERVATION, MEMORIAL VILLAGES WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,837,112
MEMORIAL VILLAGES WATER AUTHORITY	NO	2020	WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
MEMORIAL VILLAGES WATER AUTHORITY	NO	2050	WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,181,277
MERCY WSC	NO	2020	MUNICIPAL CONSERVATION, MERCY WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$597,261
MERCY WSC	NO	2020	WATER LOSS REDUCTION, MERCY WSC	WATER LOSS CONTROL	\$460,284
MINING, AUSTIN	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,438,190
MINING, AUSTIN	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, AUSTIN	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$10,088,460
MINING, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$11,762,914
MINING, BRAZORIA	NO	2030	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$20,032,621

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
MINING, GALVESTON	NO	2020	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT	\$9,655,935
MINING, GALVESTON	NO	2020	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$12,827,308
MINING, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
MINING, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
MINING, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TSJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
MINING, LEON	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LEON	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, MADISON	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$2,244,907
MINING, MADISON	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$3,110,612
MISSOURI CITY	YES	2030	MISSOURI CITY GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$87,837,323
MISSOURI CITY	YES	2020	MUNICIPAL CONSERVATION, MISSOURI CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$979,307
MISSOURI CITY	YES	2020	WATER LOSS REDUCTION, MISSOURI CITY	WATER LOSS CONTROL	\$142,046
MONT BELVIEU	NO	2020	MUNICIPAL CONSERVATION, MONT BELVIEU	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,755,384
MONT BELVIEU	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	SINGLE WELL; CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK	\$9,774,370
MONT BELVIEU	NO	2060	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$12,463,503
MONTGOMERY	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,149,207
MONTGOMERY	NO	2020	WATER LOSS REDUCTION, MONTGOMERY	WATER LOSS CONTROL	\$594,520
MONTGOMERY	NO	2040	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$20,205,629
MONTGOMERY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,475,822
MONTGOMERY COUNTY MUD 112	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 112	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$310,974
MONTGOMERY COUNTY MUD 112	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 112	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
MONTGOMERY COUNTY MUD 115	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 115	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$367,564

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
MONTGOMERY COUNTY MUD 115	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 115	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
MONTGOMERY COUNTY MUD 119	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 119	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,257,993
MONTGOMERY COUNTY MUD 119	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 119	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,760,392
MONTGOMERY COUNTY MUD 15	YES	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 15	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,566,179
MONTGOMERY COUNTY MUD 15	YES	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 15	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
MONTGOMERY COUNTY MUD 15	YES	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 15	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,136,749
MONTGOMERY COUNTY MUD 18	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 18	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,211,274
MONTGOMERY COUNTY MUD 18	NO	2050	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 18	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$20,205,629
MONTGOMERY COUNTY MUD 19	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 19	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$364,612
MONTGOMERY COUNTY MUD 19	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 19	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
MONTGOMERY COUNTY MUD 56	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 56	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$318,577
MONTGOMERY COUNTY MUD 56	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 56	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,741,067
MONTGOMERY COUNTY MUD 8	NO	2020	MONTGOMERY COUNTY MUDS 8 AND 9 GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$15,255,188
MONTGOMERY COUNTY MUD 8	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 8	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,357,116
MONTGOMERY COUNTY MUD 83	YES	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 83	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$524,623
MONTGOMERY COUNTY MUD 84	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 84	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$820,714
MONTGOMERY COUNTY MUD 84	NO	2020	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 84	WATER LOSS CONTROL	\$356,220
MONTGOMERY COUNTY MUD 84	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 84	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
MONTGOMERY COUNTY MUD 88	NO	2030	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 88	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$127,869
MONTGOMERY COUNTY MUD 88	NO	2020	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 88	WATER LOSS CONTROL	\$104,520
MONTGOMERY COUNTY MUD 88	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 88	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
MONTGOMERY COUNTY MUD 89	YES	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 89	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,082,397
MONTGOMERY COUNTY MUD 89	YES	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 89	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,439,739
MONTGOMERY COUNTY MUD 9	NO	2020	MONTGOMERY COUNTY MUDS 8 AND 9 GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION	\$15,255,187
MONTGOMERY COUNTY MUD 9	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 9	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,572,872
MONTGOMERY COUNTY MUD 95	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 95	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$456,755
MONTGOMERY COUNTY MUD 95	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 95	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,867,909
MONTGOMERY COUNTY MUD 98	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 98	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$714,737
MONTGOMERY COUNTY MUD 99	YES	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 99	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$329,878
MONTGOMERY COUNTY MUD 99	YES	2020	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 99	WATER LOSS CONTROL	\$372,180

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
MONTGOMERY COUNTY MUD 99	YES	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 99	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
MONTGOMERY COUNTY UD 2	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$629,048
MONTGOMERY COUNTY UD 3	YES	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 3	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,911,354
MONTGOMERY COUNTY UD 3	YES	2020	WATER LOSS REDUCTION, MONTGOMERY COUNTY UD 3	WATER LOSS CONTROL	\$1,834,506
MONTGOMERY COUNTY UD 4	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 4	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,439,300
MONTGOMERY COUNTY UD 4	NO	2070	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY UD 4	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
MONTGOMERY COUNTY WCID 1	NO	2020	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$870,925
MONTGOMERY COUNTY WCID 1	NO	2030	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY WCID 1	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,088,460
MORGANS POINT	NO	2020	MUNICIPAL CONSERVATION, MORGANS POINT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$138,847
MOUNT HOUSTON ROAD MUD	NO	2020	MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,320,375
MOUNT HOUSTON ROAD MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - MOUNT HOUSTON ROAD MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,531,772
MSEC ENTERPRISES	NO	2020	MUNICIPAL CONSERVATION, MSEC ENTERPRISES	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$9,772,149
MSEC ENTERPRISES	NO	2030	WUG INFRASTRUCTURE EXPANSION - MSEC ENTERPRISES	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
NASSAU BAY	NO	2020	MUNICIPAL CONSERVATION, NASSAU BAY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,286,760
NASSAU BAY	NO	2020	WATER LOSS REDUCTION, NASSAU BAY	WATER LOSS CONTROL	\$663,922
NEEDVILLE	NO	2020	MUNICIPAL CONSERVATION, NEEDVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$754,487
NEW CANEY MUD	NO	2020	MUNICIPAL CONSERVATION, NEW CANEY MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,053,206
NEW CANEY MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,656,610
NEW WAVERLY	NO	2020	MUNICIPAL CONSERVATION, NEW WAVERLY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$374,114
NEW WAVERLY	NO	2020	WATER LOSS REDUCTION, NEW WAVERLY	WATER LOSS CONTROL	\$79,894
NEWPORT MUD	NO	2020	MUNICIPAL CONSERVATION, NEWPORT MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,179,239
NEWPORT MUD	NO	2020	WATER LOSS REDUCTION, NEWPORT MUD	WATER LOSS CONTROL	\$510,588
NORMANGEE	NO	2020	MUNICIPAL CONSERVATION, NORMANGEE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$276,676
NORTH BELT UD	NO	2020	MUNICIPAL CONSERVATION, NORTH BELT UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$631,892
NORTH BELT UD	NO	2020	WATER LOSS REDUCTION, NORTH BELT UD	WATER LOSS CONTROL	\$215,712
NORTH BELT UD	NO	2040	WUG INFRASTRUCTURE EXPANSION - NORTH BELT UD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,289,100
NORTH CHANNEL WATER AUTHORITY	YES	2020	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$19,645,665
NORTH CHANNEL WATER AUTHORITY	YES	2020	WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	WATER LOSS CONTROL	\$5,816,298
NORTH FOREST MUD	NO	2020	MUNICIPAL CONSERVATION, NORTH FOREST MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$319,256
NORTH FOREST MUD	NO	2020	WATER LOSS REDUCTION, NORTH FOREST MUD	WATER LOSS CONTROL	\$589,094
NORTH FOREST MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - NORTH FOREST MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,088,460
NORTH FORT BEND WATER AUTHORITY	YES	2030	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION	\$373,220,218

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
NORTH FORT BEND WATER AUTHORITY	YES	2020	MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$133,636,662
NORTH FORT BEND WATER AUTHORITY	YES	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$40,939,835
NORTH FORT BEND WATER AUTHORITY	YES	2020	NFBWA MEMBER DISTRICT REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	\$46,640,088
NORTH FORT BEND WATER AUTHORITY	YES	2030	NFBWA PHASE 2 DISTRIBUTION SEGMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$83,859,522
NORTH FORT BEND WATER AUTHORITY	YES	2030	WHCRWA/NFBWA TRANSMISSION LINE	CONVEYANCE/TRANSMISSION PIPELINE	\$589,815,855
NORTH FORT BEND WATER AUTHORITY	YES	2030	WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$108,287,800
NORTH GREEN MUD	NO	2020	MUNICIPAL CONSERVATION, NORTH GREEN MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$449,339
NORTH GREEN MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - NORTH GREEN MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,289,100
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION	\$615,693,056
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	COH, NHCRA, AND CHCRA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE	\$300,595,751
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2020	MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$228,700,267
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$21,061,144
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	NHCRA DISTRIBUTION EXPANSION - 2025 PHASE	CONVEYANCE/TRANSMISSION PIPELINE	\$501,912,161
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2040	NHCRA DISTRIBUTION EXPANSION - 2035 PHASE	CONVEYANCE/TRANSMISSION PIPELINE	\$404,769,674
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2050	NHCRA DISTRIBUTION EXPANSION - 2045 PHASE	CONVEYANCE/TRANSMISSION PIPELINE	\$13,022,081
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2020	NHCRA MEMBER DISTRICT REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK	\$4,295,775
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	NHCRA TRANSMISSION LINES	CONVEYANCE/TRANSMISSION PIPELINE	\$327,910,960
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	WUG INFRASTRUCTURE EXPANSION - NHCRA DISTRICTS 2025	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$225,394,742
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2040	WUG INFRASTRUCTURE EXPANSION - NHCRA DISTRICTS 2035	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,181,277
NORTH ZULCH MUD	NO	2020	MUNICIPAL CONSERVATION, NORTH ZULCH MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$457,404
NORTH ZULCH MUD	NO	2020	WATER LOSS REDUCTION, NORTH ZULCH MUD	WATER LOSS CONTROL	\$215,606
NORTHWEST HARRIS COUNTY MUD 16	NO	2020	MUNICIPAL CONSERVATION, NORTHWEST HARRIS COUNTY MUD 16	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$753,948
NORTHWEST HARRIS COUNTY MUD 16	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST HARRIS COUNTY MUD 16	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,232,657
NRG	YES	2030	NRG CEDAR BAYOU DESALINATION	NEW WATER TREATMENT PLANT; STORAGE TANK	\$342,840,391
NRG	YES	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, CHAMBERS COUNTY (TSJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$0
NRG	YES	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$0

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
NRG	YES	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$0
OAK HOLLOW UTILITY	NO	2020	MUNICIPAL CONSERVATION, OAK HOLLOW UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$703,466
OAK RIDGE NORTH	NO	2020	MUNICIPAL CONSERVATION, OAK RIDGE NORTH	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$907,882
OAK RIDGE NORTH	NO	2030	WUG INFRASTRUCTURE EXPANSION - OAK RIDGE NORTH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
ONALASKA WSC	NO	2020	MUNICIPAL CONSERVATION, ONALASKA WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,579,923
ONALASKA WSC	NO	2020	WATER LOSS REDUCTION, ONALASKA WSC	WATER LOSS CONTROL	\$444,050
ONE FIVE O WSC	NO	2020	MUNICIPAL CONSERVATION, ONE FIVE O WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$752,118
ONE FIVE O WSC	NO	2020	WATER LOSS REDUCTION, ONE FIVE O WSC	WATER LOSS CONTROL	\$435,298
OYSTER CREEK	NO	2020	MUNICIPAL CONSERVATION, OYSTER CREEK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$365,511
P B & S C WSC	NO	2020	MUNICIPAL CONSERVATION, P B & S C WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$547,377
PALMER PLANTATION MUD 1	NO	2020	MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$543,153
PALMER PLANTATION MUD 1	NO	2030	WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
PALMER PLANTATION MUD 1	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
PALMER PLANTATION MUD 2	YES	2020	MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 2	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$504,897
PALMER PLANTATION MUD 2	YES	2030	WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
PALMER PLANTATION MUD 2	YES	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,514,472
PANORAMA VILLAGE	NO	2020	MUNICIPAL CONSERVATION, PANORAMA VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$806,829
PANORAMA VILLAGE	NO	2040	WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,741,067
PARKWAY MUD	NO	2020	MUNICIPAL CONSERVATION, PARKWAY MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,571,910
PASADENA	YES	2020	MUNICIPAL CONSERVATION, PASADENA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$31,699,272
PASADENA	YES	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$47,383
PATTISON WSC	NO	2020	MUNICIPAL CONSERVATION, PATTISON WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$545,423
PEARLAND	NO	2020	MUNICIPAL CONSERVATION, PEARLAND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$40,507,644
PEARLAND	NO	2020	PEARLAND REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,648,000
PEARLAND	NO	2030	PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	NEW WATER TREATMENT PLANT	\$232,787,093
PEARLAND	NO	2020	WATER LOSS REDUCTION, PEARLAND	WATER LOSS CONTROL	\$7,680,110
PECAN GROVE MUD 1	NO	2020	MUNICIPAL CONSERVATION, PECAN GROVE MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,976,508
PENNINGTON WSC	NO	2020	MUNICIPAL CONSERVATION, PENNINGTON WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$326,752
PHELPS SUD	NO	2020	MUNICIPAL CONSERVATION, PHELPS SUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$404,755
PINE VILLAGE PUD	NO	2020	MUNICIPAL CONSERVATION, PINE VILLAGE PUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$577,735
PINE VILLAGE PUD	NO	2020	WATER LOSS REDUCTION, PINE VILLAGE PUD	WATER LOSS CONTROL	\$30,798
PINE VILLAGE PUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - PINE VILLAGE PUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
PINEHURST DECKER PRAIRIE WSC	NO	2020	WATER LOSS REDUCTION, PINEHURST DECKER PRAIRIE WSC	WATER LOSS CONTROL	\$177,930
PINEHURST DECKER PRAIRIE WSC	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEHURST DECKER PRAIRIE WSC	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,550,838
PINEWOOD COMMUNITY	NO	2020	MUNICIPAL CONSERVATION, PINEWOOD COMMUNITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$233,849
PINEWOOD COMMUNITY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEWOOD COMMUNITY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
PLANTATION MUD	NO	2020	MUNICIPAL CONSERVATION, PLANTATION MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$867,407
PLANTATION MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,514,472
POINT AQUARIUS MUD	NO	2020	MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$698,344
POINT AQUARIUS MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
PORTER SUD	YES	2020	PORTER SUD GRP INFRASTRUCTURE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK	\$18,370,179
PORTER SUD	YES	2030	PORTER SUD GRP INFRASTRUCTURE - PHASE 2	WATER TREATMENT PLANT EXPANSION	\$8,492,353
PORTER SUD	YES	2050	WUG INFRASTRUCTURE EXPANSION - PORTER SUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$19,391,918
PRAIRIE VIEW	NO	2020	MUNICIPAL CONSERVATION, PRAIRIE VIEW	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,310,026
PROVIDENCE WSC	NO	2020	MUNICIPAL CONSERVATION, PROVIDENCE WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$108,220
QUADVEST	NO	2020	MUNICIPAL CONSERVATION, QUADVEST	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$15,976,834
QUADVEST	NO	2030	WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
QUADVEST	NO	2060	WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,931,975
QUADVEST	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST (ROSENBERG GRP PARTICIPANT)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,710,267
QUADVEST	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,232,657
QUADVEST	NO	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,354,239
QUADVEST	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, HARRIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK	\$6,656,610
QUAIL VALLEY UD	NO	2020	MUNICIPAL CONSERVATION, QUAIL VALLEY UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$4,954,886
QUAIL VALLEY UD	NO	2030	WUG INFRASTRUCTURE EXPANSION - QUAIL VALLEY UD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$9,983,912
QUAIL VALLEY UD	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUAIL VALLEY UD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,867,909
RANCH UTILITIES	NO	2020	MUNICIPAL CONSERVATION, RANCH UTILITIES	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$367,586
RANCH UTILITIES	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - RANCH UTILITIES	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
RAYFORD ROAD MUD	NO	2020	MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,476,870
RAYFORD ROAD MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - RAYFORD ROAD MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
RICHMOND	YES	2020	MUNICIPAL CONSERVATION, RICHMOND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,839,509
RICHMOND	YES	2030	RICHMOND GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; SINGLE WELL; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$64,737,991
RICHMOND	YES	2020	RICHMOND REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$6,198,853
RICHWOOD	NO	2020	MUNICIPAL CONSERVATION, RICHWOOD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,059,533
RICHWOOD	NO	2020	WATER LOSS REDUCTION, RICHWOOD	WATER LOSS CONTROL	\$370,030
RICHWOOD	NO	2030	WUG INFRASTRUCTURE EXPANSION - RICHWOOD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,162,348
RIVER PLANTATION MUD	YES	2020	MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$859,909
RIVER PLANTATION MUD	YES	2050	WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$13,930,632
ROLLING FORK PUD	NO	2020	MUNICIPAL CONSERVATION, ROLLING FORK PUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$493,788
ROLLING FORK PUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - ROLLING FORK PUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
ROMAN FOREST CONSOLIDATED MUD	NO	2020	MUNICIPAL CONSERVATION, ROMAN FOREST CONSOLIDATED MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$498,998
ROMAN FOREST CONSOLIDATED MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST CONSOLIDATED MUD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
ROSENBERG	YES	2020	MUNICIPAL CONSERVATION, ROSENBERG	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$10,696,240
ROSENBERG	YES	2030	ROSENBERG GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,963,110
ROYAL VALLEY UTILITIES	NO	2020	MUNICIPAL CONSERVATION, ROYAL VALLEY UTILITIES	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$645,179
ROYAL VALLEY UTILITIES	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (NFBWA GRP PARTICIPANT)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,514,472
ROYAL VALLEY UTILITIES	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (SUGAR LAND GRP PARTICIPANT)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
SABINE RIVER AUTHORITY	YES	2050	EAST TEXAS TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	\$0
SAGEMEADOW UD	YES	2020	MUNICIPAL CONSERVATION, SAGEMEADOW UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,686,926
SAN JACINTO RIVER AUTHORITY	YES	2050	LAKE LIVINGSTON TO SJRA TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; NEW WATER RIGHT/PERMIT AMENDMENT NON-EXEMPT IBT	\$245,492,975
SAN JACINTO RIVER AUTHORITY	YES	2070	SJRA AQUIFER STORAGE AND RECOVERY	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; PUMP STATION; RESERVOIR CONSTRUCTION	\$222,907,186
SAN JACINTO RIVER AUTHORITY	YES	2040	SJRA CATAHOULA AQUIFER SUPPLIES	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD	\$18,200,411
SAN JACINTO RIVER AUTHORITY	YES	2030	SJRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$87,842,787
SAN JACINTO RIVER AUTHORITY	YES	2040	SJRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$348,819,483
SAN JACINTO RIVER AUTHORITY	YES	2050	SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$213,429,097
SAN JACINTO RIVER AUTHORITY	YES	2060	SJRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$348,819,483
SAN JACINTO SUD	NO	2020	MUNICIPAL CONSERVATION, SAN JACINTO SUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$857,236
SAN LEON MUD	NO	2030	WUG INFRASTRUCTURE EXPANSION - SAN LEON MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,439,739

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
SEABROOK	NO	2020	MUNICIPAL CONSERVATION, SEABROOK	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,075,442
SEALY	NO	2020	MUNICIPAL CONSERVATION, SEALY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,201,136
SEDONA LAKES MUD 1	NO	2020	MUNICIPAL CONSERVATION, SEDONA LAKES MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$458,106
SEDONA LAKES MUD 1	NO	2020	WATER LOSS REDUCTION, SEDONA LAKES MUD 1	WATER LOSS CONTROL	\$204,334
SEQUOIA IMPROVEMENT DISTRICT	NO	2020	MUNICIPAL CONSERVATION, SEQUOIA IMPROVEMENT DISTRICT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$273,422
SEQUOIA IMPROVEMENT DISTRICT	NO	2020	WATER LOSS REDUCTION, SEQUOIA IMPROVEMENT DISTRICT	WATER LOSS CONTROL	\$147,466
SEQUOIA IMPROVEMENT DISTRICT	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SEQUOIA IMPROVEMENT DISTRICT	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
SHENANDOAH	NO	2020	MUNICIPAL CONSERVATION, SHENANDOAH	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,764,103
SHENANDOAH	NO	2020	WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$18,578,208
SHEPHERD	NO	2020	MUNICIPAL CONSERVATION, SHEPHERD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$796,830
SHOREACRES	NO	2020	MUNICIPAL CONSERVATION, SHOREACRES	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$434,121
SIENNA PLANTATION	NO	2020	MUNICIPAL CONSERVATION, SIENNA PLANTATION	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$14,108,377
SIENNA PLANTATION	NO	2030	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,234,868
SODA WSC	NO	2020	MUNICIPAL CONSERVATION, SODA WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$515,365
SOUTH CLEVELAND WSC	NO	2020	MUNICIPAL CONSERVATION, SOUTH CLEVELAND WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$719,210
SOUTH HOUSTON	YES	2020	MUNICIPAL CONSERVATION, SOUTH HOUSTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,528,418
SOUTH HOUSTON	YES	2020	WATER LOSS REDUCTION, SOUTH HOUSTON	WATER LOSS CONTROL	\$2,981,016
SOUTHEAST WSC	NO	2020	MUNICIPAL CONSERVATION, SOUTHEAST WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$940,549
SOUTHEAST WSC	NO	2020	WATER LOSS REDUCTION, SOUTHEAST WSC	WATER LOSS CONTROL	\$473,240
SOUTHERN MONTGOMERY COUNTY MUD	NO	2020	MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,761,929
SOUTHERN MONTGOMERY COUNTY MUD	NO	2020	WATER LOSS REDUCTION, SOUTHERN MONTGOMERY COUNTY MUD	WATER LOSS CONTROL	\$2,866,114
SOUTHERN WATER	NO	2020	MUNICIPAL CONSERVATION, SOUTHERN WATER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$859,821
SOUTHERN WATER	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SOUTHERN WATER	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
SOUTHSIDE PLACE	NO	2020	MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$350,505
SOUTHWEST HARRIS COUNTY MUD 1	NO	2020	MUNICIPAL CONSERVATION, SOUTHWEST HARRIS COUNTY MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$142,770
SPLENDORA	NO	2020	MUNICIPAL CONSERVATION, SPLENDORA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,671,520
SPLENDORA	NO	2020	WATER LOSS REDUCTION, SPLENDORA	WATER LOSS CONTROL	\$1,736,640
SPLENDORA	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPLENDORA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$8,669,430
SPRING CREEK UD	NO	2020	MUNICIPAL CONSERVATION, SPRING CREEK UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,032,270
SPRING CREEK UD	NO	2030	WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,734,155

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
SPRING MEADOWS MUD	NO	2020	MUNICIPAL CONSERVATION, SPRING MEADOWS MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$872,219
SPRING VALLEY	NO	2020	MUNICIPAL CONSERVATION, SPRING VALLEY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,189,431
STANLEY LAKE MUD	NO	2020	MUNICIPAL CONSERVATION, STANLEY LAKE MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,496,087
STANLEY LAKE MUD	NO	2060	WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$16,433,378
STANLEY LAKE MUD	NO	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STANLEY LAKE MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; NEW WATER TREATMENT PLANT; SINGLE WELL	\$5,750,071
STEAM ELECTRIC POWER, CHAMBERS	NO	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, CHAMBERS COUNTY (TSJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,916,864
STEAM ELECTRIC POWER, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$12,234,868
STEAM ELECTRIC POWER, HARRIS	NO	2020	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,088,460
SUBURBAN UTILITY	NO	2020	MUNICIPAL CONSERVATION, SUBURBAN UTILITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$840,323
SUBURBAN UTILITY	NO	2020	WATER LOSS REDUCTION, SUBURBAN UTILITY	WATER LOSS CONTROL	\$135,240
SUBURBAN UTILITY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUBURBAN UTILITY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,639,722
SUGAR LAND	YES	2020	MUNICIPAL CONSERVATION, SUGAR LAND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$40,237,388
SUGAR LAND	YES	2030	SUGAR LAND ADVANCED LOSS REDUCTION	WATER LOSS CONTROL	\$359,565
SUGAR LAND	YES	2030	SUGAR LAND AMI	DATA GATHERING/MONITORING TECHNOLOGY	\$12,488,608
SUGAR LAND	YES	2030	SUGAR LAND GROUNDWATER PLANT CONVERSION	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT	\$21,466,745
SUGAR LAND	YES	2030	SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$18,579,129
SUGAR LAND	YES	2040	SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$10,302,830
SUGAR LAND	YES	2030	SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$52,730,261
SUGAR LAND	YES	2040	SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	PUMP STATION; WATER TREATMENT PLANT EXPANSION	\$17,206,901
SUGAR LAND	YES	2020	WATER LOSS REDUCTION, SUGAR LAND	WATER LOSS CONTROL	\$1,306,356
SUNBELT FWSD	NO	2020	MUNICIPAL CONSERVATION, SUNBELT FWSD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$7,755,607
SUNBELT FWSD	NO	2020	WATER LOSS REDUCTION, SUNBELT FWSD	WATER LOSS CONTROL	\$2,409,570
SUNBELT FWSD	NO	2040	WUG INFRASTRUCTURE EXPANSION - SUNBELT FWSD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,707,918
SURFSIDE BEACH	NO	2020	MUNICIPAL CONSERVATION, SURFSIDE BEACH	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$194,388
SURFSIDE BEACH	NO	2020	SURFSIDE BEACH SUPPLY INFRASTRUCTURE	PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$1,900,440
SWEENEY	NO	2020	MUNICIPAL CONSERVATION, SWEENEY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$855,971
T & W WATER SERVICE	NO	2020	MUNICIPAL CONSERVATION, T & W WATER SERVICE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,641,710
T & W WATER SERVICE	NO	2030	WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,788,126
T & W WATER SERVICE	NO	2060	WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,760,392
TARKINGTON SUD	NO	2020	MUNICIPAL CONSERVATION, TARKINGTON SUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,320,661
TDCJ JESTER UNITS	NO	2020	MUNICIPAL CONSERVATION, TDCJ JESTER UNITS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$564,744

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
TDCJ JESTER UNITS	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (B)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,750,071
TDCJ JESTER UNITS	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (SJB)	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$6,232,657
TDCJ RAMSEY AREA	NO	2020	MUNICIPAL CONSERVATION, TDCJ RAMSEY AREA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$286,459
TEMPE WSC 1	NO	2020	MUNICIPAL CONSERVATION, TEMPE WSC 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$551,885
TEXAS CITY	YES	2020	MUNICIPAL CONSERVATION, TEXAS CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$16,534,117
TEXAS CITY	YES	2020	WATER LOSS REDUCTION, TEXAS CITY	WATER LOSS CONTROL	\$12,524,584
TEXAS CITY	YES	2030	WUG INFRASTRUCTURE EXPANSION - TEXAS CITY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$27,911,495
THE COMMONS WATER SUPPLY	NO	2020	MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$637,110
THE COMMONS WATER SUPPLY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
THE WOODLANDS	YES	2020	MUNICIPAL CONSERVATION, THE WOODLANDS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$26,830,227
THE WOODLANDS	YES	2020	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
THE WOODLANDS	YES	2040	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$14,616,551
THE WOODLANDS	YES	2040	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,697,788
THUNDERBIRD UD	NO	2020	MUNICIPAL CONSERVATION, THUNDERBIRD UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,637,267
THUNDERBIRD UD	NO	2030	WUG INFRASTRUCTURE EXPANSION - THUNDERBIRD UD	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,289,100
THUNDERBIRD UD	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THUNDERBIRD UD	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,550,838
TOMBALL	NO	2020	MUNICIPAL CONSERVATION, TOMBALL	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$3,413,919
TOMBALL	NO	2020	WATER LOSS REDUCTION, TOMBALL	WATER LOSS CONTROL	\$3,247,382
TOMBALL	NO	2030	WUG INFRASTRUCTURE EXPANSION - TOMBALL	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$11,181,277
TRAIL OF THE LAKES MUD	NO	2020	MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,838,937
TRAIL OF THE LAKES MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	STORAGE TANK; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$10,734,155
TRINITY	YES	2020	MUNICIPAL CONSERVATION, TRINITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,051,962
TRINITY BAY CONSERVATION DISTRICT	NO	2020	MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$7,470,364
TRINITY BAY CONSERVATION DISTRICT	NO	2020	WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 1	WATER TREATMENT PLANT EXPANSION; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$16,433,378
TRINITY BAY CONSERVATION DISTRICT	NO	2040	WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 2	WATER TREATMENT PLANT EXPANSION; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$14,932,881
TRINITY BAY CONSERVATION DISTRICT	NO	2060	WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 3	WATER TREATMENT PLANT EXPANSION; PUMP STATION; CONVEYANCE/TRANSMISSION PIPELINE	\$16,433,378
TRINITY RURAL WSC	NO	2020	MUNICIPAL CONSERVATION, TRINITY RURAL WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$863,935
TRINITY RURAL WSC	NO	2020	WATER LOSS REDUCTION, TRINITY RURAL WSC	WATER LOSS CONTROL	\$412,330
VALLEY RANCH MUD 1	NO	2020	MUNICIPAL CONSERVATION, VALLEY RANCH MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$684,601

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
VARNER CREEK UD	NO	2020	MUNICIPAL CONSERVATION, VARNER CREEK UD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$454,609
VARNER CREEK UD	NO	2020	WATER LOSS REDUCTION, VARNER CREEK UD	WATER LOSS CONTROL	\$55,346
WALKER COUNTY RURAL SUD	NO	2020	MUNICIPAL CONSERVATION, WALKER COUNTY RURAL SUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,832,813
WALKER COUNTY RURAL SUD	NO	2020	WATER LOSS REDUCTION, WALKER COUNTY RURAL SUD	WATER LOSS CONTROL	\$1,937,188
WALLER	NO	2020	MUNICIPAL CONSERVATION, WALLER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,151,987
WALLER	NO	2020	WATER LOSS REDUCTION, WALLER	WATER LOSS CONTROL	\$710,752
WALLIS	NO	2020	MUNICIPAL CONSERVATION, WALLIS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$407,981
WALLIS	NO	2020	WATER LOSS REDUCTION, WALLIS	WATER LOSS CONTROL	\$192,344
WATERWOOD MUD 1	NO	2020	MUNICIPAL CONSERVATION, WATERWOOD MUD 1	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$109,893
WEBSTER	NO	2020	MUNICIPAL CONSERVATION, WEBSTER	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$2,952,717
WEBSTER	NO	2030	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE	\$9,734,490
WEST COLUMBIA	NO	2020	MUNICIPAL CONSERVATION, WEST COLUMBIA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,174,985
WEST END WSC	NO	2020	MUNICIPAL CONSERVATION, WEST END WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$440,698
WEST HARRIS COUNTY MUD 6	NO	2020	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$379,276
WEST HARRIS COUNTY MUD 6	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD 6	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,989,492
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION	\$449,063,811
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2020	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$141,796,335
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION	\$11,713,653
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	WHCRWA 2025 DISTRIBUTION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE	\$159,257,661
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2040	WHCRWA 2035 DISTRIBUTION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE	\$117,720,162
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	WHCRWA/NFBWA TRANSMISSION LINE	CONVEYANCE/TRANSMISSION PIPELINE	\$720,886,046
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	YES	2030	WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$157,621,151
WEST UNIVERSITY PLACE	NO	2020	MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$6,438,897
WESTWOOD NORTH WSC	NO	2020	MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$743,885
WESTWOOD NORTH WSC	NO	2030	WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK	\$10,475,383
WESTWOOD SHORES MUD	NO	2020	MUNICIPAL CONSERVATION, WESTWOOD SHORES MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$452,780
WESTWOOD SHORES MUD	NO	2020	WESTWOOD SHORES REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION	\$2,031,251
WHITE OAK UTILITIES	NO	2020	MUNICIPAL CONSERVATION, WHITE OAK UTILITIES	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$530,299
WHITE OAK WSC	NO	2020	MUNICIPAL CONSERVATION, WHITE OAK WSC	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$203,451

Region H Recommended Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
WILLIS	NO	2020	MUNICIPAL CONSERVATION, WILLIS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$1,526,672
WILLIS	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$7,302,385
WOOD BRANCH VILLAGE	NO	2020	MUNICIPAL CONSERVATION, WOOD BRANCH VILLAGE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$91,110
WOOD BRANCH VILLAGE	NO	2050	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOOD BRANCH VILLAGE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; SINGLE WELL; STORAGE TANK	\$5,389,221
WOODCREEK MUD	NO	2020	MUNICIPAL CONSERVATION, WOODCREEK MUD	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$560,771
WOODCREEK MUD	NO	2040	WUG INFRASTRUCTURE EXPANSION - WOODCREEK MUD	CONVEYANCE/TRANSMISSION PIPELINE; STORAGE TANK; PUMP STATION	\$10,162,348
WOODCREEK WATER OF LIBERTY	NO	2020	MUNICIPAL CONSERVATION, WOODCREEK WATER OF LIBERTY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)	\$835,962
WOODCREEK WATER OF LIBERTY	NO	2030	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK WATER OF LIBERTY	SINGLE WELL; CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK	\$5,389,221
REGION H RECOMMENDED CAPITAL COST TOTAL					\$20,051,403,243

Region H Alternative Water User Group (WUG) Water Management Strategies (WMS)

						WATER MANAGEMENT STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
WUG ENTITY NAME	WMS SPONSOR REGION	WMS NAME	SOURCE NAME	UNIT COST 2020	UNIT COST 2070	2020	2030	2040	2050	2060	2070
REGION H ALTERNATIVE WMS SUPPLY TOTAL											

*A single asterisk next to a WUG's name denotes that the WUG is split by two or more planning regions.

Region H Alternative Projects Associated with Water Management Strategies

SPONSOR NAME	SPONSOR IS WWP?	ONLINE DECADE	PROJECT NAME	PROJECT DESCRIPTION	CAPITAL COST
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REGION H ALTERNATIVE CAPITAL COST TOTAL					
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Region H Water User Group (WUG) Management Supply Factor

WUG supplies and projected demands are entered for each of a WUG’s region-county-basin divisions. To calculate the Management Supply Factor for each WUG as a whole, not split by region-county-basin, the combined total of existing and future supply is divided by the total projected demand. If a WUG is split by more than one planning region, the whole WUG’s management supply factor will show up in each of its planning region’s management supply factor reports.

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
ALVIN	1.0	1.1	1.1	1.1	1.1	1.1
ANAHUAC	4.0	4.1	4.2	4.3	4.3	4.2
ANGLETON	1.2	4.6	4.7	4.8	4.8	4.8
AUSTIN COUNTY WSC	1.0	1.1	1.1	1.1	1.1	1.1
BACLIFF MUD	2.1	2.8	2.8	2.7	2.7	2.7
BAKER ROAD MUD	1.0	1.0	1.0	1.0	1.0	1.0
BAYBROOK MUD 1	8.2	8.0	7.2	6.7	6.3	6.0
BAYTOWN	1.3	1.4	1.4	1.4	1.3	1.3
BAYVIEW MUD	2.5	3.0	2.9	2.8	2.7	2.6
BELLAIRE	1.0	1.0	1.0	1.1	1.1	1.1
BELLVILLE	1.0	1.0	1.1	1.1	1.1	1.1
BLUE BELL MANOR UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
BLUE RIDGE WEST MUD	1.0	1.0	1.1	1.2	1.2	1.2
BOLIVAR PENINSULA SUD	28.2	22.6	17.9	14.1	11.0	8.5
BRAZORIA	1.1	1.2	1.2	1.2	1.2	1.2
BRAZORIA COUNTY MUD 2	1.0	1.1	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 21	1.0	1.0	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 25	1.0	1.3	1.3	1.3	1.3	1.2
BRAZORIA COUNTY MUD 29	1.0	1.3	1.3	1.3	1.3	1.3
BRAZORIA COUNTY MUD 3	1.0	1.1	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 31	1.0	1.0	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 6	1.0	1.0	1.0	1.0	1.0	1.0
BROOKSHIRE MWD	1.0	1.1	1.1	1.1	1.1	1.2
BUFFALO	1.0	1.1	1.1	1.1	1.1	1.1
BUNKER HILL VILLAGE	1.0	1.0	1.0	1.0	1.0	1.0
CAPE ROYALE UD	1.0	1.1	1.1	1.1	1.1	1.1
CENTERVILLE	1.0	1.1	1.1	1.1	1.1	1.1
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	1.2	1.8	1.6	1.6	1.5	1.5
CHAMBERS COUNTY MUD 1	1.0	1.1	1.1	1.1	1.1	1.1
CHATEAU WOODS MUD	1.0	1.0	1.1	1.1	1.1	1.1
CHIMNEY HILL MUD	1.1	1.1	1.1	1.2	1.2	1.2
CLEAR BROOK CITY MUD	1.8	1.9	1.7	1.7	1.6	1.6
CLEAR LAKE CITY WATER AUTHORITY	1.6	1.6	1.5	1.4	1.4	1.3
CLEVELAND	1.1	1.1	1.1	1.1	1.1	1.1
CLUTE	1.0	1.0	1.0	1.0	1.1	1.1
CONCORD-ROBBINS WSC	1.0	1.1	1.0	1.0	1.0	1.0
CONROE	1.1	1.1	1.1	1.1	1.0	1.0
CORINTHIAN POINT MUD 2	1.6	1.5	1.4	1.4	1.4	1.4
COUNTRY TERRACE WATER	1.1	1.1	1.1	1.1	1.0	1.0
COUNTY-OTHER, AUSTIN	1.0	1.2	1.1	1.2	1.1	1.1
COUNTY-OTHER, BRAZORIA	1.1	1.4	1.3	1.3	1.1	1.0
COUNTY-OTHER, CHAMBERS	1.7	1.6	1.5	1.4	1.3	1.3
COUNTY-OTHER, FORT BEND	1.2	1.4	1.2	1.1	1.1	1.1
COUNTY-OTHER, GALVESTON	1.0	1.1	1.2	1.3	1.5	1.6

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Region H Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, LEON	1.1	1.1	1.1	1.2	1.2	1.2
COUNTY-OTHER, LIBERTY	1.0	1.1	1.1	1.1	1.2	1.2
COUNTY-OTHER, MADISON	1.0	1.1	1.1	1.1	1.2	1.2
COUNTY-OTHER, MONTGOMERY	1.0	1.1	1.0	1.0	1.0	1.0
COUNTY-OTHER, POLK*	1.2	1.2	1.3	1.3	1.3	1.3
COUNTY-OTHER, SAN JACINTO	1.0	1.1	1.1	1.1	1.1	1.1
COUNTY-OTHER, TRINITY*	1.9	1.9	1.9	2.0	1.9	1.8
COUNTY-OTHER, WALKER	1.9	1.9	1.9	2.0	1.9	1.9
COUNTY-OTHER, WALLER	1.2	1.0	1.2	1.0	1.1	1.0
CROSBY MUD	3.0	3.0	3.0	2.9	2.9	2.9
CUT & SHOOT	1.0	1.1	1.1	1.1	1.1	1.1
DAISETTA	1.0	1.1	1.1	1.1	1.1	1.1
DANBURY	1.0	1.1	1.1	1.1	1.1	1.1
DAYTON	1.0	1.0	1.0	1.0	1.1	1.1
DEER PARK	1.1	1.1	1.2	1.2	1.2	1.2
DEVERS	1.0	1.0	1.0	1.0	1.0	1.0
DOBBIN PLANTERSVILLE WSC*	1.1	1.1	1.0	1.0	1.0	1.0
DODGE OAKHURST WSC	1.0	1.0	1.1	1.1	1.1	1.1
DOMESTIC WATER	1.0	1.1	1.1	1.1	1.1	1.1
DOUGLAS UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
EAST PLANTATION UD	1.0	1.0	1.0	1.1	1.1	1.1
EL DORADO UD	1.0	1.0	1.0	1.0	1.0	1.0
FAR HILLS UD	1.6	1.5	1.4	1.4	1.4	1.4
FIRST COLONY MUD 9	1.0	1.0	1.1	1.2	1.2	1.2
FLO COMMUNITY WSC*	1.0	1.1	1.1	1.1	1.2	1.2
FOREST HILLS MUD	1.1	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY FWSD 1	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY FWSD 2	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 115	1.0	1.0	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 116	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 121	1.0	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 128	2.0	2.5	2.5	2.5	2.6	2.6
FORT BEND COUNTY MUD 129	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 140	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 149	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 152	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 155	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 158	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 162	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 187	1.1	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 23	1.0	1.1	1.1	1.2	1.3	1.3
FORT BEND COUNTY MUD 24	1.0	1.1	1.1	1.3	1.3	1.3
FORT BEND COUNTY MUD 25	1.1	1.6	1.6	1.6	1.6	1.5
FORT BEND COUNTY MUD 26	1.0	1.0	1.1	1.2	1.2	1.3
FORT BEND COUNTY MUD 42	1.0	1.0	1.1	1.2	1.3	1.3
FORT BEND COUNTY MUD 46	1.7	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 47	1.7	1.1	1.1	1.1	1.1	1.1

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Region H Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 48	1.0	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 49	1.3	1.0	1.0	1.0	1.0	1.1
FORT BEND COUNTY MUD 5	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 81	1.0	1.0	1.1	1.1	1.1	1.1
FORT BEND COUNTY WCID 2	1.3	1.2	1.3	1.2	1.2	1.1
FORT BEND COUNTY WCID 3	1.0	1.0	1.0	1.0	1.0	1.0
FREEPORT	1.4	1.4	1.4	1.4	1.3	1.3
FRIENDSWOOD	1.9	1.8	1.8	1.7	1.6	1.5
FULSHEAR	1.0	1.0	1.0	1.0	1.0	1.0
G & W WSC*	1.1	1.1	1.1	1.1	1.1	1.0
GALENA PARK	1.2	1.3	1.3	1.3	1.3	1.2
GALVESTON	1.2	1.9	1.9	1.8	1.8	1.8
GALVESTON COUNTY FWSD 6	1.0	1.2	1.2	1.2	1.2	1.2
GALVESTON COUNTY MUD 12	1.6	2.1	2.1	2.2	2.2	2.2
GALVESTON COUNTY WCID 1	1.1	1.4	1.3	1.2	1.2	1.1
GALVESTON COUNTY WCID 12	1.0	1.0	1.0	1.0	1.0	1.0
GALVESTON COUNTY WCID 8	1.9	2.4	2.4	2.4	2.4	2.3
GLENDALE WSC	1.4	1.3	1.3	1.4	1.4	1.3
GREEN TRAILS MUD	1.0	1.0	1.0	1.0	1.0	1.0
GREENWOOD UD	1.1	1.2	1.2	1.2	1.3	1.3
GROVETON*	7.6	7.4	7.7	8.0	7.8	7.5
GULF UTILITY	1.0	1.0	1.1	1.1	1.1	1.1
HARDIN WSC	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY FWSD 1-A	1.5	1.5	1.5	1.5	1.5	1.5
HARRIS COUNTY FWSD 27	1.2	1.2	1.2	1.1	1.1	1.1
HARRIS COUNTY FWSD 58	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 106	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 11	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 119	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 122	1.0	1.0	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 132	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 148	1.0	1.1	1.1	1.0	1.0	1.0
HARRIS COUNTY MUD 151	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 152	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 153	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 154	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 158	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 180	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 189	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 216	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 221	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 23	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 278	1.7	1.2	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 290	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 321	1.0	1.0	1.0	1.0	1.1	1.1
HARRIS COUNTY MUD 342	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 344	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 345	1.0	1.0	1.0	1.0	1.0	1.0

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Region H Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 36	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 361	1.0	1.0	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 372	1.2	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 400	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 412	2.2	1.9	1.6	1.6	1.5	1.5
HARRIS COUNTY MUD 420	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 46	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 49	1.6	1.3	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 5	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 50	1.7	1.8	1.8	1.8	1.8	1.9
HARRIS COUNTY MUD 55	2.9	2.9	2.9	2.8	2.6	2.5
HARRIS COUNTY MUD 58	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 6	1.2	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 8	1.4	1.5	1.5	1.5	1.6	1.6
HARRIS COUNTY MUD 96	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY UD 14	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY UD 15	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 1	1.2	1.3	1.3	1.3	1.3	1.3
HARRIS COUNTY WCID 133	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 156	1.1	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY WCID 50	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY WCID 70	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 74	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 89	5.9	6.0	6.1	6.1	6.2	6.1
HARRIS COUNTY WCID 96	2.3	2.0	1.8	1.8	1.8	1.8
HARRIS COUNTY WCID-FONDREN ROAD	1.1	1.1	1.1	1.1	1.1	1.1
HARRIS-MONTGOMERY COUNTIES MUD 386	1.4	1.1	1.1	1.1	1.1	1.1
HEMPSTEAD	1.0	1.0	1.0	1.0	1.0	1.0
HILLCREST VILLAGE	1.0	1.1	1.1	1.1	1.1	1.1
HILLTOP LAKES WSC	1.0	1.0	1.1	1.1	1.1	1.1
HILSHIRE VILLAGE	1.0	1.0	1.0	1.1	1.0	1.1
HITCHCOCK	1.5	1.7	1.6	1.5	1.4	1.4
HMW SUD	1.0	1.0	1.0	1.0	1.0	1.0
HOUSTON	1.1	1.0	1.4	1.8	1.8	1.7
HUMBLE	1.0	1.1	1.1	1.1	1.1	1.1
HUNTSVILLE	2.9	2.8	2.8	2.8	2.7	2.7
IRRIGATION, AUSTIN	1.5	1.5	1.5	1.5	1.5	1.5
IRRIGATION, BRAZORIA	0.6	0.6	0.6	0.6	0.6	0.6
IRRIGATION, CHAMBERS	1.4	1.4	1.6	1.6	1.6	1.6
IRRIGATION, FORT BEND	1.2	1.2	1.2	1.2	1.2	1.2
IRRIGATION, GALVESTON	0.5	0.5	0.5	0.5	0.5	0.5
IRRIGATION, HARRIS	1.6	1.6	1.6	1.6	1.6	1.6
IRRIGATION, LEON	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, LIBERTY	1.9	1.9	2.7	2.7	2.7	2.7
IRRIGATION, MADISON	2.4	2.4	2.4	2.4	2.4	2.4
IRRIGATION, MONTGOMERY	1.2	1.2	1.2	1.2	1.2	1.2
IRRIGATION, POLK*	1.1	1.1	1.1	1.1	1.1	1.1
IRRIGATION, SAN JACINTO	1.8	1.8	1.8	1.8	1.8	1.8

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Region H Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
IRRIGATION, TRINITY*	1.1	1.1	1.1	1.1	1.1	1.1
IRRIGATION, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, WALLER	1.4	1.4	1.4	1.4	1.4	1.4
JACINTO CITY	1.7	1.7	1.7	1.7	1.7	1.6
JAMAICA BEACH	1.0	1.0	1.0	1.0	1.0	1.1
JERSEY VILLAGE	1.2	1.1	1.1	1.1	1.1	1.1
JEWETT	1.0	1.0	1.0	1.1	1.1	1.1
JOHNSTON WATER UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
KATY	1.0	1.0	1.0	1.0	1.0	1.0
KENDLETON	1.0	1.1	1.1	1.2	1.2	1.2
KINGS MANOR MUD	1.1	1.1	1.1	1.1	1.1	1.1
KIRKMONT MUD	1.0	1.0	1.0	1.1	1.1	1.1
LA MARQUE	1.0	1.1	1.1	1.2	1.2	1.2
LA PORTE	1.8	1.8	1.8	1.8	1.8	1.8
LAKE BONANZA WSC	1.0	1.1	1.1	1.1	1.0	1.0
LAKE CONROE HILLS MUD	1.0	1.1	1.1	1.1	1.1	1.1
LAKE JACKSON	1.0	1.2	1.2	1.2	1.2	1.2
LAKE LIVINGSTON WSC*	1.9	1.9	1.8	1.8	1.7	1.7
LAKE MUD	3.6	3.6	3.7	3.7	3.7	3.8
LAZY RIVER IMPROVEMENT DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
LEAGUE CITY	1.7	3.1	2.9	2.8	2.7	2.7
LEGGETT WSC	1.0	1.1	1.1	1.2	1.2	1.2
LIBERTY	1.0	1.1	1.1	1.1	1.2	1.2
LIBERTY COUNTY FWSD 1 HULL	1.0	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, AUSTIN	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, BRAZORIA	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, FORT BEND	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, GALVESTON	0.1	0.1	0.1	0.1	0.1	0.1
LIVESTOCK, HARRIS	0.7	0.4	0.2	0.2	0.2	0.2
LIVESTOCK, LEON	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, LIBERTY	1.2	1.2	1.2	1.2	1.2	1.2
LIVESTOCK, MADISON	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, POLK*	1.6	1.6	1.6	1.6	1.6	1.6
LIVESTOCK, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, TRINITY*	1.7	1.7	1.7	1.7	1.7	1.7
LIVESTOCK, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, WALLER	1.0	1.0	1.0	1.0	1.0	1.0
LIVINGSTON	2.2	2.0	1.9	1.8	1.8	1.7
LONGHORN TOWN UD	1.0	1.0	1.0	1.0	1.0	1.0
LUCE BAYOU PUD	1.0	1.0	1.0	1.0	1.0	1.0
MADISON COUNTY WSC	1.0	1.1	1.1	1.1	1.1	1.1
MADISONVILLE	1.0	1.1	1.1	1.1	1.1	1.1
MAGNOLIA	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, AUSTIN	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, BRAZORIA	1.3	1.5	1.6	1.6	1.6	1.6
MANUFACTURING, CHAMBERS	2.1	1.8	1.8	1.8	1.8	1.8

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Region H Water User Group (WUG) Management Supply Factor

WUG NAME	WUG MANAGEMENT SUPPLY FACTOR					
	2020	2030	2040	2050	2060	2070
MANUFACTURING, FORT BEND	1.3	1.1	1.1	1.1	1.1	1.1
MANUFACTURING, GALVESTON	1.4	1.5	1.7	1.7	1.7	1.7
MANUFACTURING, HARRIS	1.4	1.3	1.3	1.3	1.3	1.3
MANUFACTURING, LEON	1.1	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, LIBERTY	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, POLK*	1.1	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, WALKER	2.4	2.1	2.1	2.1	2.1	2.1
MANUFACTURING, WALLER	1.1	1.1	1.1	1.1	1.1	1.1
MANVEL	1.1	1.2	1.2	1.2	1.2	1.2
MASON CREEK UD	1.0	1.0	1.0	1.0	1.0	1.0
MEADOWCREEK MUD	1.0	1.0	1.1	1.3	1.3	1.3
MEADOWS PLACE	1.1	1.0	1.0	1.1	1.1	1.1
MEMORIAL POINT UD	1.1	1.1	1.2	1.2	1.2	1.3
MEMORIAL VILLAGES WATER AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
MERCY WSC	1.1	1.1	1.1	1.2	1.2	1.2
MINING, AUSTIN	1.0	1.5	1.9	2.5	3.6	4.9
MINING, BRAZORIA	1.0	1.0	1.0	1.0	1.0	1.0
MINING, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
MINING, FORT BEND	6.3	6.0	7.7	10.1	14.7	21.3
MINING, GALVESTON	1.0	1.0	1.0	1.0	1.0	1.0
MINING, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
MINING, LEON	1.0	1.0	1.1	1.1	1.2	1.3
MINING, LIBERTY	1.0	2.1	2.1	2.0	1.9	1.7
MINING, MADISON	1.0	1.0	1.3	1.7	2.2	3.1
MINING, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
MINING, POLK*	1.0	1.0	1.2	1.6	3.3	7.5
MINING, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
MINING, TRINITY*	1.0	1.0	1.0	1.0	1.0	1.0
MINING, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
MINING, WALLER	1.0	1.0	1.0	1.0	1.0	1.0
MISSOURI CITY	1.0	18.7	16.7	15.0	13.6	12.4
MONT BELVIEU	1.0	1.0	1.2	1.0	1.2	1.0
MONTGOMERY	1.4	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 112	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 115	1.0	1.1	1.1	1.1	1.0	1.0
MONTGOMERY COUNTY MUD 119	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 15	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 18	1.5	1.2	1.1	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 19	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 56	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 8	5.0	4.8	4.4	4.0	3.7	3.1
MONTGOMERY COUNTY MUD 83	1.0	1.0	1.0	1.0	1.1	1.1
MONTGOMERY COUNTY MUD 84	1.0	1.1	1.1	1.1	1.1	1.1
MONTGOMERY COUNTY MUD 88	1.0	1.1	1.1	1.1	1.0	1.0
MONTGOMERY COUNTY MUD 89	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 9	2.7	2.7	2.4	2.2	2.2	2.2

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Region H Water User Group (WUG) Management Supply Factor

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	2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 95	1.0	2.0	1.8	1.8	1.7	1.6
MONTGOMERY COUNTY MUD 98	1.5	1.2	1.0	1.0	1.0	1.1
MONTGOMERY COUNTY MUD 99	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY UD 2	1.0	1.5	1.5	1.4	1.3	1.2
MONTGOMERY COUNTY UD 3	1.7	1.6	1.6	1.6	1.6	1.5
MONTGOMERY COUNTY UD 4	1.6	1.4	1.4	1.3	1.1	1.0
MONTGOMERY COUNTY WCID 1	1.0	1.1	1.1	1.1	1.0	1.0
MORGANS POINT	4.1	3.8	3.6	3.4	3.2	3.1
MOSCOW WSC*	1.4	1.2	1.2	1.1	1.1	1.0
MOUNT HOUSTON ROAD MUD	1.0	1.0	1.0	1.0	1.0	1.0
MSEC ENTERPRISES	1.0	1.0	1.0	1.0	1.0	1.0
NASSAU BAY	2.2	2.3	2.3	2.2	2.2	2.2
NEEDVILLE	1.0	1.1	1.1	1.1	1.1	1.1
NEW CANEY MUD	1.0	1.1	1.1	1.1	1.1	1.1
NEW WAVERLY	1.0	1.1	1.1	1.1	1.1	1.1
NEWPORT MUD	1.6	1.3	1.1	1.1	1.1	1.1
NORMANGEE	1.0	1.1	1.1	1.1	1.1	1.1
NORTH BELT UD	1.0	1.0	1.0	1.0	1.0	1.0
NORTH CHANNEL WATER AUTHORITY	1.1	1.1	1.1	1.1	1.1	1.1
NORTH FOREST MUD	1.1	1.0	1.0	1.0	1.0	1.0
NORTH FORT BEND WATER AUTHORITY	1.1	1.4	1.2	1.2	1.1	1.1
NORTH GREEN MUD	1.0	1.0	1.0	1.0	1.0	1.0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	1.0	1.8	1.5	1.5	1.5	1.4
NORTH ZULCH MUD	1.0	1.1	1.1	1.1	1.1	1.1
NORTHWEST HARRIS COUNTY MUD 16	1.0	1.0	1.0	1.0	1.0	1.0
OAK HOLLOW UTILITY	1.0	1.1	1.1	1.1	1.1	1.1
OAK RIDGE NORTH	1.0	1.0	1.1	1.1	1.0	1.0
ONALASKA WSC	1.0	1.1	1.1	1.1	1.1	1.1
ONE FIVE O WSC	1.0	1.1	1.1	1.1	1.1	1.2
OYSTER CREEK	1.0	1.1	1.1	1.1	1.1	1.1
P B & S C WSC	1.0	1.0	1.1	1.1	1.1	1.1
PALMER PLANTATION MUD 1	1.0	1.0	1.1	1.2	1.3	1.3
PALMER PLANTATION MUD 2	1.0	1.0	1.1	1.2	1.2	1.2
PANORAMA VILLAGE	1.0	1.0	1.0	1.0	1.0	1.0
PARKWAY MUD	1.0	1.1	1.1	1.1	1.1	1.1
PASADENA	2.1	2.2	2.2	2.1	2.1	2.1
PATTISON WSC	1.0	1.0	1.0	1.0	1.1	1.1
PEARLAND	1.3	2.5	2.3	2.2	2.1	2.1
PECAN GROVE MUD 1	3.5	3.3	3.4	3.4	3.4	3.4
PENNINGTON WSC*	1.3	1.3	1.3	1.4	1.4	1.3
PHELPS SUD	1.0	1.0	1.1	1.1	1.1	1.1
PINE VILLAGE PUD	1.0	1.1	1.1	1.1	1.1	1.1
PINEHURST DECKER PRAIRIE WSC	1.0	1.0	1.0	1.0	1.0	1.0
PINEWOOD COMMUNITY	1.0	1.0	1.0	1.0	1.0	1.0
PLANTATION MUD	1.0	1.1	1.1	1.1	1.1	1.1
POINT AQUARIUS MUD	2.4	2.4	2.3	2.2	2.1	2.0
PORTER SUD	1.3	1.3	1.0	1.0	1.0	1.0
PRAIRIE VIEW	1.0	1.0	1.0	1.0	1.0	1.0

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	2020	2030	2040	2050	2060	2070
PRAIRIE VIEW A&M UNIVERSITY	1.0	1.0	1.0	1.0	1.0	1.0
PROVIDENCE WSC	1.0	1.0	1.0	1.0	1.0	1.0
QUADVEST	1.0	1.1	1.0	1.0	1.0	1.0
QUAIL VALLEY UD	1.4	1.1	1.0	1.1	1.1	1.1
RANCH UTILITIES	1.0	1.0	1.1	1.1	1.1	1.1
RAYFORD ROAD MUD	1.0	1.0	1.0	1.1	1.0	1.0
RICHMOND	1.1	1.0	1.0	1.0	1.0	1.0
RICHWOOD	1.0	1.6	1.7	1.7	1.7	1.6
RIVER PLANTATION MUD	1.3	1.3	1.0	1.0	1.0	1.0
RIVERSIDE WSC	1.0	1.0	1.0	1.0	1.0	1.0
ROLLING FORK PUD	1.1	1.0	1.0	1.0	1.0	1.0
ROMAN FOREST CONSOLIDATED MUD	1.0	1.1	1.1	1.1	1.1	1.1
ROSENBERG	1.4	1.6	1.5	1.4	1.4	1.3
ROYAL VALLEY UTILITIES	1.0	1.0	1.0	1.0	1.0	1.0
SAGEMEADOW UD	1.5	1.4	1.4	1.3	1.2	1.1
SAN JACINTO SUD	2.2	2.1	2.1	2.1	2.0	2.0
SAN LEON MUD	4.2	4.8	4.5	4.3	4.0	3.8
SEABROOK	1.1	1.1	1.1	1.1	1.1	1.1
SEALY	1.0	1.0	1.0	1.0	1.1	1.1
SEDONA LAKES MUD 1	1.0	1.1	1.1	1.1	1.1	1.1
SEQUOIA IMPROVEMENT DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
SHENANDOAH	1.0	1.0	1.0	1.0	1.0	1.0
SHEPHERD	1.0	1.1	1.1	1.1	1.1	1.1
SHOREACRES	1.3	1.3	1.3	1.3	1.2	1.2
SIENNA PLANTATION	2.3	2.2	1.8	1.5	1.4	1.3
SODA WSC*	1.0	1.1	1.1	1.1	1.1	1.1
SOUTH CLEVELAND WSC	1.0	1.1	1.1	1.1	1.1	1.1
SOUTH HOUSTON	2.4	2.5	2.5	2.5	2.5	2.4
SOUTHEAST WSC	1.0	1.1	1.1	1.2	1.2	1.2
SOUTHERN MONTGOMERY COUNTY MUD	1.0	1.0	1.1	1.1	1.1	1.1
SOUTHERN WATER	1.0	1.0	1.0	1.0	1.0	1.0
SOUTHSIDE PLACE	1.0	1.0	1.0	1.0	1.0	1.1
SOUTHWEST HARRIS COUNTY MUD 1	1.3	1.1	1.1	1.1	1.1	1.1
SPLENDORA	1.0	1.1	1.1	1.1	1.2	1.2
SPRING CREEK UD	1.0	1.1	1.1	1.1	1.0	1.0
SPRING MEADOWS MUD	1.0	1.1	1.1	1.1	1.1	1.1
SPRING VALLEY	1.5	1.2	1.0	1.0	1.0	1.0
STANLEY LAKE MUD	1.6	1.5	1.1	1.0	1.0	1.0
STEAM ELECTRIC POWER, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, FORT BEND	1.7	1.6	1.6	1.6	1.6	1.6
STEAM ELECTRIC POWER, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, MONTGOMERY	2.6	2.6	2.6	2.6	2.6	2.6
SUBURBAN UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
SUGAR LAND	1.2	1.1	1.2	1.2	1.2	1.2
SUNBELT FWSD	1.3	1.1	1.1	1.1	1.1	1.1
SURFSIDE BEACH	2.6	2.3	2.4	2.4	2.4	2.4
SWEENEY	1.0	1.1	1.1	1.1	1.1	1.1
T & W WATER SERVICE	1.0	1.0	1.0	1.0	1.0	1.0

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	2020	2030	2040	2050	2060	2070
TARKINGTON SUD	1.0	1.1	1.1	1.1	1.1	1.1
TDCJ JESTER UNITS	1.0	1.0	1.0	1.0	1.0	1.0
TDCJ RAMSEY AREA	1.7	1.7	1.7	1.7	1.7	1.7
TEMPE WSC 1	1.0	1.1	1.1	1.1	1.1	1.1
TEXAS CITY	1.5	3.1	3.0	2.9	2.8	2.7
THE COMMONS WATER SUPPLY	1.0	1.0	1.0	1.0	1.0	1.0
THE CONSOLIDATED WSC*	2.1	2.1	2.2	2.2	2.2	2.2
THE WOODLANDS	1.0	1.0	1.0	1.0	1.0	1.0
THUNDERBIRD UD	1.0	1.0	1.1	1.2	1.3	1.3
TOMBALL	1.0	1.0	1.0	1.0	1.0	1.0
TRAIL OF THE LAKES MUD	1.0	1.0	1.0	1.0	1.0	1.0
TRINITY	2.9	2.8	2.9	3.0	2.9	2.8
TRINITY BAY CONSERVATION DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
TRINITY RURAL WSC	1.0	1.1	1.1	1.1	1.1	1.1
VALLEY RANCH MUD 1	1.0	1.0	1.1	1.1	1.1	1.1
VARNER CREEK UD	1.0	1.1	1.1	1.1	1.1	1.1
WALKER COUNTY RURAL SUD	1.0	1.1	1.1	1.1	1.2	1.2
WALLER	1.0	1.1	1.1	1.1	1.2	1.2
WALLIS	1.0	1.1	1.1	1.1	1.1	1.1
WATERWOOD MUD 1	3.8	3.6	3.4	3.2	3.1	3.0
WEBSTER	1.3	1.2	1.2	1.2	1.1	1.1
WEST COLUMBIA	1.0	1.1	1.1	1.1	1.1	1.1
WEST END WSC*	1.0	1.0	1.0	1.0	1.0	1.1
WEST HARDIN WSC*	1.0	1.0	1.0	1.0	1.0	1.0
WEST HARRIS COUNTY MUD 6	1.0	1.0	1.0	1.0	1.0	1.0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	1.1	2.0	1.7	1.7	1.6	1.6
WEST UNIVERSITY PLACE	1.0	1.1	1.1	1.1	1.1	1.1
WESTWOOD NORTH WSC	1.0	1.0	1.0	1.1	1.0	1.0
WESTWOOD SHORES MUD	4.5	4.3	4.4	4.6	4.4	4.2
WHITE OAK UTILITIES	1.0	1.1	1.2	1.2	1.2	1.2
WHITE OAK WSC	1.0	1.0	1.1	1.1	1.1	1.1
WILLIS	2.8	2.8	2.7	2.6	2.4	2.2
WOOD BRANCH VILLAGE	1.0	1.3	1.1	1.0	1.0	1.0
WOODCREEK MUD	1.0	1.0	1.0	1.0	1.0	1.0
WOODCREEK WATER OF LIBERTY	1.0	1.3	1.2	1.2	1.1	1.1

*A single asterisk next to a WUG's name denotes that the WUG is split by more than one planning region.

Region H Recommended Water Management Strategy (WMS) Supply Associated with a New or Amended Inter-Basin Transfer (IBT) Permit

IBT WMS supply is the portion of the total WMS benefitting WUGs that will require a new or amended IBT permit that is not considered exempt under the Texas Water Code § 11.085.

WMS NAME	SOURCE BASIN	RECIPIENT WUG BASIN	IBT WMS SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
EAST TEXAS TRANSFER	SABINE	SAN JACINTO	0	0	0	250,000	250,000	250,000
NEW / EXPANDED CONTRACT WITH LNVA	NECHES	TRINITY	0	0	16,750	16,750	16,750	16,750
SJRA GRP	TRINITY	SAN JACINTO	0	0	0	0	1,020	7,463

Region H Water User Groups (WUGs) Recommended Water Management Strategy (WMS) Supply Associated with a New or Amended Inter-Basin Transfer (IBT) Permit and Total Recommended Conservation WMS Supply

IBT WMS supply is the portion of the total WMS benefitting the WUG basin split listed that will require a new or amended IBT permit that is not considered exempt under the Texas Water Code § 11.085. Total conservation supply represents all conservation WMS volumes recommended within the WUG's region-basin geographic split.

BENEFITTING WUG NAME BASIN	WMS SOURCE ORIGIN BASIN WMS NAME	WMS SUPPLY (ACRE-FEET PER YEAR)					
		2020	2030	2040	2050	2060	2070
CONROE SAN JACINTO BASIN	TRINITY BASIN SJRA GRP	0	0	0	0	0	1,815
	TOTAL RECOMMENDED IBT WMS SUPPLY	0	0	0	0	0	1,815
	TOTAL RECOMMENDED CONSERVATION	356	631	811	1,021	1,261	1,542
HOUSTON SAN JACINTO BASIN	SABINE BASIN EAST TEXAS TRANSFER	0	0	0	250,000	250,000	250,000
	TOTAL RECOMMENDED IBT WMS SUPPLY	0	0	0	250,000	250,000	250,000
	TOTAL RECOMMENDED CONSERVATION	15,155	30,116	41,728	54,577	65,972	79,923
IRRIGATION, LIBERTY TRINITY BASIN	NECHES BASIN NEW / EXPANDED CONTRACT WITH LNVA	0	0	16,750	16,750	16,750	16,750
	TOTAL RECOMMENDED IBT WMS SUPPLY	0	0	16,750	16,750	16,750	16,750
	TOTAL RECOMMENDED CONSERVATION	8,543	8,543	8,543	8,543	8,543	8,543
QUADVEST SAN JACINTO BASIN	TRINITY BASIN SJRA GRP	0	0	0	0	0	2,401
	TOTAL RECOMMENDED IBT WMS SUPPLY	0	0	0	0	0	2,401
	TOTAL RECOMMENDED CONSERVATION	146	262	361	523	751	1,060
THE WOODLANDS SAN JACINTO BASIN	TRINITY BASIN SJRA GRP	0	0	0	0	1,020	3,247
	TOTAL RECOMMENDED IBT WMS SUPPLY	0	0	0	0	1,020	3,247
	TOTAL RECOMMENDED CONSERVATION	174	474	592	789	1,037	1,363

Region H Sponsored Recommended Water Management Strategy (WMS) Supplies Unallocated* to Water User Groups (WUG)

WMS NAME	WMS SPONSOR	SOURCE NAME	UNALLOCATED STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
			2020	2030	2040	2050	2060	2070
ROSENBERG GRP - GROUNDWATER OFFSET	ROSENBERG	H GULF COAST AQUIFER SYSTEM FORT BEND COUNTY	30	46	43	49	44	46
TOTAL UNALLOCATED STRATEGY SUPPLIES			30	46	43	49	44	46

* Strategy supplies created through the WMS that have not been assigned to a WUG will be allocated to the entity responsible for the water through an 'unassigned water volumes' entity. Only strategy supplies associated with an 'unassigned water volume' entity are shown in this report, and may not represent all strategy supplies associated with the listed WMS.

Region H Water User Group (WUG) Strategy Supplies by Water Management Strategy (WMS) Type

WMS TYPE *	STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AQUIFER STORAGE & RECOVERY	0	0	0	0	0	9,426
CONJUNCTIVE USE	4,586	38,876	45,209	46,269	46,648	46,820
GROUNDWATER DESALINATION	0	3,110	3,597	3,899	3,698	1,007
GROUNDWATER WELLS & OTHER	10,562	50,202	64,382	79,552	89,895	100,302
INDIRECT REUSE	10,764	72,237	285,295	313,658	329,031	372,741
IRRIGATION CONSERVATION	93,562	93,562	93,562	93,562	93,562	93,562
MUNICIPAL CONSERVATION	40,429	76,238	100,178	127,630	152,664	187,174
NEW MAJOR RESERVOIR	0	80,000	128,315	131,679	171,842	179,650
OTHER DIRECT REUSE	7,443	36,539	41,264	45,934	51,041	56,066
OTHER STRATEGIES	0	22,400	22,400	22,400	22,400	22,400
OTHER SURFACE WATER	84,095	504,457	616,971	849,645	873,466	861,746
SEAWATER DESALINATION	0	0	11,200	11,200	11,200	11,200
DROUGHT MANAGEMENT	0	0	0	0	0	0
DIRECT POTABLE REUSE	0	0	0	0	0	0
OTHER CONSERVATION	0	0	0	0	0	0
TOTAL STRATEGY SUPPLIES	251,441	977,621	1,412,373	1,725,428	1,845,447	1,942,094

* WMS type descriptions can be found on the interactive state water plan website at <http://texasstatewaterplan.org/> using the 'View data for' drop-down menus to navigate to a specific WMS Type page. The data used to create each WMS type value is available in Appendix 3 of the Guidelines for Regional Water Planning Data Deliverable (Exhibit D) document at http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/ExhibitD.pdf.

**Region H Water User Group (WUG)
Recommended Water Management Strategy (WMS) Supplies by Source Type**

SOURCE SUBTYPE*	STRATEGY SUPPLY (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
AQUIFER STORAGE & RECOVERY	0	0	0	0	0	9,426
GROUNDWATER	15,148	92,188	106,403	122,907	133,400	141,279
GROUNDWATER TOTAL STRATEGY SUPPLIES	15,148	92,188	106,403	122,907	133,400	150,705
DIRECT NON-POTABLE REUSE	7,443	36,539	41,264	45,934	51,041	56,066
DIRECT POTABLE REUSE	0	0	0	0	0	0
INDIRECT NON-POTABLE REUSE	0	0	0	0	0	0
INDIRECT POTABLE REUSE	10,764	72,237	285,295	313,658	329,031	372,741
REUSE TOTAL STRATEGY SUPPLIES	18,207	108,776	326,559	359,592	380,072	428,807
ATMOSPHERE	0	0	0	0	0	0
GULF OF MEXICO	0	0	11,200	11,200	11,200	11,200
LIVESTOCK LOCAL SUPPLY	0	0	0	0	0	0
OTHER LOCAL SUPPLY	0	0	0	0	0	0
RAINWATER HARVESTING	0	0	0	0	0	0
RESERVOIR	1,971	140,204	201,833	452,312	487,633	487,238
RESERVOIR SYSTEM	70,709	376,153	468,918	454,527	483,240	479,749
RUN-OF-RIVER	11,415	90,500	103,720	103,698	103,676	103,659
SURFACE WATER TOTAL STRATEGY SUPPLIES	84,095	606,857	785,671	1,021,737	1,085,749	1,081,846
REGION H TOTAL STRATEGY SUPPLIES	117,450	807,821	1,218,633	1,504,236	1,599,221	1,661,358

* A full list of source subtype definitions can be found in section 3 of the Guidelines for Regional Water Planning Data Deliverable (Exhibit D) document at http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/doc/current_docs/contract_docs/ExhibitD.pdf.

Region H Major Water Provider (MWP) Existing Sales and Transfers

Major Water Providers are entities of particular significance to a region's water supply as defined by the Regional Water Planning Group (RWPG), and may be a Water User Group (WUG) entity, Wholesale Water Provider (WWP) entity, or both (WUG/WWP).

Retail denotes WUG projected demands and existing water supplies used by the WUG. Wholesale denotes a WWP or WUG/WWP selling water to another entity.

BRAZOS RIVER AUTHORITY - WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	738,124	738,297	738,542	738,835	739,195	739,463
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	738,124	738,297	738,542	738,835	739,195	739,463
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	692,638	691,508	690,450	689,440	686,275	681,841
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	692,638	691,508	690,450	689,440	686,275	681,841

BRAZOSPORT WATER AUTHORITY - WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	16,892	16,892	16,892	16,892	16,892	16,892
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	16,892	16,892	16,892	16,892	16,892	16,892
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	16,892	16,892	16,892	16,892	16,892	16,892
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	16,892	16,892	16,892	16,892	16,892	16,892

CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT - WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	62,026	62,026	62,026	62,026	62,026	62,026
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	62,026	62,026	62,026	62,026	62,026	62,026
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	43,227	43,227	43,227	43,227	43,227	43,227
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	43,227	43,227	43,227	43,227	43,227	43,227

CLEAR LAKE CITY WATER AUTHORITY - WUG/WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	13,087	13,280	14,087	14,808	15,554	16,326
PROJECTED WHOLESALE CONTRACT DEMANDS	4,278	4,300	4,317	4,338	4,357	4,375
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	17,365	17,580	18,404	19,146	19,911	20,701
GROUNDWATER SALES TO RETAIL CUSTOMERS	1,309	1,328	1,409	1,481	1,555	1,633
REUSE SALES TO RETAIL CUSTOMERS	436	436	436	436	436	436
SURFACE WATER SALES TO RETAIL CUSTOMERS	18,127	18,105	18,088	18,067	18,048	18,030
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	4,278	4,300	4,317	4,338	4,357	4,375
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	24,150	24,169	24,250	24,322	24,396	24,474

CONROE - WUG/WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	12,828	15,106	17,182	19,141	21,300	23,628
PROJECTED WHOLESALE CONTRACT DEMANDS	2,427	2,427	2,427	2,427	2,427	2,427
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	15,255	17,533	19,609	21,568	23,727	26,055
GROUNDWATER SALES TO RETAIL CUSTOMERS	6,472	6,472	6,472	6,472	6,472	6,472
SURFACE WATER SALES TO RETAIL CUSTOMERS	7,933	7,933	7,933	7,933	7,933	7,933
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	187	187	187	187	187	187
REUSE SALES TO WHOLESALE CUSTOMERS	2,240	2,240	2,240	2,240	2,240	2,240
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	16,832	16,832	16,832	16,832	16,832	16,832

DOW INC. - WWP		WATER VOLUMES (ACRE-FEET PER YEAR)				
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070

Region H Major Water Provider (MWP) Existing Sales and Transfers

PROJECTED WHOLESALE CONTRACT DEMANDS	164,424	164,092	163,760	163,428	163,096	162,764
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	164,424	164,092	163,760	163,428	163,096	162,764
REUSE SALES TO WHOLESALE CUSTOMERS	3,300	3,300	3,300	3,300	3,300	3,300
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	161,124	160,792	160,460	160,128	159,796	159,464
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	164,424	164,092	163,760	163,428	163,096	162,764

GALVESTON - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	16,622	17,422	18,284	19,244	20,164	21,151
PROJECTED WHOLESALE CONTRACT DEMANDS	339	338	338	339	342	345
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	16,961	17,760	18,622	19,583	20,506	21,496
GROUNDWATER SALES TO RETAIL CUSTOMERS	1,662	1,742	1,828	1,924	2,016	2,115
SURFACE WATER SALES TO RETAIL CUSTOMERS	18,232	18,224	18,215	18,205	18,193	18,181
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	339	338	338	339	342	345
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	20,233	20,304	20,381	20,468	20,551	20,641

GULF COAST WATER AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	265,399	265,399	265,399	265,399	265,399	265,399
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	265,399	265,399	265,399	265,399	265,399	265,399
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	227,590	227,515	227,445	227,371	227,293	227,217
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	227,590	227,515	227,445	227,371	227,293	227,217

HOUSTON - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	446,526	472,461	499,085	529,064	562,767	598,573
PROJECTED WHOLESALE CONTRACT DEMANDS	738,352	741,933	746,268	747,565	749,137	750,777
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	1,184,878	1,214,394	1,245,353	1,276,629	1,311,904	1,349,350
GROUNDWATER SALES TO RETAIL CUSTOMERS	141,964	88,490	51,941	54,521	57,439	60,564
REUSE SALES TO RETAIL CUSTOMERS	4,839	4,862	4,937	5,027	5,147	5,147
SURFACE WATER SALES TO RETAIL CUSTOMERS	312,052	312,065	312,092	312,090	312,088	312,090
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	227	227	227	227	227	227
REUSE SALES TO WHOLESALE CUSTOMERS	83	83	83	83	83	83
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	738,042	741,623	745,958	747,255	748,794	750,467
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	1,197,207	1,147,350	1,115,238	1,119,203	1,123,778	1,128,578

HUNTSVILLE - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	7,861	8,054	8,177	8,344	8,517	8,668
PROJECTED WHOLESALE CONTRACT DEMANDS	11,960	11,960	11,960	11,960	11,960	11,960
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	19,821	20,014	20,137	20,304	20,477	20,628
GROUNDWATER SALES TO RETAIL CUSTOMERS	2,890	2,923	2,944	2,973	3,002	3,028
SURFACE WATER SALES TO RETAIL CUSTOMERS	19,400	19,400	19,400	19,400	19,400	19,400
REUSE SALES TO WHOLESALE CUSTOMERS	2,240	2,240	2,240	2,240	2,240	2,240
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	9,720	9,720	9,720	9,720	9,720	9,720
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	34,250	34,283	34,304	34,333	34,362	34,388

LEAGUE CITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070

Region H Major Water Provider (MWP) Existing Sales and Transfers

PROJECTED RETAIL WUG DEMANDS	14,545	16,044	17,222	18,230	18,839	19,271
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	14,545	16,044	17,222	18,230	18,839	19,271
GROUNDWATER SALES TO RETAIL CUSTOMERS	1,455	1,605	1,722	1,823	1,884	1,927
REUSE SALES TO RETAIL CUSTOMERS	645	645	645	645	645	645
SURFACE WATER SALES TO RETAIL CUSTOMERS	21,851	21,849	21,848	21,848	21,846	21,845
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	23,951	24,099	24,215	24,316	24,375	24,417

LOWER NECHES VALLEY AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	425,909	427,553	429,499	431,682	433,750	434,487
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	425,909	427,553	429,499	431,682	433,750	434,487
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	406,787	408,402	410,127	412,265	414,314	415,050
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	406,787	408,402	410,127	412,265	414,314	415,050

MISSOURI CITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	428	518	586	657	730	809
PROJECTED WHOLESALE CONTRACT DEMANDS	10,413	10,244	10,256	10,254	10,254	10,254
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	10,841	10,762	10,842	10,911	10,984	11,063
GROUNDWATER SALES TO RETAIL CUSTOMERS	149	56	83	112	141	173
SURFACE WATER SALES TO RETAIL CUSTOMERS	109	45	45	45	45	45
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	206	37	49	47	47	47
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	11,092	11,156	11,156	11,156	11,156	11,156
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	11,556	11,294	11,333	11,360	11,389	11,421

NORTH FORT BEND WATER AUTHORITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	62,952	85,726	103,685	114,084	119,630	122,471
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	62,952	85,726	103,685	114,084	119,630	122,471
GROUNDWATER SALES TO RETAIL CUSTOMERS	39,878	30,102	36,906	41,063	43,282	44,415
REUSE SALES TO RETAIL CUSTOMERS	2,014	2,014	2,014	2,014	2,014	2,014
SURFACE WATER SALES TO RETAIL CUSTOMERS	21,840	21,840	21,840	21,840	21,840	21,840
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	63,732	53,956	60,760	64,917	67,136	68,269

NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	122,747	128,791	133,934	138,694	143,385	147,826
PROJECTED WHOLESALE CONTRACT DEMANDS	3,872	2,822	2,066	2,122	2,165	2,197
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	126,619	131,613	136,000	140,816	145,550	150,023
GROUNDWATER SALES TO RETAIL CUSTOMERS	83,592	49,185	24,456	25,408	26,346	27,234
REUSE SALES TO RETAIL CUSTOMERS	772	772	772	772	772	772
SURFACE WATER SALES TO RETAIL CUSTOMERS	34,720	34,720	34,720	34,720	34,720	34,720
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	3,872	2,822	2,066	2,122	2,165	2,197
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	122,956	87,499	62,014	63,022	64,003	64,923

NRG - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	143,488	143,464	143,440	143,415	143,391	143,367
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	143,488	143,464	143,440	143,415	143,391	143,367

Region H Major Water Provider (MWP) Existing Sales and Transfers

SURFACE WATER SALES TO WHOLESALE CUSTOMERS	143,488	143,464	143,440	143,415	143,391	143,367
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	143,488	143,464	143,440	143,415	143,391	143,367

PASADENA - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	21,838	21,859	21,923	22,266	22,795	23,394
PROJECTED WHOLESALE CONTRACT DEMANDS	6,720	6,720	6,720	6,720	6,720	6,720
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	28,558	28,579	28,643	28,986	29,515	30,114
GROUNDWATER SALES TO RETAIL CUSTOMERS	3,871	3,875	3,886	3,946	4,040	4,147
SURFACE WATER SALES TO RETAIL CUSTOMERS	42,278	42,278	42,278	42,278	42,278	42,278
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	6,720	6,720	6,720	6,720	6,720	6,720
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	52,869	52,873	52,884	52,944	53,038	53,145

PEARLAND - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	18,335	19,639	21,422	23,258	25,140	26,941
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	18,335	19,639	21,422	23,258	25,140	26,941
GROUNDWATER SALES TO RETAIL CUSTOMERS	4,853	5,706	6,936	8,299	9,812	11,277
SURFACE WATER SALES TO RETAIL CUSTOMERS	17,920	17,920	17,920	17,920	17,920	17,920
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	22,773	23,626	24,856	26,219	27,732	29,197

SAN JACINTO RIVER AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	142,548	142,548	142,548	142,548	142,548	142,548
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	142,548	142,548	142,548	142,548	142,548	142,548
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	9,604	9,604	9,604	9,604	9,604	9,604
REUSE SALES TO WHOLESALE CUSTOMERS	8,786	9,142	9,580	10,111	10,935	11,939
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	93,922	92,322	90,822	89,522	89,522	89,522
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	112,312	111,068	110,006	109,237	110,061	111,065

SUGAR LAND - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	32,871	35,122	36,709	38,349	39,794	40,812
PROJECTED WHOLESALE CONTRACT DEMANDS	2,680	2,680	2,680	2,680	2,680	2,680
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	35,551	37,802	39,389	41,029	42,474	43,492
GROUNDWATER SALES TO RETAIL CUSTOMERS	22,672	13,416	14,049	14,704	15,281	15,586
SURFACE WATER SALES TO RETAIL CUSTOMERS	11,768	11,768	11,768	11,768	11,768	11,768
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	102	102	102	102	102	102
REUSE SALES TO WHOLESALE CUSTOMERS	420	420	420	420	420	420
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	2,158	2,158	2,158	2,158	2,158	2,158
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	37,120	27,864	28,497	29,152	29,729	30,034

TEXAS CITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	7,078	7,524	7,898	8,272	8,667	9,038
PROJECTED WHOLESALE CONTRACT DEMANDS	609	609	609	609	609	609
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	7,687	8,133	8,507	8,881	9,276	9,647
GROUNDWATER SALES TO RETAIL CUSTOMERS	708	752	790	827	867	904
SURFACE WATER SALES TO RETAIL CUSTOMERS	9,570	9,566	9,561	9,556	9,551	9,546

Region H Major Water Provider (MWP) Existing Sales and Transfers

SURFACE WATER SALES TO WHOLESALE CUSTOMERS	609	609	609	609	609	609
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	10,887	10,927	10,960	10,992	11,027	11,059

THE WOODLANDS - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	27,858	29,280	30,845	32,619	35,110	38,072
PROJECTED WHOLESALE CONTRACT DEMANDS	425	425	425	425	425	425
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	28,283	29,705	31,270	33,044	35,535	38,497
GROUNDWATER SALES TO RETAIL CUSTOMERS	14,351	13,301	12,545	12,601	12,644	12,676
REUSE SALES TO RETAIL CUSTOMERS	438	438	438	438	438	438
SURFACE WATER SALES TO RETAIL CUSTOMERS	14,707	14,707	14,707	14,707	14,707	14,707
GROUNDWATER SALES TO WHOLESALE CUSTOMERS	170	170	170	170	170	170
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	255	255	255	255	255	255
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	29,921	28,871	28,115	28,171	28,214	28,246

TRINITY RIVER AUTHORITY - WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED WHOLESALE CONTRACT DEMANDS	416,867	418,371	421,307	426,432	432,324	446,273
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	416,867	418,371	421,307	426,432	432,324	446,273
REUSE SALES TO WHOLESALE CUSTOMERS	3,479	3,882	4,614	5,129	5,129	5,129
SURFACE WATER SALES TO WHOLESALE CUSTOMERS	412,437	408,147	403,688	402,376	401,704	398,619
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	415,916	412,029	408,302	407,505	406,833	403,748

WEST HARRIS COUNTY REGIONAL WATER AUTHORITY - WUG/WWP	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
PROJECTED RETAIL WUG DEMANDS	72,046	74,157	78,197	82,669	84,248	85,718
TOTAL PROJECTED WHOLESALE CONTRACT AND RETAIL DEMANDS	72,046	74,157	78,197	82,669	84,248	85,718
GROUNDWATER SALES TO RETAIL CUSTOMERS	46,694	25,924	12,181	13,076	13,393	13,690
REUSE SALES TO RETAIL CUSTOMERS	734	734	734	734	734	734
SURFACE WATER SALES TO RETAIL CUSTOMERS	31,976	31,976	31,976	31,976	31,976	31,976
TOTAL WHOLESALE AND RETAIL SALES TO CUSTOMERS	79,404	58,634	44,891	45,786	46,103	46,400

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

MWPs are entities of significance to a region's water supply as defined by the Regional Water Planning Group (RWPG) and may be a Water User Group (WUG) entity, Wholesale Water Provider (WWP) entity, or both (WUG/WWP). 'MWP Retail Customers' denotes recommended WMS supply used by the WUG. 'Transfers Related to Wholesale Customers' denotes a WWP or WUG/WWP selling or transferring recommended WMS supply to another entity. Supply associated with the MWP's wholesale transfers will only display if it is listed as the main seller in the State Water Planning database, even if multiple sellers are involved with the sale of water to WUGs. Unallocated water volumes represent MWP recommended WMS supply not currently allocated to a customer of the MWP. 'Total MWP Related WMS Supply' will display if the MWP's WMS is related to more than one WMS supply type (retail, wholesale, and/or unallocated). Associated WMS Projects are listed when the MWP is one of the project's sponsors. Report contains draft data and is subject to change.

BRAZOS RIVER AUTHORITY BELTON TO STILLHOUSE PIPELINE-BRA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	5,000	5,000	5,000	5,000	5,000
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
BELTON TO STILLHOUSE PIPELINE-BRA	CONVEYANCE/TRANSMISSION PIPELINE; DIVERSION AND CONTROL STRUCTURE; NEW SURFACE WATER INTAKE					

BRAZOS RIVER AUTHORITY BRA HIGHLAND LAKE TO COUNTY-OTHER						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	2,872	2,872	2,872	2,872	2,872

BRAZOS RIVER AUTHORITY LAKE AQUILLA POOL REALLOCATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	0	2,483	2,483
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE AQUILLA REALLOCATION- BRA	RAISE CONSERVATION POOL; DIVERSION AND CONTROL STRUCTURE					

BRAZOS RIVER AUTHORITY LAKE GRANGER ASR						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	7,600	11,900	11,900	11,900	11,900
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE GRANGER ASR	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; INJECTION WELL					

BRAZOS RIVER AUTHORITY LAKE GRANGER AUGMENTATION-PH 2						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	16,510	17,848	15,640	15,612	17,847
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE GRANGER AUGMENTATION-PHASE 2-BRA	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION					

BRAZOS RIVER AUTHORITY NEW / EXPANDED CONTRACT WITH BRA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	2,061	2,603
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION					

BRAZOS RIVER AUTHORITY NEW / EXPANDED CONTRACT WITH GCWA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	13,440	16,103	18,238	24,450
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION					

BRAZOS RIVER AUTHORITY PARKER COUNTY SUD - ADDITIONAL BRA (SYS OPS)						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	285	670	1,053

BRAZOS RIVER AUTHORITY RICHMOND GRP						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	701	1,793	2,847
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION					

BRAZOS RIVER AUTHORITY STORAGE REALLOCATION OF LAKE WHITNEY						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	12,000	26,000
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	38,480	26,480	12,480
TOTAL MWP RELATED WMS SUPPLY	0	0	0	38,480	38,480	38,480
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE WHITNEY REALLOCATION TO WILLIAMSON COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; NEW SURFACE WATER INTAKE; NEW WATER TREATMENT PLANT					

BRAZOS RIVER AUTHORITY WILLIAMSON COUNTY GROUNDWATER– SOUTH OPTION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	7,379	10,075	10,621	10,761	10,903
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WILLIAMSON COUNTY GROUNDWATER	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD					

BRAZOSPORT WATER AUTHORITY DOW RESERVOIR AND PUMP STATION EXPANSION						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	8,569	8,569	8,569	8,569	8,569
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
DOW RESERVOIR AND PUMP STATION EXPANSION	PUMP STATION; RESERVOIR CONSTRUCTION; SURFACE WATER INTAKE MODIFICATION					
BWA TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE					
BWA CONVENTIONAL TREATMENT EXPANSION	WATER TREATMENT PLANT EXPANSION					

BRAZOSPORT WATER AUTHORITY NEW / EXPANDED CONTRACT WITH BWA						
	WATER VOLUMES (ACRE-FEET PER YEAR)					
DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	6,155	6,611	6,883	6,651	3,930
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
BWA TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE					
BWA BRACKISH GROUNDWATER DEVELOPMENT	MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT					
BWA CONVENTIONAL TREATMENT EXPANSION	WATER TREATMENT PLANT EXPANSION					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT | NO RECOMMENDED WMS SUPPLY RELATED TO MWP

CLEAR LAKE CITY WATER AUTHORITY | MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	352	526	610	729	864	1,030
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

CLEAR LAKE CITY WATER AUTHORITY | WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	80	232	354	372	390	410
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	WATER LOSS CONTROL					

CONROE | MUNICIPAL CONSERVATION, CONROE

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	356	631	811	1,021	1,261	1,542
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, CONROE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

CONROE | PORTER SUD JOINT GRP

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	1,680	2,240	2,240	2,240	2,240	2,240

CONROE | SJRA GRP

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	5,581	7,438	9,190	8,648	10,463
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

DOW INC. | BRAZOS SALTWATER BARRIER

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	10,000	10,000	10,000	10,000
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
BRAZOS SALTWATER BARRIER	SALTWATER BARRIER					

DOW INC. | DOW RESERVOIR AND PUMP STATION EXPANSION

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	71,431	71,431	71,431	71,431	71,431
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
DOW RESERVOIR AND PUMP STATION EXPANSION	PUMP STATION; RESERVOIR CONSTRUCTION; SURFACE WATER INTAKE MODIFICATION					

DOW INC. | FREEPORT SEAWATER DESALINATION

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	11,200	11,200	11,200	11,200
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
FREEMONT SEAWATER DESALINATION	NEW WATER TREATMENT PLANT; CONVEYANCE/TRANSMISSION PIPELINE					
DOW INC. OTHER BRA SYSTEM OPERATION SUPPLIES						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	15,473	15,473	15,473	15,473	15,034	14,462
GALVESTON GCWA GALVESTON COUNTY TREATED WATER EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	11,891	11,900	11,909	11,918	11,927
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - GALVESTON	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
GALVESTON MUNICIPAL CONSERVATION, GALVESTON						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	469	698	798	954	1,116	1,330
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, GALVESTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					
GALVESTON WATER LOSS REDUCTION, GALVESTON						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	320	958	1,596	2,242	2,883	3,529
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, GALVESTON	WATER LOSS CONTROL					
GULF COAST WATER AUTHORITY ADDITIONAL SUPPLY FROM GCWA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	7,013	7,029	7,044	7,060	7,077	7,092
GULF COAST WATER AUTHORITY GALVESTON COUNTY INDUSTRIAL REUSE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	22,400	22,400	22,400	22,400	22,400
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION					
GULF COAST WATER AUTHORITY GCWA BACKUP WELLS						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	1,120	1,120	0	0
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GCWA BACKUP WELL DEVELOPMENT	MULTIPLE WELLS/WELL FIELD					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

GULF COAST WATER AUTHORITY GCWA GALVESTON COUNTY RAW WATER EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	14,634	14,680	14,736	14,787	14,839	14,888
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GCWA INDUSTRIAL RAW WATER LINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT					
GCWA SHANNON PUMP STATION EXPANSION	PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT					

GULF COAST WATER AUTHORITY GCWA GALVESTON COUNTY TREATED WATER EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	28,083	28,127	28,178	28,233	28,285
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	NEW WATER TREATMENT PLANT; WATER RIGHT/PERMIT AMENDMENT NO IBT					
GCWA SHANNON PUMP STATION EXPANSION	PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT					

GULF COAST WATER AUTHORITY MISSOURI CITY GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	14,736	14,741	14,748	14,755	14,761

GULF COAST WATER AUTHORITY NEW / EXPANDED CONTRACT WITH GCWA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	1,931	6,589	8,947	10,428	9,283	7,830
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
GCWA INDUSTRIAL RAW WATER LINE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT					
GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	NEW WATER TREATMENT PLANT; WATER RIGHT/PERMIT AMENDMENT NO IBT					
GCWA SHANNON PUMP STATION EXPANSION	PUMP STATION; WATER RIGHT/PERMIT AMENDMENT NO IBT					

GULF COAST WATER AUTHORITY PEARLAND SWTP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	2,357	2,361	2,365	2,369	2,374

HOUSTON CHCRWA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	5,466	5,466	5,466	5,466	5,466
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
COH, NHCRA, AND CHCRWA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					

HOUSTON CITY OF HOUSTON AREA 2 GROUNDWATER DEVELOPMENT						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

MWP RETAIL CUSTOMERS	0	36,234	39,259	42,619	46,372	50,376
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
CITY OF HOUSTON AREA 2 GROUNDWATER INFRASTRUCTURE	MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; STORAGE TANK					

HOUSTON CITY OF HOUSTON GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	6,130	45,775	45,777	80,652	80,653
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	7,801	17,172	17,447	17,799	18,112
TOTAL MWP RELATED WMS SUPPLY	0	13,931	62,947	63,224	98,451	98,765
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
ALLENS CREEK RESERVOIR	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; RESERVOIR CONSTRUCTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
COH, NHCRAW, AND CHCRWA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE					
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 1	NEW WATER TREATMENT PLANT; CONVEYANCE/TRANSMISSION PIPELINE					
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 2	WATER TREATMENT PLANT EXPANSION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					
CITY OF HOUSTON GRP TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE					
CWA TRANSMISSION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE					

HOUSTON CITY OF HOUSTON REUSE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	195,085	183,938	192,105	193,657
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
CITY OF HOUSTON REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					

HOUSTON EAST TEXAS TRANSFER						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	0	0	250,000	250,000	250,000
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
EAST TEXAS TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					

HOUSTON MUNICIPAL CONSERVATION, HOUSTON						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	11,745	19,117	22,886	27,709	30,664	35,985
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, HOUSTON	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

HOUSTON NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	10,826	13,472	16,597	16,945	19,883	22,477
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

HOUSTON NFBWA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	59,819	62,496	62,496	62,496	62,496
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
CITY OF HOUSTON REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					

HOUSTON NHCRA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	138,352	143,360	143,360	143,360	143,360
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
COH, NHCRA, AND CHCRA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE					
CITY OF HOUSTON REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					

HOUSTON SOUTHEAST TRANSMISSION LINE EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	15,758	15,758	15,758	15,758	15,758
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	24,080	24,080	24,080	24,080	24,080
TOTAL MWP RELATED WMS SUPPLY	0	39,838	39,838	39,838	39,838	39,838
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	CONVEYANCE/TRANSMISSION PIPELINE					

HOUSTON WATER LOSS REDUCTION, HOUSTON						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	4,080	12,326	20,673	29,252	38,172	47,390
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, HOUSTON	WATER LOSS CONTROL					

HOUSTON WHCRA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	87,845	92,288	92,288	92,288	92,288
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
CITY OF HOUSTON REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WATER TREATMENT PLANT EXPANSION					

HUNTSVILLE MUNICIPAL CONSERVATION, HUNTSVILLE						
WATER VOLUMES (ACRE-FEET PER YEAR)						

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	210	331	384	435	490	546
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, HUNTSVILLE	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

HUNTSVILLE WATER LOSS REDUCTION, HUNTSVILLE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	49	145	232	237	242	246
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, HUNTSVILLE	WATER LOSS CONTROL					

LEAGUE CITY GCWA GALVESTON COUNTY TREATED WATER EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	600	601	601	603	604
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - LEAGUE CITY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

LEAGUE CITY MUNICIPAL CONSERVATION, LEAGUE CITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	439	781	952	1,182	1,367	1,691
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, LEAGUE CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

LEAGUE CITY SOUTHEAST TRANSMISSION LINE EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	24,080	24,080	24,080	24,080	24,080

LEAGUE CITY WATER LOSS REDUCTION, LEAGUE CITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	92	290	494	529	546	559
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, LEAGUE CITY	WATER LOSS CONTROL					

LOWER NECHES VALLEY AUTHORITY BEAUMONT CONTRACT AMENDMENT						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	228	2,249

LOWER NECHES VALLEY AUTHORITY JASP-LTK-PURCHASE FROM LOWER NECHES VALLEY AUTHORITY (SAM RAYBURN)						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	8,932	8,932	8,932	8,932	8,932	8,932

LOWER NECHES VALLEY AUTHORITY JEFF-CTR-PURCHASE FROM LOWER NECHES VALLEY AUTHORITY (SAM RAYBURN)						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	855	1,950
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LOWER NECHES VALLEY AUTHORITY | JEFF-MFG-PURCHASE FROM LOWER NECHES VALLEY AUTHORITY (SAM RAYBURN)

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	143,513	143,497	143,479	143,462	143,446

LOWER NECHES VALLEY AUTHORITY | JEFF-SEP-PURCHASE FROM LOWER NECHES VALLEY AUTHORITY (SAM RAYBURN)

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	2,391	2,391	2,391	2,391	2,391

LOWER NECHES VALLEY AUTHORITY | LNVA-SRA-PURCHASE FROM SABINE RIVER AUTHORITY (TOLEDO BEND)

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RELATED UNALLOCATED WMS WATER VOLUMES	0	0	0	200,000	200,000	200,000
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LNVA-SRA-PURCHASE FROM SABINE RIVER AUTHORITY (TOLEDO BEND)	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

LOWER NECHES VALLEY AUTHORITY | LNVA-WRR-BEAUMONT WEST REGIONAL RESERVOIR

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
RELATED UNALLOCATED WMS WATER VOLUMES	0	7,700	7,700	7,700	7,700	7,700
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LNVA-WRR-BEAUMONT WEST REGIONAL RESERVOIR	PUMP STATION; RESERVOIR CONSTRUCTION					

LOWER NECHES VALLEY AUTHORITY | NEW / EXPANDED CONTRACT WITH LNVA

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	416	712	68,044	68,383	68,764	69,156
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LNVA NECHES-TRINITY BASIN INTERCONNECT	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					

MISSOURI CITY | MISSOURI CITY GRP

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	170	9,609	9,682	9,760	9,815	9,870
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	2,306	5,294	7,371	9,220	10,303	10,835
TOTAL MWP RELATED WMS SUPPLY	2,476	14,903	17,053	18,980	20,118	20,705
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MISSOURI CITY GRP INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION					

MISSOURI CITY | MUNICIPAL CONSERVATION, MISSOURI CITY

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	13	23	29	36	42	51
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, MISSOURI CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

MISSOURI CITY | WATER LOSS REDUCTION, MISSOURI CITY

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	2	4	5	6	6	7
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, MISSOURI CITY	WATER LOSS CONTROL					

NORTH FORT BEND WATER AUTHORITY MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	1,693	3,124	4,415	5,861	6,643	7,974
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

NORTH FORT BEND WATER AUTHORITY NFBWA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	58,859	61,503	61,547	61,575	61,633
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	3,928	4,105	4,273	4,450	4,644
TOTAL MWP RELATED WMS SUPPLY	0	62,787	65,608	65,820	66,025	66,277
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
WHCRWA/NFBWA TRANSMISSION LINE	CONVEYANCE/TRANSMISSION PIPELINE					
NFBWA PHASE 2 DISTRIBUTION SEGMENTS	CONVEYANCE/TRANSMISSION PIPELINE					

NORTH FORT BEND WATER AUTHORITY NFBWA MEMBER DISTRICT REUSE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	3,816	3,816	3,816	3,816	3,816	3,816
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
NFBWA MEMBER DISTRICT REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK					

NORTH FORT BEND WATER AUTHORITY WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	937	1,672	2,099	2,325	2,441
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION					

NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	3,512	5,827	6,979	8,620	9,487	11,403
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY NHCRWA GRP						
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Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	137,506	139,447	139,205	138,994	138,855
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	1,502	503	615	659	702
TOTAL MWP RELATED WMS SUPPLY	0	139,008	139,950	139,820	139,653	139,557
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
COH, NHCRWA, AND CHCRWA SHARED TRANSMISSION	CONVEYANCE/TRANSMISSION PIPELINE					
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
NHCRWA TRANSMISSION LINES	CONVEYANCE/TRANSMISSION PIPELINE					
NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	CONVEYANCE/TRANSMISSION PIPELINE					
NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	CONVEYANCE/TRANSMISSION PIPELINE					
NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	CONVEYANCE/TRANSMISSION PIPELINE					

NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY NHCRWA MEMBER DISTRICT REUSE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	300	300	300	300	300	300
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
NHCRWA MEMBER DISTRICT REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; PUMP STATION; STORAGE TANK					

NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	439	798	1,103	1,372	1,618
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION					

NRG INDUSTRIAL SUPPLY REALLOCATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	21,772	27,870	27,922	27,979	28,040	28,161

NRG NRG CEDAR BAYOU DESALINATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	22,400	22,400	22,400	22,400	22,400
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
NRG CEDAR BAYOU DESALINATION	NEW WATER TREATMENT PLANT; STORAGE TANK					

PASADENA MUNICIPAL CONSERVATION, PASADENA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	609	951	1,084	1,247	1,434	1,645
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, PASADENA	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

PEARLAND CITY OF PEARLAND REUSE						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	314	1,154	1,154	1,154	1,154	1,154
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
PEARLAND REUSE INFRASTRUCTURE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

PEARLAND MUNICIPAL CONSERVATION, PEARLAND						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	560	949	1,153	1,443	1,790	2,204
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, PEARLAND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

PEARLAND PEARLAND SWTP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	22,400	22,400	22,400	22,400	22,400
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	NEW WATER TREATMENT PLANT					

PEARLAND WATER LOSS REDUCTION, PEARLAND						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	101	251	274	298	322	345
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, PEARLAND	WATER LOSS CONTROL					

SAN JACINTO RIVER AUTHORITY NEW / EXPANDED CONTRACT WITH SJRA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	404	1,065	12,798	24,969	51,396	74,226
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE LIVINGSTON TO SJRA TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
SJRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					

SAN JACINTO RIVER AUTHORITY SJRA AQUIFER STORAGE AND RECOVERY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	0	0	0	9,426
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
SJRA AQUIFER STORAGE AND RECOVERY	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD; NEW WATER TREATMENT PLANT; PUMP STATION; RESERVOIR CONSTRUCTION					

SAN JACINTO RIVER AUTHORITY SJRA CATAHOULA AQUIFER SUPPLIES						
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Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	0	2,287	10,500	10,500	10,500
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
SJRA CATAHOULA AQUIFER SUPPLIES	CONVEYANCE/TRANSMISSION PIPELINE; MULTIPLE WELLS/WELL FIELD					

SAN JACINTO RIVER AUTHORITY SJRA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	6,153	41,856	45,398	51,149	54,470	61,562
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
LAKE LIVINGSTON TO SJRA TRANSFER	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION					
SJRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					
SJRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION					

SAN JACINTO RIVER AUTHORITY SJRA REUSE SUPPLIES FOR MANUFACTURING						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	7,404	20,900	21,962	22,731	21,907	20,903

SUGAR LAND ADDITIONAL SUPPLY FROM GCWA						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	3,410	3,419	3,429	3,438	3,447	3,456

SUGAR LAND FORT BEND MUD 25 GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	1,120	1,120	1,120	1,120	1,120

SUGAR LAND MUNICIPAL CONSERVATION, SUGAR LAND						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	889	1,422	1,610	1,763	2,018	2,306
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, SUGAR LAND	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

SUGAR LAND SUGAR LAND IWRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	1,266	1,322	1,322	1,322	1,322
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	1,662	2,042	2,034	2,033	2,033
TOTAL MWP RELATED WMS SUPPLY	0	12,594	17,916	17,908	17,907	17,907
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
SUGAR LAND AMI	DATA GATHERING/MONITORING TECHNOLOGY					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

SUGAR LAND ADVANCED LOSS REDUCTION	WATER LOSS CONTROL
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK; WATER TREATMENT PLANT EXPANSION
SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; WATER TREATMENT PLANT EXPANSION
SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	PUMP STATION; WATER TREATMENT PLANT EXPANSION
SUGAR LAND GROUNDWATER PLANT CONVERSION	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT

SUGAR LAND WATER LOSS REDUCTION, SUGAR LAND						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	38	40	43	45	46	47
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, SUGAR LAND	WATER LOSS CONTROL					

TEXAS CITY GCWA GALVESTON COUNTY TREATED WATER EXPANSION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	12,455	12,460	12,465	12,470	12,475
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - TEXAS CITY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

TEXAS CITY MUNICIPAL CONSERVATION, TEXAS CITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	221	381	453	548	634	793
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, TEXAS CITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

TEXAS CITY WATER LOSS REDUCTION, TEXAS CITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	80	242	404	564	725	883
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WATER LOSS REDUCTION, TEXAS CITY	WATER LOSS CONTROL					

THE WOODLANDS MUNICIPAL CONSERVATION, THE WOODLANDS						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	174	474	592	789	1,037	1,363
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, THE WOODLANDS	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					

THE WOODLANDS NHCRA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	1,260	2,367	2,561	2,700	2,795
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					

Region H Major Water Provider (MWP) Water Management Strategy (WMS) Summary

THE WOODLANDS SJRA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	1,567	7,305	8,351	9,661	11,061	13,288
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 1	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 2	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
TRINITY RIVER AUTHORITY IRVING - TRA CENTRAL REUSE PROJECT						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	27,539	27,539	27,539	27,539	27,539
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	2,061	3,383	4,104	5,048	5,634	6,881
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CONSERVATION - MUNICIPAL (DOES NOT INCLUDE METER REPLACEMENT OR WATER LOSS)					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	245	600	962	1,087	1,197
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	CONVEYANCE/TRANSMISSION PIPELINE; NEW WATER TREATMENT PLANT; STORAGE TANK; PUMP STATION					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY WHCRWA GRP						
DATA DESCRIPTION	WATER VOLUMES (ACRE-FEET PER YEAR)					
	2020	2030	2040	2050	2060	2070
MWP RETAIL CUSTOMERS	0	87,845	92,366	92,368	92,359	92,355
TRANSFERS RELATED TO WHOLESALE CUSTOMERS	0	4,480	10,253	10,295	10,347	10,374
TOTAL MWP RELATED WMS SUPPLY	0	92,325	102,619	102,663	102,706	102,729
WMS RELATED MWP SPONSORED PROJECTS	PROJECT DESCRIPTION					
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WATER TREATMENT PLANT EXPANSION					
WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	CONVEYANCE/TRANSMISSION PIPELINE; PUMP STATION; STORAGE TANK					
WHCRWA 2035 DISTRIBUTION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE					
WHCRWA 2025 DISTRIBUTION EXPANSION	CONVEYANCE/TRANSMISSION PIPELINE					
WHCRWA/NFBWA TRANSMISSION LINE	CONVEYANCE/TRANSMISSION PIPELINE					

CHAPTER 1 APPENDICES

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CHAPTER 2 APPENDICES

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APPENDIX 2-A

MAJOR WATER PROVIDER DEMAND SUMMARIES

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Table 2-A1 – MWP Water Demand by Use Category

Major Water Provider	Category	MWP Demand* (ac ft)					
		2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	IRRIGATION	140	140	140	140	137	134
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	72,714	73,151	75,636	75,876	75,428	74,790
	MINING	0	0	0	0	0	0
	MUNICIPAL	72,739	72,372	72,157	74,104	77,647	83,783
	STEAM ELECTRIC POWER	83,000	83,000	83,000	83,000	83,000	83,000
BRAZOSPORT WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	1,120	1,120	1,120	1,120	1,120	1,120
	MINING	0	31	59	89	122	161
	MUNICIPAL	15,772	16,878	18,282	19,303	19,461	17,798
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	IRRIGATION	41,201	41,201	41,201	41,201	41,201	41,201
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	2,026	2,026	2,026	2,026	2,026	2,026
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	1,792	1,792	1,792	1,792	1,792	1,792
	MINING	0	0	0	0	0	0
	MUNICIPAL	22,358	22,377	22,458	22,530	22,604	22,682
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CONROE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	17,145	21,163	23,032	24,796	26,741	28,837
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Demand* (ac ft)					
		2020	2030	2040	2050	2060	2070
DOW INC	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	164,424	164,092	163,760	163,428	163,096	162,764
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GALVESTON	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	16	16	16	16	16	16
	MINING	0	0	0	0	0	0
	MUNICIPAL	20,217	20,288	20,365	20,452	20,535	21,480
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GULF COAST WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	104,076	112,913	113,213	113,210	113,232	113,261
	MINING	277	434	581	738	901	1,095
	MUNICIPAL	126,678	135,318	135,578	138,981	142,110	148,556
	STEAM ELECTRIC POWER	0	0	0	0	0	0
HOUSTON	IRRIGATION	26,874	26,874	26,874	26,874	26,874	26,874
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	370,945	371,223	371,223	370,653	370,653	370,653
	MINING	2,946	2,927	2,875	2,843	2,818	2,798
	MUNICIPAL	774,548	921,456	1,038,644	1,080,172	1,127,660	1,170,813
	STEAM ELECTRIC POWER	34,679	34,679	34,679	34,679	34,679	34,679
HUNTSVILLE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	27,530	27,563	27,584	27,613	27,642	27,668
	STEAM ELECTRIC POWER	6,720	6,720	6,720	6,720	6,720	6,720

Major Water Provider	Category	MWP Demand* (ac ft)					
		2020	2030	2040	2050	2060	2070
LEAGUE CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	23,951	24,099	24,215	24,316	24,375	24,417
	STEAM ELECTRIC POWER	0	0	0	0	0	0
LOWER NECHES VALLEY AUTHORITY	IRRIGATION	62,173	62,173	62,173	62,173	62,173	62,173
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	70	76	83	89	95	103
	MUNICIPAL	7,083	7,373	7,698	8,031	8,406	8,790
	STEAM ELECTRIC POWER	0	0	0	0	0	0
MISSOURI CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	11,726	15,501	15,920	16,159	17,450	18,567
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	63,732	86,886	104,943	115,341	121,979	125,578
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	126,619	133,961	140,416	145,586	150,575	155,230
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Demand* (ac ft)					
		2020	2030	2040	2050	2060	2070
NRG	IRRIGATION	12,000	12,000	12,000	12,000	12,000	12,000
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	21,772	27,812	27,812	27,812	27,812	27,855
	MINING	0	58	110	167	228	306
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	136,456	136,432	136,408	136,383	136,359	136,335
PASADENA	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	5,040	5,040	5,040	5,040	5,040	5,040
	MINING	0	0	0	0	0	0
	MUNICIPAL	47,829	47,833	47,844	47,904	47,998	48,105
	STEAM ELECTRIC POWER	0	0	0	0	0	0
PEARLAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	22,773	23,626	24,856	26,219	27,732	29,197
	STEAM ELECTRIC POWER	0	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	IRRIGATION	1,733	1,733	1,733	1,733	1,733	1,733
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	71,397	83,927	83,927	83,927	83,927	83,927
	MINING	0	0	0	0	0	0
	MUNICIPAL	45,019	76,210	95,164	120,687	153,328	192,309
	STEAM ELECTRIC POWER	7,841	7,841	7,841	7,841	7,841	7,841
SUGAR LAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	647	647	647	647	647	647
	MINING	0	0	0	0	0	0
	MUNICIPAL	36,473	38,635	40,596	42,227	43,677	44,700
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Demand* (ac ft)					
		2020	2030	2040	2050	2060	2070
TEXAS CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	609	609	609	609	609	609
	MINING	0	0	0	0	0	0
	MUNICIPAL	10,278	10,318	10,351	10,383	10,418	10,450
	STEAM ELECTRIC POWER	0	0	0	0	0	0
THE WOODLANDS	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	31,638	37,910	38,955	40,584	42,853	45,543
	STEAM ELECTRIC POWER	0	0	0	0	0	0
TRINITY RIVER AUTHORITY	IRRIGATION	27,620	27,620	27,620	27,620	27,620	27,620
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	32	32	32	32	32	32
	MUNICIPAL	282,363	282,363	282,363	282,363	282,363	282,363
	STEAM ELECTRIC POWER	6,720	6,720	6,720	6,720	6,720	6,720
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	79,404	78,637	84,982	89,482	91,089	92,568
	STEAM ELECTRIC POWER	0	0	0	0	0	0

**For this table, MWP water demand was calculated as the sum of MWP-associated existing supply allocations and recommended WMS allocations used to meet projected WUG need. Values shown include adjustment for reassignment of MWP-WUG existing supplies to other entities as part of recommended WMS to prevent double-counting of volume. The portion of recommended WMS allocations resulting in WUG-level surplus is excluded from this table. MWP demands as presented in this table are based on supply allocations rather than contractual obligations. Values represent projected MWP demands within Region H only and do not include demands associated with other regions.*

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Table 2-A2 – MWP Water Demand Summary

Major Water Provider	MWP Demand* (ac ft)					
	2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	228,593	228,663	230,933	233,120	236,212	241,707
BRAZOSPORT WATER AUTHORITY	16,892	18,029	19,461	20,512	20,703	19,079
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	43,227	43,227	43,227	43,227	43,227	43,227
CLEAR LAKE CITY WATER AUTHORITY	24,150	24,169	24,250	24,322	24,396	24,474
CONROE	17,145	21,163	23,032	24,796	26,741	28,837
DOW INC	164,424	164,092	163,760	163,428	163,096	162,764
GALVESTON	20,233	20,304	20,381	20,468	20,551	21,496
GULF COAST WATER AUTHORITY	231,031	248,665	249,372	252,929	256,243	262,912
HOUSTON	1,209,992	1,357,159	1,474,295	1,515,221	1,562,684	1,605,817
HUNTSVILLE	34,250	34,283	34,304	34,333	34,362	34,388
LEAGUE CITY	23,951	24,099	24,215	24,316	24,375	24,417
LOWER NECHES VALLEY AUTHORITY	69,326	69,622	69,954	70,293	70,674	71,066
MISSOURI CITY	11,726	15,501	15,920	16,159	17,450	18,567
NORTH FORT BEND WATER AUTHORITY	63,732	86,886	104,943	115,341	121,979	125,578
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	126,619	133,961	140,416	145,586	150,575	155,230
NRG	170,228	176,302	176,330	176,362	176,399	176,496
PASADENA	52,869	52,873	52,884	52,944	53,038	53,145
PEARLAND	22,773	23,626	24,856	26,219	27,732	29,197
SAN JACINTO RIVER AUTHORITY	125,990	169,711	188,665	214,188	246,829	285,810
SUGAR LAND	37,120	39,282	41,243	42,874	44,324	45,347
TEXAS CITY	10,887	10,927	10,960	10,992	11,027	11,059
THE WOODLANDS	31,638	37,910	38,955	40,584	42,853	45,543
TRINITY RIVER AUTHORITY	316,735	316,735	316,735	316,735	316,735	316,735
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	79,404	78,637	84,982	89,482	91,089	92,568

**For this table, MWP water demand was calculated as the sum of MWP-associated existing supply allocations and recommended WMS allocations used to meet projected WUG need. Values shown include adjustment for reassignment of MWP-WUG existing supplies to other entities as part of recommended WMS to prevent double-counting of volume. The portion of recommended WMS allocations resulting in WUG-level surplus is excluded from this table. MWP demands as presented in this table are based on supply allocations rather than contractual obligations. Values represent projected MWP demands within Region H only and do not include demands associated with other regions.*

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CHAPTER 3 APPENDICES

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APPENDIX 3-A

MAG PEAK FACTOR DOCUMENTATION

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APPENDIX 3-A1
MAG PEAK FACTOR REQUEST TO TWDB

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November 14, 2018

Agricultural
Robert Bruner
Pudge Willcox,
Executive Committee

Counties
John Blount
Judge Mark Evans, Chair
Judge Art Henson

Electric Generating Utilities
Vacant

Environmental
John R. Bartos,
Executive Committee

Groundwater Management Areas
David Bailey
Kathy Jones

Industries
James Comin
Glenn Lord

Municipalities
Yvonne Forrest
Robert Istre

Public
Carl Masterson

River Authorities
Brad Brunett
Jace Houston, Secretary
Kevin Ward

Small Businesses
Judge Bob Hebert
Ruth Stultz
Vacant

Water Districts
Marvin Marcell
Mike Turco
Jimmie Schindewolf

Water Utilities
Ivan Langford
James Morrison
William Teer

TWDB Liaison
Lann Bookout

Jeff Walker
Executive Administrator
Texas Water Development Board
1700 North Congress Av.
Austin, Texas 78701

Re: Region H Modeled Available Groundwater Peak Factor Request

Dear Mr. Walker:

The Texas Water Development Board (TWDB) has given Regional Water Planning Groups the option to request the application of a MAG Peak Factor to reflect short term increases in source groundwater production for planning purposes in the 2021 Regional Water Plans. The Region H Water Planning Group (RHWPG) developed a consistent methodology based on historical groundwater pumpage behavior to generate a MAG Peak Factor for each aquifer-county split in the Region and presented this methodology to the Groundwater Conservation Districts (GCDs) and Groundwater Management Areas (GMAs) in Region H. Four GCDs approved the MAG Peak Factors presented by Region H for some or all aquifer-county splits in their jurisdiction, which were subsequently approved by the associated GMAs. The RHWPG took action at the regular planning group meeting on October 31, 2018, to approve the submission of a request to TWDB to consider the MAG Peak Factors recommended by the RHWPG.

The attached memorandum documents the methodology used to determine these Peak Factors, the administrative process followed, and the rules and processes currently applied by the applicable GCDs to monitor groundwater use and progress toward achievement of Desired Future Conditions (DFCs). It should be noted that the Peak Factors developed by Region H and approved by the relevant local regulatory entities are intended to represent short term peak production during infrequent periods of high demand and limited availability of other water supplies and is not intended to reflect a change to any DFC or an increase in the long-term average availability of groundwater.

The RHWPG appreciates TWDB's consideration of this request for approval of MAG Peak Factors. Please feel free to contact myself or Philip Taucer of Freese and Nichols at 713-600-6835 with any questions regarding this request.

Sincerely,



Mark Evans
Chair, Region H Water Planning Group

TO: Texas Water Development Board

FROM: Philip Taucer, P.E.

SUBJECT: MAG Peak Factors – Region H Recommendations

DATE: November 14, 2018

PROJECT: Region H 2021 Regional Water Plan – Supply Evaluation

1. Introduction

When developing Regional Water Plans (RWPs), planning groups consider water supply availability under drought-of-record conditions. Meanwhile, the joint planning process for groundwater in Texas considers long-term average conditions and determines Modeled Available Groundwater (MAG) supplies, which estimate a potential level of pumping that can be sustained to meet a Desired Future Condition (DFC) based on the most current Groundwater Availability Model (GAM) and understanding of an aquifer. Previously, the RWP process has used the MAG to estimate available groundwater supplies. However, because of the disconnect between the joint planning approach and the worst-case scenario in regional planning, MAGs can underestimate the actual peak pumping that may occur during a drought-of-record year. Some Groundwater Conservation Districts (GCDs) have rules and regulatory structures which allow for short-term peak pumping while still complying with the DFC on a long-term basis. In these cases, application of the MAG to the RWP process excludes this regulatory flexibility and may place unnecessary limitations upon supplies used for planning purposes, thus underrepresenting the water supply available to meet short-term peak demands.

In the 4th cycle of regional water planning, the Region H Water Planning Group (RHWPG) identified the difference between MAG volumes and allowable pumpage under current regulatory terms as a significant impact to RWP groundwater resource availability in the region. For the 5th cycle of RWP development, the Texas Water Development Board (TWDB) has allowed the implementation of MAG Peak Factors, which are multipliers greater than 100% applied to MAG values to estimate dry-year availability. The intent of the Peak Factor is to bridge the gap between groundwater joint planning and regional planning perspectives. Regional Water Planning Groups (RWPGs) are not required to use Peak Factors but are given the option to apply them where deemed appropriate on a county-aquifer basis. The MAG Peak Factor is not intended to adjust the long-term supply as derived from the DFCs developed through joint planning process for groundwater but is instead intended to make the regional planning process consistent with regulations by local groundwater districts and patterns of permitted and exempt water use. The following sections summarize the Peak Factor development methodology applied by the RHWPG, the administrative and approvals process, and the rules and processes currently applied by the applicable GCDs to monitor groundwater use and progress toward achievement of DFCs.

2. Peak Factors in Region H

The RHWPG developed a consistent methodology to determine a MAG Peak Factor for each county-aquifer unit in the Region which has an associated MAG. In order to reflect realistic peaking behavior, the methodology was primarily based on historical pumping. Because pumping records and reporting for individual well owners or

operators may vary from year to year, Peak Factors for Region H were calculated on a county-aquifer basis and are applied evenly to each river basin within those splits. While potential Peak Factors were calculated for each county and aquifer with a MAG within the Region, not every GCD elected to pursue application of the factors for the current planning cycle. The results and administrative processes summarized in this memorandum therefore are limited to counties and aquifers for which the applicable GCD approved the relevant Peak Factor. Please note that areas within the Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) are excluded as these areas have been deemed non-MAG areas for RWP purposes by TWDB.

2.1. Methodology

The GCDs in Region H manage groundwater with respect to their DFC and do not restrict total annual pumping to the MAG, but instead allow pumping to fluctuate between years. While many districts do consider groundwater production relative to the MAG, they do so as one of a number of approaches to evaluating the impacts of pumpage on aquifers and progress toward long-term DFC achievement. As such, historical pumpage within many areas of Region H varies from year to year, with production typically increasing noticeably during dry years and subsequently declining upon the return of more normal or wet conditions. Timing and magnitude of peaks and reductions in pumpage vary widely among counties based upon overall demand, demand types, and aquifer.

When applied, a MAG Peak Factor is the ratio of RWP supply availability (dry-year conditions) to the corresponding MAG. Similar to historical patterns of groundwater use, in which dry-year pumping exceeds the long-term trend, Region H assumes that the drought-of-record years represented in the RWP would also experience pumping above the long-term trend which is represented in the RWP by the MAG. Therefore, historical pumping was assessed to determine the ratio of peak to long-term annual pumpage using TWDB Water Use Survey historical pumping data from years 2000 to 2015. For counties in which the Gulf Coast Aquifer is the only major aquifer, all pumping categorized in the TWDB datasets as “Other Aquifer” or “Unknown Aquifer” was assumed to originate from the Gulf Coast Aquifer. Additionally, the two relevant aquifers within the Region H portion of Trinity County – the Carrizo-Wilcox Aquifer and the Sparta Aquifer – were excluded from this assessment due to the lack of historical pumping records. TWDB Water Use Survey data was utilized for several reasons:

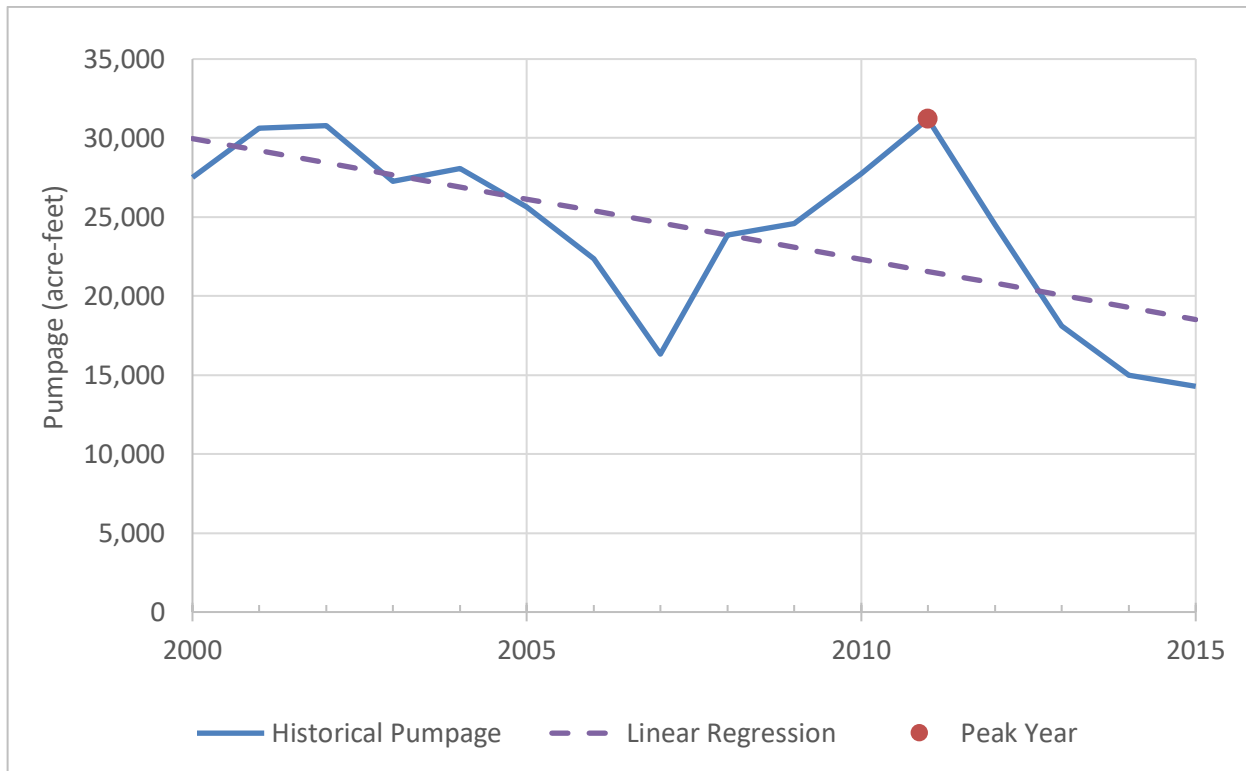
- Availability of county-level information in a consistent format;
- Representation of recent conditions, including recent growth in urbanizing portions of Region H; and
- Inclusion of a range of hydrologic conditions, including extremely dry conditions for year 2011.

The Peak Factor was estimated using the relationship:

$$Peak\ Factor = \frac{(peak\ pumpage)}{(linear\ approximation\ in\ year\ of\ peak\ pumpage)}$$

For this analysis, peak pumpage was defined as the maximum annual pumping volume from an aquifer within a given county during 2000 to 2015. The linear approximation in the denominator represents the long-term trend and is the predicted pumping in the year of peak pumping based on linear fit of annual pumping during 2000 to 2015. Linear approximations were developed from a linear fit of the 2000 to 2015 data to account for overall trends in pumpage. This concept is represented in *Figure 1*.

Figure 1. Historical Pumping from the Gulf Coast Aquifer in Waller County



2.2. Results

Peak Factor results for counties and aquifers approved by the applicable GCD and Groundwater Management Area (GMA) are summarized in *Table 1*, with information on specific county and aquifer analyses in the following subsections. Supporting data for Peak Factor calculations in electronic format will be transmitted to TWDB along with this memorandum. Additional information on the administrative process and GCD approvals can be found in *Section 4* of this memorandum.

Table 1. Summary of Peak Factors for Region H

County	Aquifer	GCD	GMA	Peak Factor
Austin	Gulf Coast	Bluebonnet GCD	14	123.9167%
Brazoria	Gulf Coast	Brazoria County GCD	14	140.8701%
Madison	Sparta	Mid-East Texas GCD	12	117.4066%
Montgomery	Gulf Coast	Lone Star GCD	14	133.1516%
Walker	Gulf Coast	Bluebonnet GCD	14	114.7589%
Waller	Gulf Coast	Bluebonnet GCD	14	144.6970%

2.3. Austin County – Gulf Coast Aquifer

Historical information used to calculate the Peak Factor for the Gulf Coast Aquifer in Austin County is illustrated in *Figure 2*, with resultant peaked MAG values for RWP purposes shown in *Figure 3*. Based on the results of the calculations, a Peak Factor of 123.9167% is recommended.

Figure 2. Historical Pumping from the Gulf Coast Aquifer in Austin County

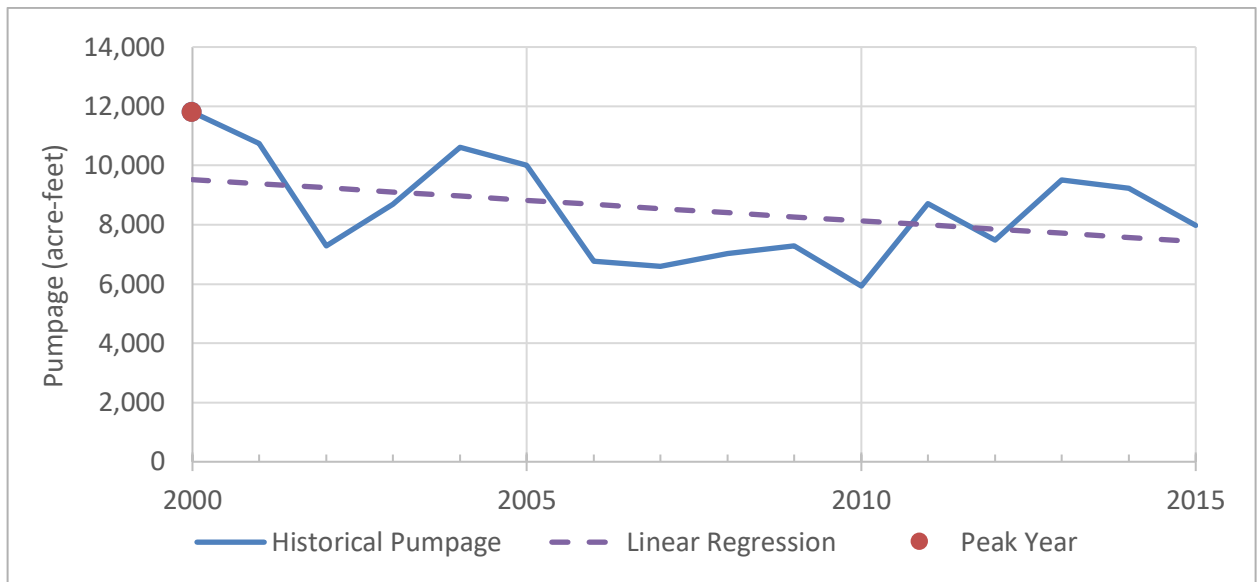
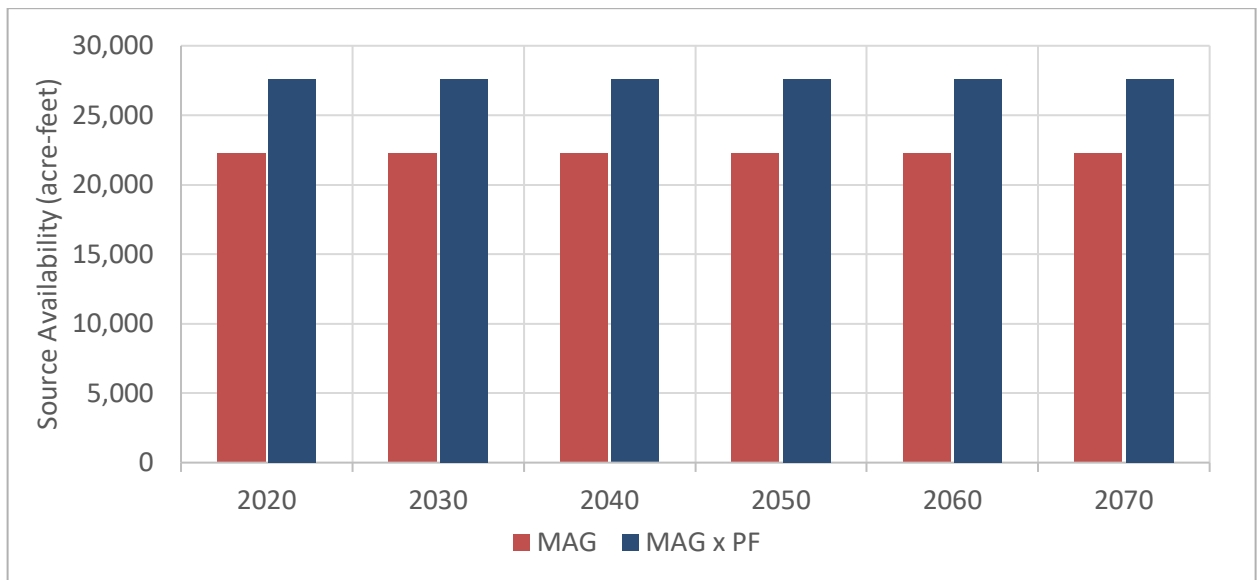


Figure 3. Peaked MAG for the Gulf Coast Aquifer in Austin County



2.4. Brazoria County – Gulf Coast Aquifer

Historical information used to calculate the Peak Factor for the Gulf Coast Aquifer in Brazoria County is illustrated in *Figure 4*, with resultant peaked MAG values for RWP purposes shown in *Figure 5*. Based on the results of the calculations, a Peak Factor of 140.8701% is recommended.

Figure 4. Historical Pumping from the Gulf Coast Aquifer in Brazoria County

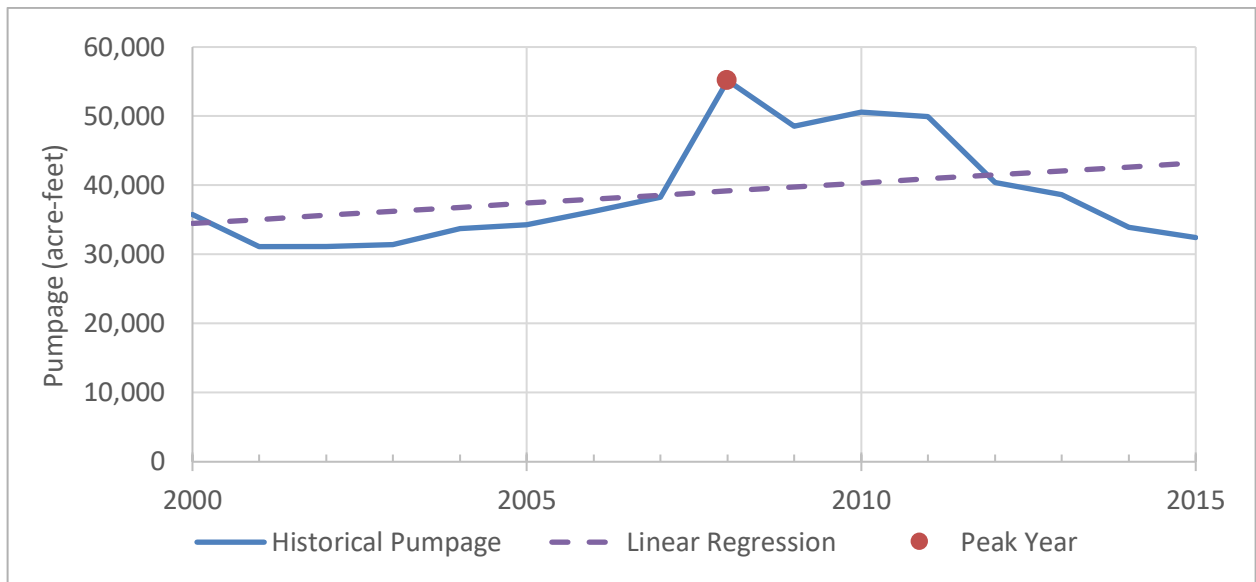
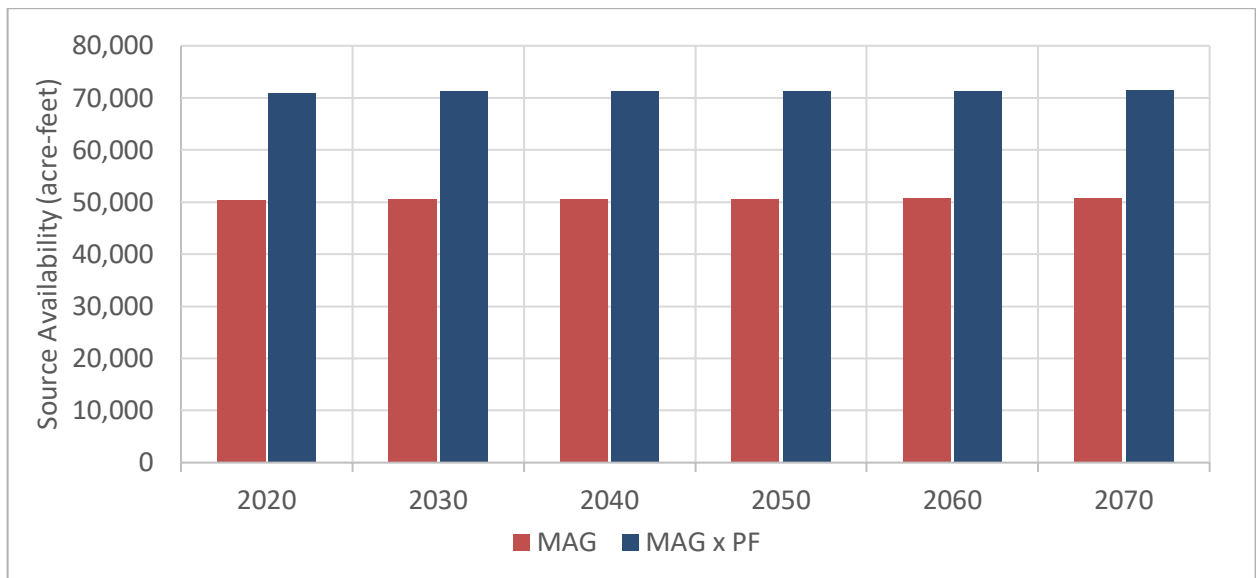


Figure 5. Peaked MAG for the Gulf Coast Aquifer in Brazoria County



2.5. Madison County – Sparta Aquifer

Historical information used to calculate the Peak Factor for the Sparta Aquifer in Madison County is illustrated in *Figure 6*, with resultant peaked MAG values for RWP purposes shown in *Figure 7*. Based on the results of the calculations, a Peak Factor of 117.4066% is recommended.

Figure 6. Historical Pumping from the Sparta Aquifer in Madison County

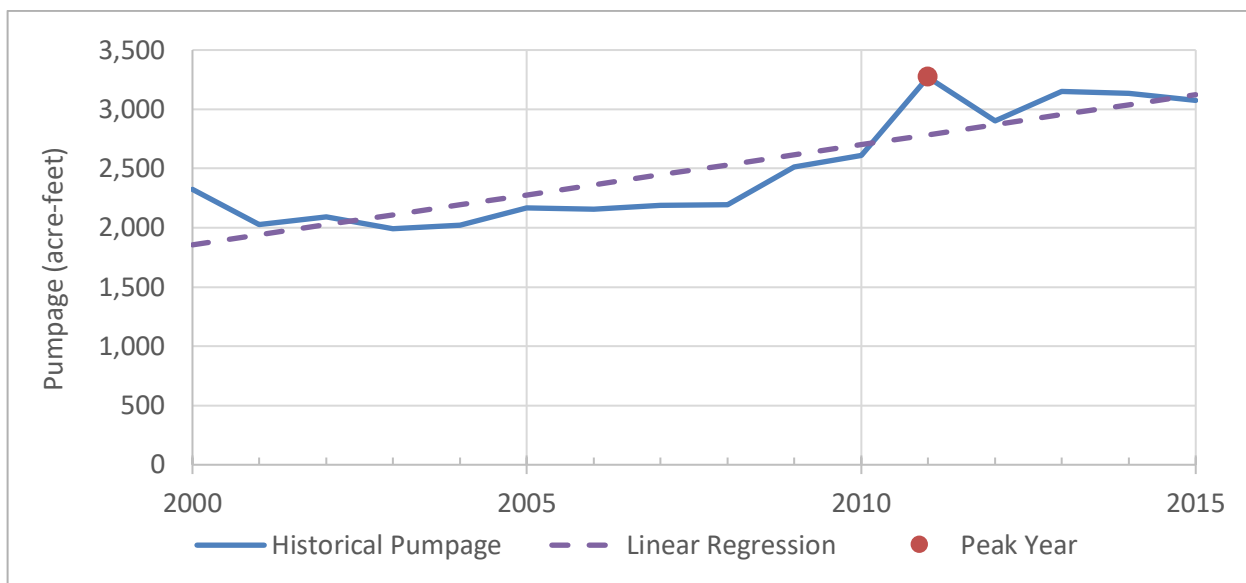
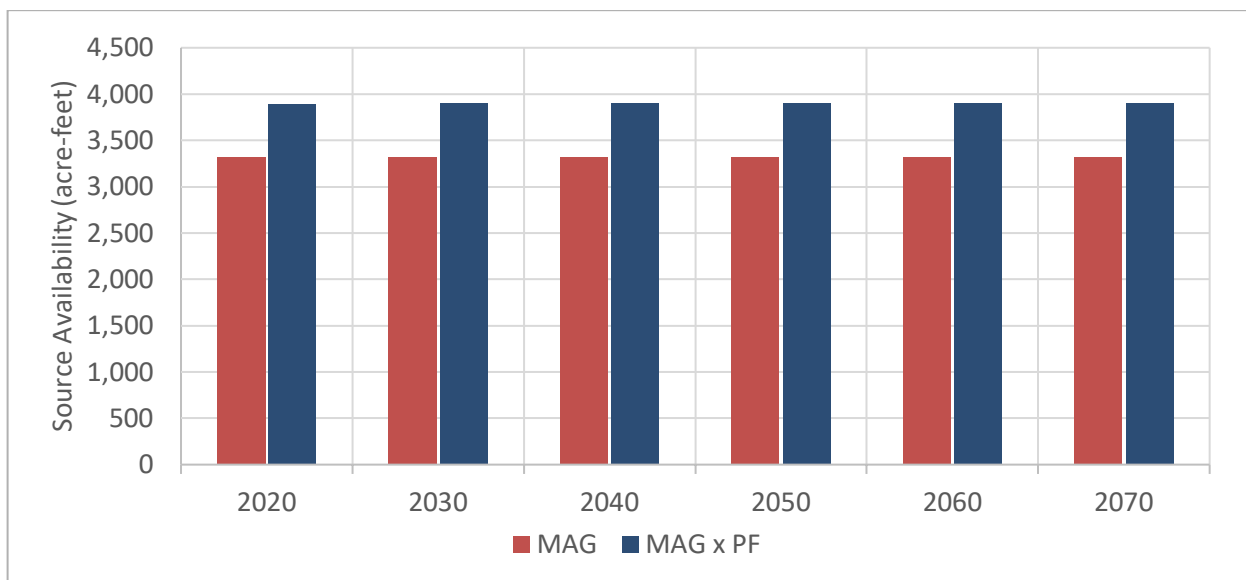


Figure 7. Peaked MAG for the Sparta Aquifer in Madison County



2.6. Montgomery County – Gulf Coast Aquifer

Historical information used to calculate the Peak Factor for the Gulf Coast Aquifer in Montgomery County is illustrated in *Figure 8*, with resultant peaked MAG values for RWP purposes shown in *Figure 9*. Based on the results of the calculations, a Peak Factor of 133.1516% is recommended.

Figure 8. Historical Pumping from the Gulf Coast Aquifer in Montgomery County

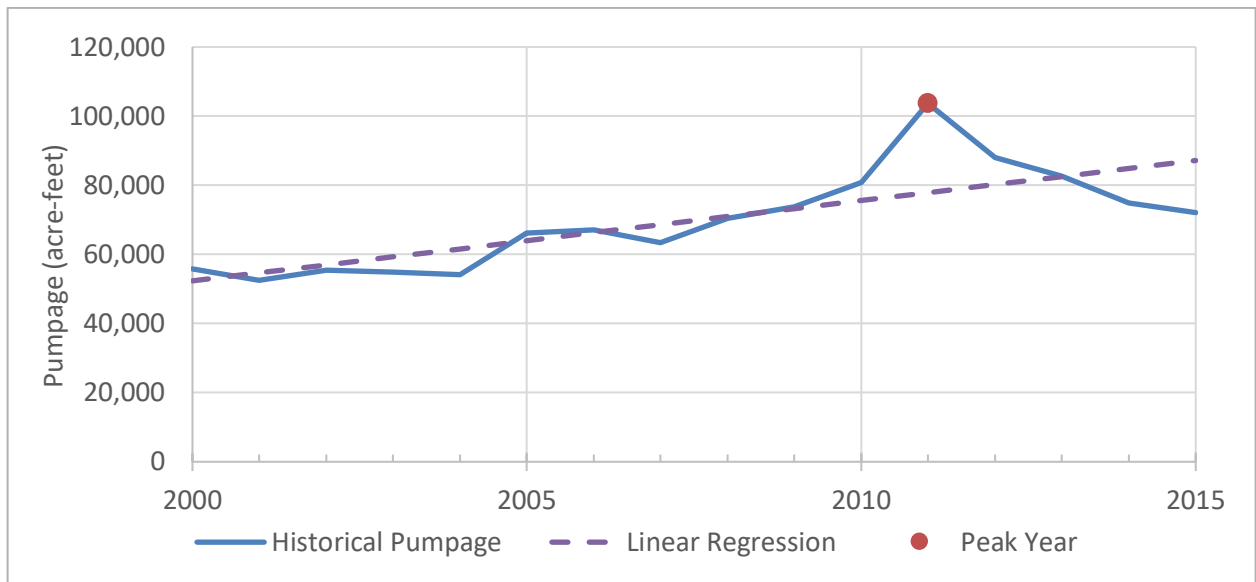
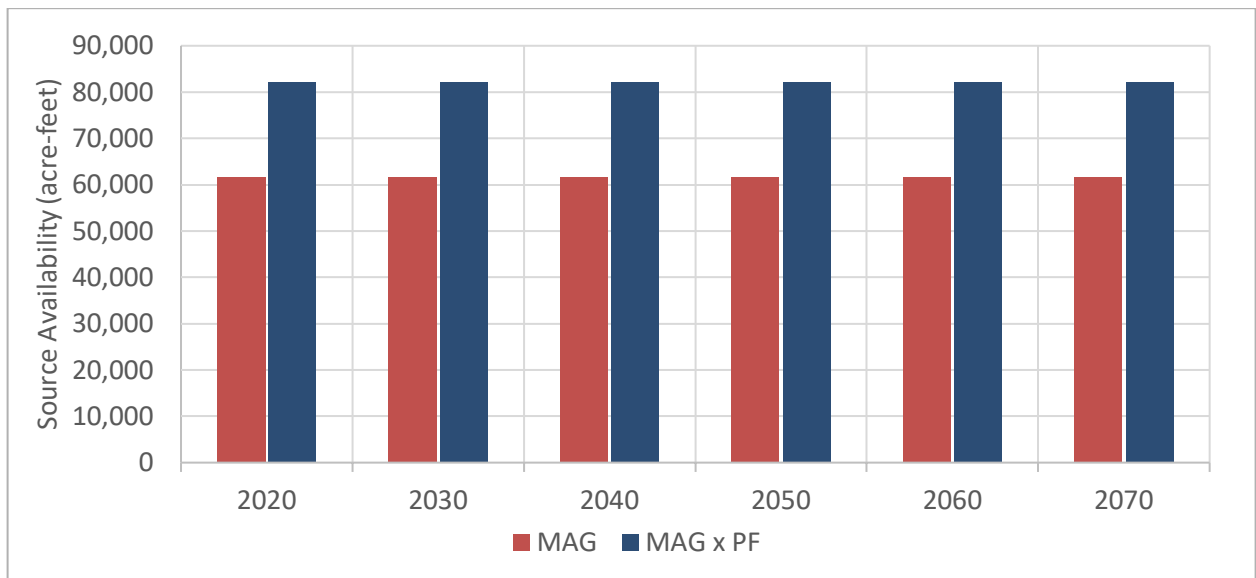


Figure 9. Peaked MAG for the Gulf Coast Aquifer in Montgomery County



2.7. Walker County – Gulf Coast Aquifer

Historical information used to calculate the Peak Factor for the Gulf Coast Aquifer in Walker County is illustrated in *Figure 10*, with resultant peaked MAG values for RWP purposes shown in *Figure 11*. Based on the results of the calculations, a Peak Factor of 114.7589% is recommended.

Figure 10. Historical Pumping from the Gulf Coast Aquifer in Walker County

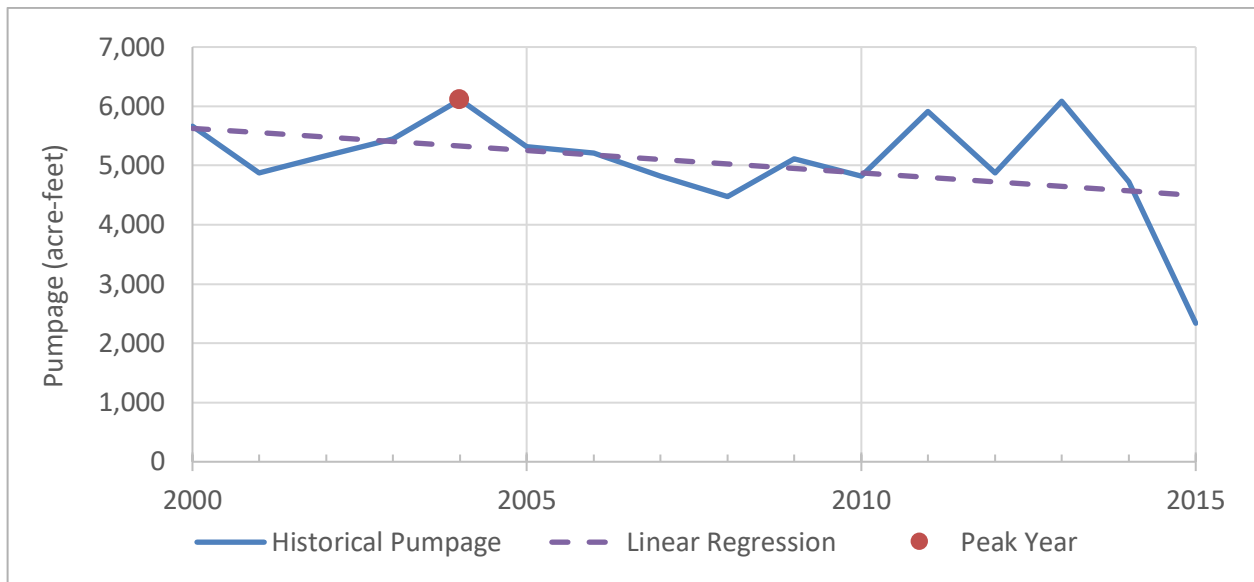
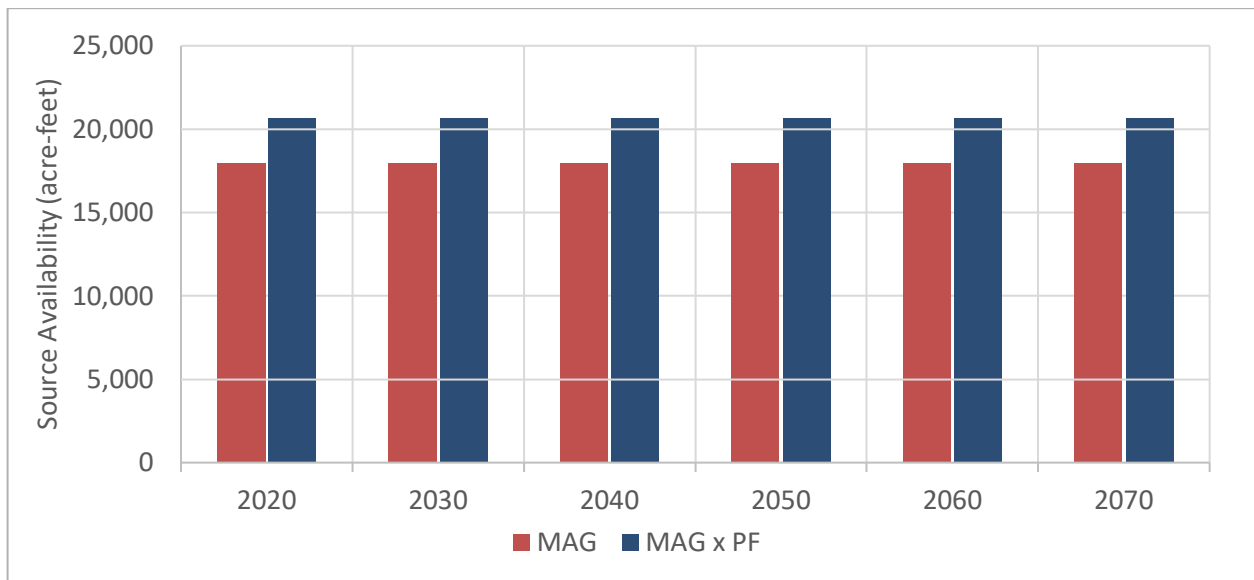


Figure 11. Peaked MAG for the Gulf Coast Aquifer in Walker County



2.8. Waller County – Gulf Coast Aquifer

Historical information used to calculate the Peak Factor for the Gulf Coast Aquifer in Waller County is illustrated in *Figure 12*, with resultant peaked MAG values for RWP purposes shown in *Figure 13*. Based on the results of the calculations, a Peak Factor of 144.6970% is recommended.

Figure 12. Historical Pumping from the Gulf Coast Aquifer in Waller County

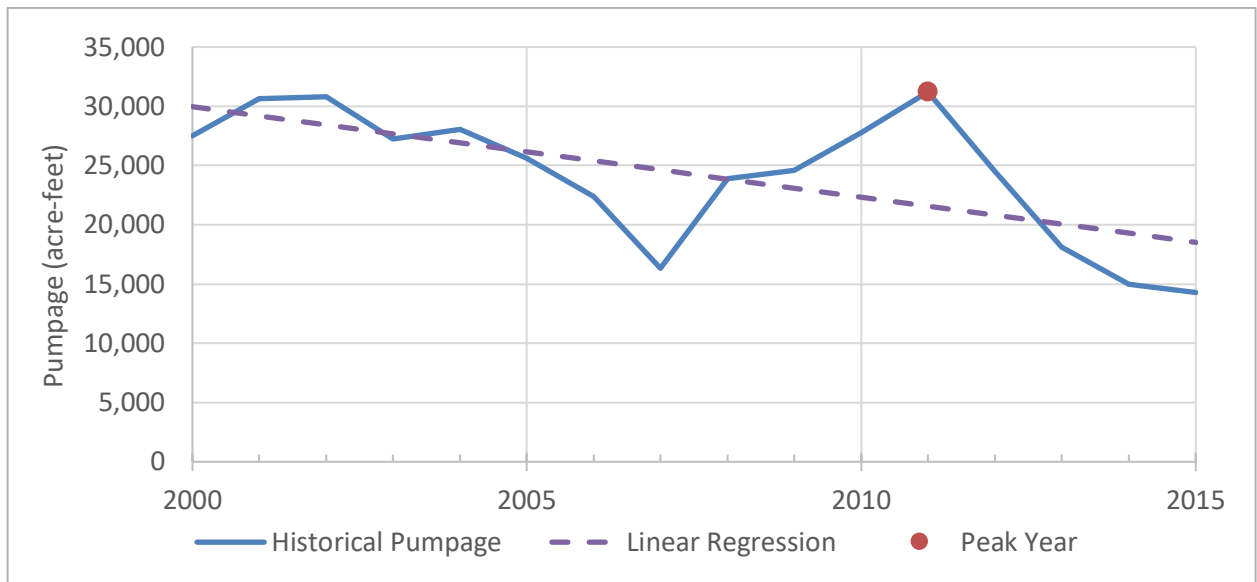
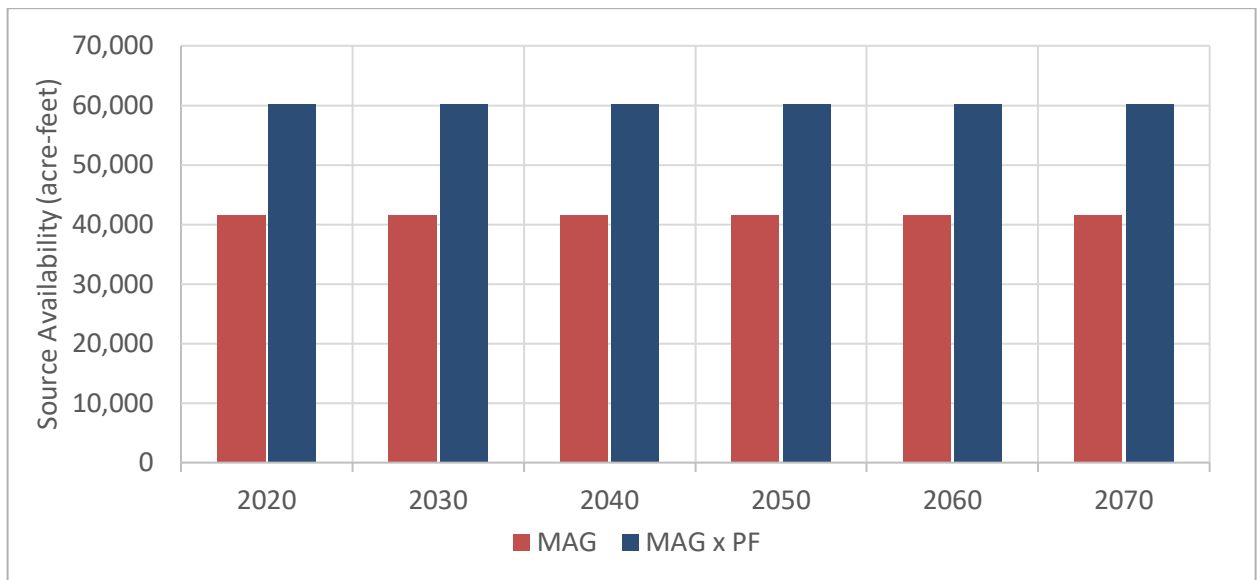


Figure 13. Peaked MAG for the Gulf Coast Aquifer in Waller County



3. Administrative Process

In accordance with the *Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development* and other TWDB guidance, the RHWPG coordinated with local groundwater regulatory entities regarding proposed Peak Factors and compatibility with GCD management goals. At its April 4, 2018 public meeting, the RHWPG considered the topic of Peak Factors and authorized the Region H Consultant Team to coordinate with groundwater regulatory entities to develop Peak Factors for Region H and submit an associated request to TWDB.

The methodology and calculated Peak Factors were then presented to the five GCDs in Region H: Bluebonnet GCD, Brazoria County GCD, Lone Star GCD, Mid-East GCD, and Lower Trinity GCD. Lower Trinity GCD declined to request a Peak Factor, as the MAGs in Polk and San Jacinto Counties greatly exceed projected demands in the RWP. The remaining GCDs considered the option for a Peak Factor at public meetings of their District Boards and took formal action to approve the use of Peak Factors for the 2021 Region H RWP. Bluebonnet GCD, Brazoria County GCD, and Lone Star GCD approved the proposed Peak Factors for the Gulf Coast Aquifer in their respective counties within Region H. Mid-East GCD approved a Peak Factor only for the Sparta Aquifer in Madison County, where existing supplies are limited by available groundwater. GMA 12 and GMA 14 subsequently approved the Peak Factors proposed by Region H and approved by the GCDs. GCD and GMA approvals are summarized in *Table 2*, with documentation of these approvals included in *Attachment A*.

Table 2. GCD and GMA Peak Factor Approvals

County	Aquifer	GCD	GCD Approval Date	GMA	GMA Approval Date
Austin	Gulf Coast	Bluebonnet GCD	9/19/2018	GMA 14	9/26/2018
Walker	Gulf Coast	Bluebonnet GCD	9/19/2018	GMA 14	9/26/2018
Waller	Gulf Coast	Bluebonnet GCD	9/19/2018	GMA 14	9/26/2018
Brazoria	Gulf Coast	Brazoria County GCD	7/12/2018	GMA 14	9/26/2018
Montgomery	Gulf Coast	Lone Star GCD	7/10/2018	GMA 14	9/26/2018
Madison	Sparta	Mid-East Texas GCD	8/21/2018	GMA 12	10/9/2018

At its October 31, 2018 public meeting, the RHWPG discussed approvals of proposed Peak Factors by local groundwater regulatory entities and took action authorizing the Region H Consultant Team to submit a Peak Factor request to TWDB.

4. District Methodologies for Monitoring DFC Compliance

As noted in *Section 2.1* of this memorandum, the GCDs within Region H manage groundwater within their jurisdictions in the context of their DFCs, allowing some degree of inter-annual fluctuation in production. The MAG Peak Factor option allows the RWP to better reflect this short-term peak use allowed by GCD rules and observed in historical pumpage records and does not impact the joint groundwater planning process or in any way modify established MAG values or DFCs for any district. The Peak Factors proposed in this memorandum have been approved by the applicable GCDs and GMAs and are not anticipated to preclude or hinder achievement of DFC attainment or other GCD management goals.

The GCDs in Region H which approved Peak Factors include within their Groundwater Management Plans and district rules measures to facilitate meeting their goals, including but not limited to goals for DFC achievement. As part of this process, all four of these GCDs engage in monitoring of groundwater levels, either as part of regular in-house technical evaluations of well data or through special studies and participation in long-term monitoring programs with the United States Geological Survey (USGS) or HGSD. These evaluations allow the GCDs to assess changes in water levels over time relative to levels consistent with DFC achievement. The districts also require permitted (non-exempt) wells to report groundwater pumpage on a regular basis, providing another metric to assist in evaluating progress toward long-term DFC achievement. Key processes in monitoring DFC achievement, controlling subsidence, and promoting the efficient use of groundwater for each of the applicable GCDs are summarized in *Table 3*.

Table 3. Key GCD Monitoring and Management Processes

Measure	Bluebonnet GCD	Brazoria County GCD	Lone Star GCD	Mid-East Texas GCD
Water Level Analyses?	Yes - Annual analysis by GCD	Yes - Biannual analysis by GCD, work w/ USGS	Yes - Special study, work w/ USGS	Yes - Annual analysis by GCD
Subsidence Analyses?	Considered during permit review process	Yes - Biannual analysis by GCD, work w/ USGS et al.	Yes – work w/ HGSD	No – not a relevant issue at this time
Well Permitting Required?	Yes	Yes	Yes	Yes
Registration of Exempt Wells Required?	Yes	Yes	Yes	Yes
Pumpage Reporting for Non-Exempt Wells	Yes	Yes	Yes	Yes
Production Fees Applied?	Yes – based on production	Yes – based on permitted volume	Yes – based on permitted volume	Yes – based on production
Consideration of Drought Monitor?	Yes	Yes	Yes	Yes

**Attachment A:
Administrative Documentation for
Region H MAG Peak Factors**

Bluebonnet GCD

BLUEBONNET GROUNDWATER CONSERVATION DISTRICT

Board of Directors Meeting

Wednesday, September 19, 2018
6:00 PM

Bluebonnet Groundwater Conservation District
Board Room, Suite B & C
303 East Washington Avenue
Navasota, Texas

In attendance:

Directors – Huebner, Vaughn, Kembro, Beckendorff, Muse, Blezinger, Minze, Fairchild, Brown, Hopper, Patout
Staff - General Manager Holland, Office Manager Jensen
Visitors – Dr. Bill Hutchison

AGENDA

1. **Call to order**
There being a quorum present, the Board of Directors Meeting and Public Hearing was called to order by the President at 6:01pm.
2. **Public Comment**
No public comment
3. **Public Hearing on proposed revisions to District Management Plan.**
No public comment. Public hearing closed at 6:03pm
4. **Discussion and possible action to approve revising and readopting the District Management Plan and adopting a resolution approving revising and readopting the District Management Plan.**
Director Muse moved that the Board readopt Management Plan. Director Kembro seconded. **Motion carried.**

****Skip to item # 18 and #19** Presentation by Dr. Bill Hutchison**

18. Discussion and possible action to accept recommended MAG Peaking Factors for District to Region H Regional Water Planning Group.
Director Brown moved that the Board accept MAG Peaking Factors for District to Region H Regional Water Planning Group. Director Vaughn seconded. **Motion carried.**

19. Discussion and possible action to approve recommendations, budget and schedule with groundwater model development.

Director Vaughn moved that the Board approve recommendations, budget and schedule with groundwater model development. Director Muse seconded. **Motion carried**

****Back to agenda item #5****

5. Discussion and possible action to approve minutes of April 18, 2018 Board Meeting.

Director Minze moved that the Board approve minutes. Director Kembro seconded. **Motion carried.**

6. Discussion and possible action to approve amended Board Policies and Investment Policy and adopting a resolution approving the Investment Policy and appointing an Investment Officer.

Director Brown moved that the Board approve amended Board Policies, et al. Director Muse seconded. **Motion carried.**

7. Discussion and possible action to approve Resolution Authorizing Participation in the TexPool Investment Pools and Designating Authorized Representatives.

Director Minze moved that the Board approve Resolution. Director Hopper seconded. **Motion carried.**

8. Discussion and possible action to approve Groundwater Management Area 14 Interlocal Agreement.

Director Muse moved that the Board approve GMA 14 Interlocal Agreement. Director Kembro seconded. **Motion carried.**

9. Discussion and possible action to approve quarterly Financial Report.

Director Beckendorff moved that the Board approve Quarterly Financial Report. Director Vaughn seconded. **Motion carried.**

10. Discussion and possible action to approve quarterly Investment Report.

Director Kembro moved that the Board approve the quarterly Investment Report. Director Huebner seconded. **Motion carried.**

11. Discussion and possible action to accept quarterly Drought Status Assessment.

Director Beckendorff moved that the Board accept the quarterly Drought Status Assessment. Director Kembro seconded. **Motion carried.**

12. Discussion and possible action to approve employment contract for GM Holland.

Director Vaughn moved that the Board approve the employment contract for GM Holland. Director Muse seconded. **Motion carried.**

13. Discussion and possible action to approve Amended FY 2018 District Budget.

Director Minze moved that the Board approve Amended FY 2018 District Budget. Director Muse seconded. **Motion carried.**

14. Discussion and possible action to approve FY 2019 District Budget.

Director Hopper moved that the Board approve the FY 2019 District Budget. Director Vaughn seconded. **Motion carried.**

15. Discussion and possible action to approve designations for Money Market Account.

Director Minze moved that the Board approve designations for Money Market Account. Director Beckendorff seconded. **Motion carried.**

16. Discussion and possible action to designate dates and times for FY 2019 Board of Directors Meetings.

No vote.

17. Discussion and possible action to approve membership to the Texas Ground Water Association.

Director Vaughn moved that the Board approve membership to the Texas Ground Water Association. Director Kembro seconded. **Motion carried.**

20. General Managers Report

a. Well Registration/Permitting

b. GMA 14

c. TAGD & TWCA

i. 2018 Texas Groundwater Summit, August 28-30, 2018 at the Hyatt-Hill Country in San Antonio

d. Legislative & Case Law Update

e. Region G & H RWPG

f. Vehicle Summary

g. HYDROS update

21. Date for next Board meeting October 17, 2018.

22. Adjourned at 7:47pm

Agenda items may be considered, discussed and/or acted upon in a different order than the order set forth above.

The Board approved the above minutes of the regular meeting of the Board of Directors of the Bluebonnet Groundwater Conservation District, held on September 19, 2018, on October 17, 2018.

J Jared Patout, President

ATTEST:

David Minze, Vice President

Brazoria County GCD

CERTIFICATE FOR ORDER

THE STATE OF TEXAS §

COUNTY OF BRAZORIA §


The Board of Directors of the Brazoria County Groundwater Conservation District convened on the 12th day of July, 2018, and the roll was called of the duly constituted Board of Directors, to wit:

Alan Mueller	President
Patrick O'Day	Vice-President
Dennis Davenport	Secretary
Raymond Felder	Assistant Secretary
Ronnie Goolsby	Director

All of said members were present except Director Goolsby, thus constituting a quorum. Among other business, the following action was taken:

Motion by Director Davenport; Seconded by Director Mueller to **APPROVE** the use of peak factors at the proposed 140.87% where deemed appropriate to make the regional planning process consistent with the District's regulations and patterns of permitted and exempt water use for the 5th Cycle of the Regional Water Plan development. Motion approved with all Directors present voting aye.

SIGNED AND SEALED the 12th day of July, 2018.



Alan Mueller, President

Lone Star GCD



655 Conroe Park North Drive • Conroe, Texas 77385
local 936/494-3436 • metro 936/441-3437 • fax 936/494-3437
e-mail: lsgcd@consolidated.net • www.lonestargcd.com

Kathy Turner Jones
General Manager

October 3, 2018

Board of
Directors

Rick Moffatt
President

James M. Stinson, PE
Vice-President

Gregg Hope
Secretary

W. B. Wood
Treasurer

John D. Bleyl, PE

Jace A. Houston

Roy McCoy, Jr.

Webb Melder

M. Scott Weisinger, PG

The Honorable Mark Evans, Chair
REGION H WATER PLANNING GROUP
C/O San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

RE: MAG Peak Factors

Greetings:

On behalf of the Board of Directors of the Lone Star Groundwater Conservation District ("LSGCD"), I want to thank Courtney Corso and Philip Taucer with Freese and Nichols for their presentation providing LSGCD an overview of Region H Water Planning Group's consideration of MAG Peaking Factor(s) and recommendations for Montgomery County.

The LSGCD understands the implementation of MAG peak factor for this 5th cycle of RWP development is intended to bridge the gap between joint planning and regional planning perspectives, allowing RWPs to reflect how GCDs already are able to manage groundwater.

In that regard, at its meeting on July 10, 2018, the LSGCD board voted to accept Region H's recommended MAG Peak Factor of 133.2% for Montgomery County with an allowable pumpage of 85,224 acre/ft in each decade. For your convenience, a copy of the approved meeting minutes is hereto attached.

Should you need additional information, please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Kathy Turner Jones".

Kathy Turner Jones
General Manager

KTJ

Attachment

cc: Freese and Nichols

**LONE STAR
GROUNDWATER CONSERVATION DISTRICT**

July 10, 2018

MINUTES OF REGULAR MEETING

The Board of Directors of the Lone Star Groundwater Conservation District ("District") met in regular session, open to the public, in the Lone Star GCD - James B. "Jim" Wesley Board Room located at 655 Conroe Park North Drive, Conroe, Texas, within the boundaries of the District on July 10, 2018.

CALL TO ORDER:

President Moffatt presided and called to order the regular Board of Directors meeting at 10:06 AM, announcing that it was open to the public.

ROLL CALL:

The roll was called of the members of the Board of Directors, to wit:

John D. Bleyl, PE
Gregg Hope
Jace Houston
Roy McCoy, Jr.
Webb Melder
Rick J. Moffatt
Jim Stinson, PE
M. Scott Weisinger, PG
W. B. Wood

All members of the Board were present, with the exceptions of Director(s) Stinson, thus constituting a quorum of the Board of Directors. Also in attendance at said meeting were Kathy Turner Jones, General Manager; Samantha Reiter, Assistant General Manager; Brian L. Sledge, District Counsel, District staff, and members of the public. *Copies of the public sign-in sheets are attached hereto as Exhibit "A".*

PUBLIC COMMENTS:

Mike Stoecker provided public comment on the agenda item related to approval of the interlocal agreement for governmental functions and services for joint planning in GMA 14. Mr. Stoecker expressed concern over GMA 14's hiring of INTERA and that Lone Star should not be entering into any agreements and becoming obligated to expend funds when a new board will be elected in November, and the current board would be tying their hands. He noted that delaying GMA 14's activities for another three or four months would not matter in this instance. The

General Manager noted that GMA 14 had already approved hiring INTERA at a prior meeting, and that the item on the agenda today has to do with the cost sharing arrangement between the entities participating in GMA 14, of which Lone Star's share is \$35,000 for the planning cycle, and which has already been budgeted by Lone Star.

APPROVAL OF THE MINUTES:

President Moffatt stated the Board would consider all meeting minutes as listed for approval on today's agenda as one item. A motion was made to approve the meeting minutes by Director Houston and seconded by Director Bleyl. The motion to approve the minutes was approved unanimously by those present.

- a) June 12, 2018, Special Board Meeting
- b) June 12, 2018, Public Hearing on Permit Applications
- c) June 12, 2018, Notice to Call Election
- d) June 12, 2018, Regular Board of Directors Meeting

REGION H WATER PLANNING GROUP PRESENTATION – MAG PEAK FACTORS:

President Moffatt introduced the presentation by stating Regional Planning Groups when developing Regional Water Plans (RWPs) consider water supply availability under drought of record conditions and do not reflect wet year pumping, while the joint planning process for groundwater considers long-term average conditions. For the 5th cycle of RWP development, the Texas Water Development Board (TWDB) has allowed the implementation of MAG peak factors, which are multipliers greater than 100% applied to long-term Modeled Available Groundwater (MAG) values to estimate dry-year availability. The intent of the peak factor is to bridge the gap between joint planning and regional planning perspectives, allowing RWPs to reflect how GCDs already are able to manage groundwater. Philip Taucer and Courtney Corso with Freese & Nichols provided an overview of Region H Water Planning Group's consideration of a MAG Peaking Factor and recommendations for Montgomery County. Mr. Taucer emphasized that the MAG Peak Factor only relates to planned pumping. It does not limit permitting and does not guarantee approval of any future groundwater permit.

Following discussion, Director Bleyl motioned to accept Region H's recommended Peak Factor of 133.2% with an allowable pumpage of 85,224 acre/ft in each decade. Director Houston seconded the motion. The motion passed with Director(s) McCoy, Melder, and Weisinger voting in opposition.

COMMITTEE REPORTS:

A. Executive Committee and/or Settlement Committee – Rick Moffatt, Chair

- 1) Brief the Board on the Committee's activities since the last regular Board meeting – No meeting.
- 2) Defense of the following lawsuit: City of Conroe et al. v. Lone Star Groundwater Conservation District (and the District's directors and general manager in their

official capacities) – Mr. Sledge reported that an update had been presented in Executive Session.

B. Water Awareness and Conservation Committee - Billy Wood, Chair

- 1) Brief the Board on the Committee's activities since the last regular Board meeting – No meeting.
- 2) Update on public outreach activities, water efficiency, and conservation efforts – James Ridgway – Mr. Ridgway provided a photo of the Texas 4-H Water Ambassadors visit on June 18th. Other topics discussed: the District's portable aquifer and its usefulness as a teaching aid in classroom settings, and outreach presentations at the Lone Star College's Discovery Camp. Announcements: the next meeting of the Water Efficiency Network is scheduled for Thursday, July 26th.

C. Rules and Regulatory Planning Committee – Jim Stinson, Chair

- 1) Brief the Board on the Committee's activities since the last regular board meeting – General Manager, Kathy Turner Jones reported the committee met on July 2nd and plan to meet again on July 31st before presenting draft recommendations for well spacing guidelines to the Board at the August board meeting.

D. Policy and Personnel Development Committee – Jace Houston, Chair

- 1) Brief the Board on the Committee's activities since the last regular Board meeting – No report.

E. Budget and Finance Development Committee – Billy Wood, Chair

- 1) Brief the Board on the Committee's Activities – No report. However, Director Wood stated that there would be a committee meeting scheduled soon to include the annual review of District water use fees.
- 2) Review of monthly financial reports – Director Wood reported that, for the month of June, revenue was budgeted at \$41,325—actual was \$116,335. Expenses were budgeted at \$157,303—actual expenses were \$82,189. Net income for the month was \$116,335. Year-to-date net income is \$419,827.
- 3) Review 2nd Quarterly Investment Report 2018 – General Manager, Kathy Turner Jones reported June 30, 2018 fund balances, including TexPool and First Financial Bank (FFB), as \$564,000 with approximately \$2.5 million in securities pledged.

F. Findings and Review Committee – Rick Moffatt, Chair

- 1) Brief the Board on the Committee's activities since the last regular Board meeting – President Moffatt reported no meeting.

2) Groundwater Management Area 14 -- update the board on the legal, technical, and financial issues related to joint planning activities and development of desire future conditions in GMA 14 - Ms. Jones reported that GMA 14 did not meet in June. Ms. Jones reminded directors that the planning group took action at their May meeting and authorized approval of the scope of work presented by INTERA Inc for professional services. The next meeting of the GMA 14 will be held on Wednesday, July 25th.

(a) Discussion and possible action related to approving interlocal agreement for governmental functions and services related to the third round of Joint Planning in GMA 14 – Ms. Jones explained that GMA 14’s proposed budget for services related to the third round of joint planning increased by 38% from costs associated with round two. The approved scope of work provides for one additional model run than scoped in the previous planning cycle and anticipates an increased number of meetings and increased costs of services over a three-year period.

GMA 14 consists of five groundwater districts, with the majority of the districts estimated to provide equal funding. Lone Star’s proportionate funding obligation is \$35,000. Historically, both subsidence districts have contributed to the funding commitment by participating in the interlocal agreement(s). Further, it is anticipated that both Washington and Chambers counties plan to participate and will be contributing as well. Ms. Jones added that funds to cover the District’s commitment have been approved and anticipated in the 2018 budget. Therefore, Ms. Jones recommended that the Board approve the Interlocal Agreement and the District’s cost participation not to exceed \$35,000 for the 3rd round of joint planning.

Following discussion, Director Houston made the motion to authorize the general manager to enter into an interlocal agreement with GMA 14 for governmental functions and services related to the third round of joint planning, with a not to exceed of \$35,000. Motion was seconded by Director Bleyl. The motion passed with Director Melder opposing.

GENERAL MANAGER’S REPORT:

Ms. Jones reported that it had been a busy month. Ms. Jones gave an election update and reminded everyone that places for application on the ballot were open until 6 pm, August 23rd. The public is encouraged to visit the District’s website to keep current with board election information.

GENERAL COUNSEL’S REPORT:

Mr. Sledge had nothing further as his report had been given in Executive Session. He made reference to the dichotomy of Mr. Stoecker’s earlier comment; that on the one hand Mr. Stoecker was willing to delay the onset of INTERA’s work by three or four months but on the

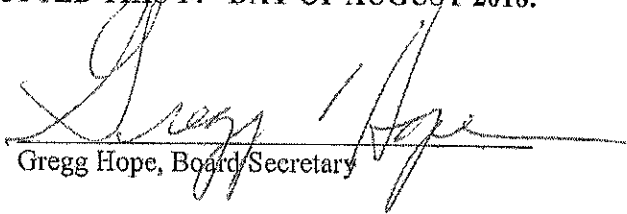
other hand in legislative hearings Mr. Stoecker's attorney argued the urgency to get the DFCs revised.

NEW BUSINESS:

There was no new business.

There being no further business, upon a motion made by Director Wood and seconded by Director Houston, the meeting was adjourned at 10:56 AM.

PASSED, APPROVED, AND ADOPTED THIS 14th DAY OF AUGUST 2018.


Gregg Hope, Board Secretary

Mid-East Texas GCD

MINUTES
MID-EAST TEXAS GROUNDWATER CONSERVATION DISTRICT
DIRECTORS MEETING/PUBLIC HEARING
August 21, 2018, 6:00 PM
Madisonville, Texas

Members present:

John Fryer, President
George Holleman, Vice President
William Parten, Secretary
Elyse Schill, Director
Clark Osborne, Director
John Alford, Director
Jim Nash, Director
Matt Way, Director
Kevin Council, Director

Also present:

David Bailey, General Manager
Greg Ellis, Attorney
Carl Robacker
Jason Afinowicz
Stephanie Bailey
Terri Council
Craig Schill
Mark Collins

The Public Hearing portion of the Mid-East Texas Groundwater Conservation District (GCD) Board/Public Hearing was called to order by President Fryer at 6:00 pm. During this time public comments were provided, either orally or written concerning the proposed Fiscal Year 2018 – 2019 budget and fee rates for the District. No comments were expressed either vocally or in writing. The Public Hearing was then adjourned at 6:02 pm.

The regular meeting of the District Board was then called to order by Pres. Fryer at 6:03 pm.

The minutes of the Directors Meeting held on June 26, 2018 were then reviewed. A motion was made by Dir. Osborne to approve the minutes as written. Motion was seconded by Sec. Parten and the motion passed unanimously.

The floor was open for public comments by Pres. Fryer. No comments were offered.

The next item on the agenda was the consideration and possible action on the proposed 2018 – 2019 fiscal year budget and fee rates for the District. After some discussion a motion was made to approved and adopt the proposed budget as presented as well as the fee rates used to fund said budget. Motion for approval and adoption was made by Dir. Nash and his motion was seconded by Dir. Alford. The motion passed unanimously upon a called vote by Pres. Fryer.

The Board then reviewed a new Water Well Drilling Permit applied for by Flo Community WSC in Leon County. The use of this water well will be for public water supply. The physical location of this well is at the corner of FM 1618 and CR 2761 in Buffalo TX and is proposed to be drilled to a depth of 2,000 feet into the Simsboro layer of the Wilcox aquifer. The anticipated production rate for the well is proposed to be 400 gallons per minute. Production volume for this proposed well will be incorporated into an existing permit with the District. Applicant is not requesting any additional water for permitting, they are just needing increased capacity to satisfy TCEQ requirements. District staff recommends that this drilling permit be approved. Comments

regarding this agenda item were offered by Carl Robacker and Mark Collins. Most of these comments dealt with surface completion and equipment necessary at this site for production. After a period of discussion, a motion was made by Sec. Holleman to approve the Drilling Permit as recommended by staff. This motion was seconded by Sec. Parten and the motion passed unanimously upon a vote called for by Pres. Fryer.

The next item on the agenda was a presentation given by Jason Afinowicz of Freese & Nichols, Inc. regarding the possible need of a Modeled Available Groundwater (MAG) peaking factor for the Sparta aquifer in Madison County. Freese & Nichols is the consulting firm contracted by the Region H Water Planning Group for technical and hydrological services. Mr. Afinowicz provided a handout (see attached) that he used to explain this observed need and how it might be implemented. After his presentation several questions were asked by the Board regarding model accuracy and the effects of applying a peaking factor to the MAG. After a lengthy discussion a motion was made by Dir. Council to approve a MAG Peaking Factor for the Sparta aquifer in Madison County for the current round of Region H regional planning as proposed by Region H Water Planning Group consultants. The motion was seconded by Dir. Way and the motion passed unanimously upon a called vote.

The Board then heard a report from Greg Ellis, attorney for the District regarding an update on an Attorney General's Opinion filed by the District referenced as RQ-0241-KP. Mr. Ellis informed the Board of the status of this opinion as well as his desire to file a brief with the Attorney General questioning changes that were made by Senator Schwertner's office, who carried this opinion request for the District. Verbal approval was given by the Board to pursue this brief to obtain clarification on changes made to the original filing. Any briefs filed will be provided to the District for review.

The next item on the agenda was the consideration and possible action on a Legislative Services Agreement with Gregory M. Ellis, Attorney at Law. This document is to provide legislative services for the District indicating four (4) options for consideration. After a review of these options and after some discussion a motion was made by Sec. Parten to approve Option 2 on this agreement (see attached). This motion was seconded by Dir. Alford. This motion then passed unanimously upon a called vote.

The Board then reviewed a Master Technical Services Agreement with INTERA, Inc. to provide hydrogeologic services for the District. This item was tabled from a previous meeting until more information was obtained. After a review of revisions proposed and partially implemented by INTERA the Board, upon a recommendation by staff and Mr. Ellis, voted to approve this agreement. A motion to that effect was offered by Dir. Osborne with a second to the motion given by Dir. Way. The motion passed unanimously with a called vote by Pres. Fryer.

Manager's Report was then submitted by David Bailey, General Manager of District activities since June 26, 2018. Highlights of the report are listed below:

- Executive Committee meeting in Buffalo on July 23, 2018.
- Participated in a Texas Alliance of Groundwater Conservation District Finance Committee conference call on July 23, 2018.

- Attended the Region H Water Planning Group meeting held in Conroe on August 1, 2018 as a voting member of Groundwater Management Area (GMA) 12.
- Attended the Texas Alliance of Groundwater District business meeting in Austin on May 21, 2018.
- Attendance at the Milam/Burleson County Groundwater Summit in Caldwell on August 15, 2018.
- Attended the Region C WPG meeting held in Arlington on August 20, 2018, 2018 as a voting member for GMA 12.
- Provided the following reports to the Board: Current Investment Report; Drought Report.
- Upcoming events: 7th Annual TAGD Groundwater Summit, San Antonio – 8/28-30/2018; Production fee invoice mailing – 9/7/2018; TAGD Leadership Training, Austin – 10/24/2018.

The Board then reviewed the financial reports and agreed that the reports were in order and that all payments were justified. A listing of the bills approved for payment is attached. The bills and financial records as presented were approved with a motion by Sec. Parten. Motion was seconded by Dir. Council and motion passed unanimously.

The date, time and place of the next meeting were tentatively set for **Tuesday, October 23, 2018 at 6:00 PM in Centerville.**

With no further business, the meeting was adjourned at 7:20 pm.

Minutes approved by the Board of Directors (date) _____

Secretary

President

William Parten

John Fryer

GMA 12

GROUNDWATER MANAGEMENT AREA 12 MEETING
October 9, 2018 – 10:00 am
Post Oak Savannah GCD Offices
310 East Avenue C
Milano, Texas

GMA 12 Members Present

Gary Westbrook	POSGCD
Jim Totten	LPGCD
David Van Dresar	FCGCD
David Bailey	METGCD
Alan Day	BVGCD

GMA 12 Members Absent

None

Others Present

Entity

Elaine Gerren	POSGCD
Bobby Bazan	POSGCD
Doug Box	POSGCD
John Seifert	WSP
Steve Young	Intera
Andy Donnelly	DBS&A
Natalie Ballew	TWDB
Blaire Parker	SAWS
James Bene'	RW Harden
Pat Reilly	Blue Water
Mike Keester	LRE Water, LLC
D.R. Gosnami	R. W. Harden
James Beach	WSP
Steve Box	Environmental Stewardship
Stephen Maldonado	City of College Station
David Dunn	HDR / Brazos G
Nathan Ausley	Self
Shan Rutherford	Terrill & Waldrop
Gary Mechler	City of College Station
Barbara Boulware	The Knight Law Firm
Steve & Dorothy Mayer	Self

Bill Riley
Eddy Young

Major Oak Power

DRAFT

MINUTES

1. Invocation

Invocation was given by David Bailey.

2. Call meeting to order and establish quorum

Gary Westbrook, serving as chair for this meeting, called the meeting to order by at 10:00 a.m. and noted that all voting members of GMA 12 were present.

3. Welcome and introductions

Each District and their voting representative introduced themselves.

4. Minutes of May 11, 2018 GMA 12 Meeting

The minutes of the May 11, 2018 meeting were presented. After brief discussion, a motion was made by Alan Day to approve the minutes. The motion was 2nd by David Van Dresar. The motion passed unanimously.

5. Report from Intera, Inc. on Update on Central Carrizo-Wilcox/Queen City-Sparta Groundwater Availability Model

A presentation was given on this item by Dr. Steve Young of Intera, Inc. entitled "Update to the Carrizo-Wilcox Groundwater Availability Model (GAM)". Dr. Young answered several questions from the audience.

6. Report from GMA 12 consultants regarding comparisons of simulated drawdowns based on the Run 12 well file produced by the previous Central Carrizo-Wilcox City-Sparta Groundwater Availability Model and the updates Central Carrizo-Wilcox/Queen City-Sparta Groundwater Availability Model

Andy Donnelly gave a presentation entitled, "Differences Between the Previous and Updated GAM." He stated that there could be different methods used moving forward to run this new GAM as compared to the previous GAM. A report will be sent to the Texas Water Development Board by month's end. A representative of TWDB noted that TWDB probably will not provide comment, but might request methodology from GMA 12 concerning use of the updated GAM in GMA 12 work. Gary Westbrook reminded that even though the consultants of GMA 12 member Districts would need to discuss use of the updated GAM further, all discussions and decisions will be made in public meetings properly posted and discussed according to the requirements of the Texas Open Meetings Act.

7. Discussion and possible action on the approval of a 1.17 Modeled Available Groundwater Peaking Factor for the Sparta Aquifer in Madison County in response to a proposal from Region H

David Bailey gave a presentation which was given to the Mid- East Texas GCD board by Freese and Nichols entitled, "Consideration of a MAG Peaking Factor for the 2021 Region H Regional Water Plan." Mr. Bailey explained the presentation and stated the METGCD Board had approved the request. A motion was made by David Bailey to approve a 1.17 Modeled Available Groundwater Peaking Factor for the Sparta Aquifer in Madison County in response to a proposal from Region H. The motion was 2nd by Alan Day. The motion carried unanimously.

8. Update from Groundwater Conservation Districts' (GCDs) of GMA 12 on joint planning and compliance with Chapter 36.108, State Water Code

Gary Westbrook provided a summary of the recent work by POSGCD including adoption of a guidance document for methodology in monitoring and DFC Compliance. He further noted the District's Monitoring

Well network was at 200 monitoring wells and he stated based on a report provided at an earlier DFC Committee meeting of the District, Post Oak Savannah GCD is compliant with DFCs and its management plan. Alan Day reviewed the process at the Brazos Valley GCD stating BVGCD was also compliant and was complimentary of POSGCD staff taking input on their compliance document. He also stated BVGCD is awaiting approval from TWDB of the District's recently revised Management Plan. David Van Dresar with the Fayette County GCD stated that FCGCD is also waiting approval of their Management Plan from TWDB. Jim Totten with the Lost Pines GCD stated that they are considering using a Hybrid of the POSGCD shallow management zone restrictions on drawdown for established DFC Compliance. David Bailey noted METGCD is acquiring additional monitoring wells.

9. Discussion on possible common website for GMA 12 to house all information and data

Alan Day provided discussion on possible work from Halff, Inc. to provide a common website committed to storing and making available to the public all monitoring information from each GCD in GMA 12. After discussion, Mr. Day agreed to invite Erin Halff, Inc. to the next GMA 12 meeting for further discussion.

10. Public Comment

Mr. Westbrook invited public comment from all in attendance. No Public Comment was offered.

11. Agenda items and Date for next meeting

All agreed the target a meeting for early January 2019. Also, agenda items for that meeting would include possible common website for GMA 12, discussion of options and methodology for describing and measurement of compliance for DFCs, discussion of options and methodology for running the updated GAM, and any additional items deemed appropriate to GMA 12 at that time.

12. Adjourn

The meeting was adjourned at 11:33 pm.

THE ABOVE MINUTES OF THE MEETING OF GROUNDWATER MANAGEMENT AREA 12 HELD ON OCTOBER 9, WERE APPROVED AND ADOPTED BY GMA 12 ON _____, 2019.

ATTEST:

Mid-East Texas Groundwater Conservation District

Fayette County Groundwater Conservation District

Brazos Valley Groundwater Conservation District

Lost Pines Groundwater Conservation District

Post Oak Savannah Groundwater Conservation District

DRAFT

GMA 14



Groundwater Management Area #14

PO. Box 1407, Jasper, Texas 75951
Phone: 409/383-1577 • fax 409/383-0799

October 22, 2018

Member

Districts:

Southeast Texas GCD
John M. Martin
Chair

Bluebonnet GCD
Zach Holland
Secretary

Brazoria GCD
Sherry Plentl

Lone Star GCD
Kathy Turner Jones

Lower Trinity GCD
Gary Ashmore

Interlocal Participants:

Harris Galveston
Subsidence District
Mike Turco

Fort Bend Subsidence
District
Robert Thompson

Chambers County
Pudge Willcox

Washington County
Judge John Brieden

The Honorable Mark Evans, Chair
REGION H WATER PLANNING GROUP
C/O San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

RE: MAG Peak Factor recommendations for REGION H

Greetings:

Groundwater Management Area #14 (GMA 14) understands the implementation of MAG peak factors for this 5th cycle of RWP development is intended to bridge the gap between joint planning and regional planning perspectives. In that regard, GMA 14 convened a meeting on September 26, 2018 at which GMA14 district representatives voted to confirm acceptance of Region H's recommended MAG Peak Factor for the Lone Star Groundwater Conservation District, Bluebonnet Groundwater Conservation District, and the Brazoria Groundwater Conservation District.

Minutes of the September 26, 2018 GMA14 joint planning committee meeting documenting the unanimous agreement will be considered for approval at GMA 14's January 30, 2019 meeting. A copy of those minutes will be transmitted to you after their approval to complete administrative requirements. In the interim, attached is a copy of the GMA's September 26th posted agenda with agenda item #15 highlighted as reference to this action taken by the planning committee group.

Should you need additional information, please feel free to contact me at your convenience.

Sincerely,

A handwritten signature in blue ink that reads "John M. Martin".

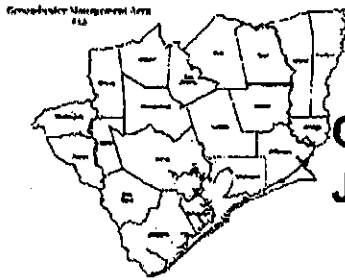
John M. Martin
Chair

KTJ

Attachment

cc: Freese and Nichols

3



DOC# 18-1320
 POSTED
 09/13/2018 12:34PM
 Shelby Curry
 MARK TURNBULL, COUNTY CLERK
 MONTGOMERY COUNTY, TEXAS

**GROUNDWATER MANAGEMENT AREA 14
 JOINT PLANNING COMMITTEE MEETING**

NOTICE OF OPEN MEETING

As required by Section 36.108(e), Texas Water Code, a meeting of the **Groundwater Management Area 14 Joint Planning Committee**, comprised of representatives from the following groundwater conservation districts located wholly or partially within Groundwater Management Area 14—Bluebonnet GCD, Brazoria County GCD, Lone Star GCD, Lower Trinity GCD, and Southeast Texas GCD—will be held on **Wednesday, September 26, 2018, at 10:00 A.M. at the offices of the Lone Star Groundwater Conservation District, located at 655 Conroe Park North, Conroe, Texas 77303.**

At this meeting, the following business may be considered and recommended for Joint Planning Committee possible action:

1. Call to order
2. Welcome and Introductions
3. Public Comment
(Public comment is limited to a maximum of 5 minutes per speaker and/or 30 minutes total for all speakers)
4. Receipt of Posted Notices
5. Discussion and possible action to approve minutes of the July 25, 2018, GMA 14 Joint Planning meetings

Meeting will be convened as a meeting of the GMA 14 Joint Planning Interlocal Agreement Participants.

6. Presentation of information from the Texas Water Development Board and discussions of items of interest to the GMA.
7. Receive update from the Harris Galveston Subsidence District on recent research and subsidence in the Region – Van Kelly (INTERA)

- 8.o GMA 14 Interlocal Agreements Financial Reportoo
 - a. Financial Report (HGSD)oo
 - b. Status report from participants on interlocal participationoo
- 9.o Discussion, nomination, and possible action designating Chair to serve for theoo GMA14 Planning Groupoo
- 10.o Discussion, nomination, and possible action designating Secretary to serve foroo the GMA 14 Planning Groupoo
- 11.o Discussion, nomination, and possible action to designate GMA 14 representativeoo and alternate to Regional Water Planning Groups G, H, & Ioo
- 12.o Reports - GMA 14 regional water planning group(s) representationoo
 - a.o Region G – Zach Hollandoo
 - b.o Region H – Kathy Turner Jones/Gary Ashmoreoo
 - c.o Region I – John Martinoo
- 13.o Discussion regarding path forward for GMA 14 to accomplish statutory mandatesoo for Round 3 Joint Planningoo
- 14.o Presentation and discussion of recent activities of interest or accomplishmentsoo impacting the GMA 14 planning groupoo

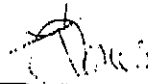
GMA 14 Joint Planning Interlocal Agreement Participants meeting will be adjourned.

Meeting will continue as a meeting of the GMA 14 District Representatives only.

- 15.o Discussion and possible action regarding MAG Peak Factor recommendationsoo for Regional Planning Groups H, and/or Ioo
- 16.o Other businessoo
- 17.o Discussion of next meeting date, location, and agenda itemsoo
- 18.o Adjournoo

Further information, questions, or comments concerning any aspect of the above meeting(s) should be directed to Kathy Turner Jones, Lone Star Groundwater Conservation District, 655 Conroe Park North Drive, Conroe, TX 77303; kjones@lonestargcd.org, or (936) 494-3436.

Come to hand and posted on a Bulletin Board in the Courthouse, Montgomery County, Texas, on this, the 13 day of September, 2018, at _____ M.



Kathy Turner Jones, Chair
GMA 14 Planning Group

_____, Deputy Clerk

_____ County, Texas

APPENDIX 3-A2

MAG PEAK FACTOR REQUEST SUPPLEMENTAL ANALYSIS

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TO: Texas Water Development Board

FROM: Jason D. Afinowicz, P.E.

SUBJECT: MAG Peak Factors – Development of a Synthetic Pumpage Scenario

DATE: January 15, 2019

PROJECT: Region H 2021 Regional Water Plan
SJR15630

The Region H Water Planning Group (RHWPG) developed and submitted recommendations for Modeled Available Groundwater (MAG) Peak Factors for six county and aquifer combinations within Region H in correspondence dated November 14, 2018. The recommendations from this request are shown below in *Table 1*. These recommendations were agreed upon by each applicable Groundwater Conservation District (GCD), Groundwater Management Area (GMA), and the RHWPG prior to submittal.

Table 1. Summary of Peak Factors for Region H

County	Aquifer	GCD	GMA	Peak Factor
Austin	Gulf Coast	Bluebonnet GCD	14	123.9167%
Brazoria	Gulf Coast	Brazoria County GCD	14	140.8701%
Madison	Sparta	Mid-East Texas GCD	12	117.4066%
Montgomery	Gulf Coast	Lone Star GCD	14	133.1516%
Walker	Gulf Coast	Bluebonnet GCD	14	114.7589%
Waller	Gulf Coast	Bluebonnet GCD	14	144.6970%

In its review of these factors, the Texas Water Development Board (TWDB) Groundwater Division requested additional information in order to confirm that the recommended factors would not pose a long-term threat to the ability of individual districts to achieve the Desired Future Conditions (DFCs) adopted by their respective GMA. Specifically, TWDB requested that Region H “provide projected (for planning purposes) groundwater pumping scenarios in each county for each decade during the planning period.”

By their nature, the peak factors developed for Region H are intended to result in long-term groundwater pumpage that is equal to or less than the MAG estimates associated with adopted DFCs. The method used by the RHWPG examined pumping trends over a 16-year period (2000-2015) for each county and aquifer to determine

the magnitude of peak pumpage in the sample period relative to the long-term trend. Therefore, it is the intent of the RHWPG that the average pumpage would offset short-term peak-year pumpage resulting from drought-year demands and represented by the proposed peak factor. It is reasonable to use this same methodology to prepare a synthetic projection of pumpage based on:

- Anticipated groundwater pumpage in the Regional Water Plan (RWP), and
- Annual pumpage peaking based on the 2000-2015 historical period used for MAG Peak Factor determination.

Each step of this process is described below in detail and in parallel to the accompanying workbook including the necessary backup calculations.

Identify County Pumpage

County and aquifer pumpage were first analyzed to determine an average-year pumpage value using the previously derived MAG Peak Factors. Anticipated groundwater allocations (for both existing supply and water management strategies), rather than total availability, were summarized from the draft 2021 Region H RWP. These values represent dry year demands and may represent the total groundwater availability in a county and aquifer combination for groundwater-limited counties or represent only a portion of the availability in cases of counties with excess groundwater availability.

The average-year pumpage values for each decade were developed simply by dividing each allocated pumpage value by the proposed MAG Peak Factor. The workbook also provides a comparison with developed MAG values and identifies any values that exceed the MAG. As shown in the attached workbook, no average-year values exceed the MAG, implying that the long-term pumpage values are within MAG limits.

Interpolate Annual Pumpage

The demands examined in the RWPs are developed on a decadal basis. For further examination on an annual basis, especially for use in developing model stress periods for Groundwater Availability Models (GAMs), these values must be determined on an annual basis. The average-year pumpage developed in the previous step was used to estimate annual values. Interim year pumpage was developed by interpolation between decadal values using an exponential growth methodology.

Normalize Annual Peaking

The peaking trend used by the RHWPG to determine MAG Peak Factors was studied on a basis of deviation from long-term trend rather than long-term average. This methodology was selected in order to account for the trends in overall groundwater use over the 16-year period of record. Therefore, it was necessary to normalize the entire period in a similar fashion. A linear trend line was developed for each county and aquifer combination based on the historic period of record 2000 to 2015. Individual pumpage values for each year were divided by the estimated point along the trend-line to determine a trend-normalized peak factor. This normalized peak factor could then be applied to annual pumpage (which already includes growth, based on the increase in allocations in the RWP) to represent annual peaking due to climatic conditions.

Apply Annual Peaking and Develop Synthetic Pumpage

As it is impossible to exactly predict future trends in water use due to seasonal and annual climatic variables, this process assumes the repetition of the historic period for each county and aquifer combination over the entirety of the planning process. Therefore, the 2000-2015 normalized annual peaking patterns were repeated throughout the RWP time span of the year 2020 through the year 2070. This allowed for continuous cycling of the high- and low-demand patterns, overlaid upon the annual demands interpolated above. The results of this analysis provide

potential, synthetic demand patterns by county and aquifer that are consistent with the groundwater supply allocations within the draft RWP as well as the MAG Peak Factors proposed by the RHWPG.

Compare Synthetic Pumpage to MAG

Although these annual pumpage values can be used as input to the appropriate GAMs for analysis, they can also be examined mathematically to provide support for the proposed Region H MAG Peak Factors. The established decadal MAG values were averaged to determine one value for each county and aquifer combination. Additionally, a total volume of pumpage through the year 2070 was developed by assuming 10 years of pumpage at the 2020-2060 rates, plus the pumpage for the year 2070 (as the MAGs are not based on pumpage beyond the year 2070). Similarly, average values were developed for each decade of the synthetic pumpage set and used to determine average and total pumping volume in the same manner.

By comparing the statistics for the synthetic dataset and the MAG values, it becomes clear that some decades result in a slightly higher level of pumpage than the MAG value. This is a result of the coincidence of the peak demand years occurring in certain decades. However, other decades experience pumpage below the MAG value. The end result is that, for each county and aquifer combination, the average pumpage value is consistently below the average MAG. Furthermore, the total volume of pumpage is below the total volume allowed by the MAG. Without the use of GAM results, it is already implied that a reduced pumpage condition will result in drawdowns that are equal to or less than those allowed by the DFCs which are directly related to the identified MAGs.

Conclusion

The RHWPG reaffirms its recommendation of proposed MAG Peak Factors submitted for consideration. The recommended Peak Factors are based on a methodology that considers annual patterns of peak use in conjunction with period of low demands which are intended to produce an average that is consistent with the long-term planning used by GMAs while accounting for peak, dry-year use as examined in the RWP process. This analysis further reinforces this assessment by demonstrating, in a hypothetical scenario that is consistent with the methods used for deriving the MAG Peak Factors, that the proposed factors result in long-term pumpage that is at or below the MAG.

APPENDIX 3-A3
MAG PEAK FACTOR APPROVAL

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Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
 Austin, TX 78711-3231, www.twdb.texas.gov
 Phone (512) 463-7847, Fax (512) 475-2053

March 15, 2019

Mark Evans
 Region H Chair
 Region H Regional Water Planning Group
 c/o San Jacinto River Authority
 P.O. Box 329
 Conroe, Texas 77305

RE: Region H Regional Water Planning Group (RWPG) request to utilize modeled available groundwater (MAG) peak factors for the Gulf Coast Aquifer in Austin, Brazoria, Montgomery, Walker, and Waller Counties and the Sparta Aquifer in Madison County in the 2021 Region H Regional Water Plan (RWP)

Dear Mr. Evans:

The Texas Water Development Board (TWDB) has reviewed your request on behalf of the Region H RWPG dated November 14, 2018 for approval to utilize MAG peak factors for the Gulf Coast Aquifer in Austin, Brazoria, Montgomery, Walker, and Waller Counties and the Sparta Aquifer in Madison County for the purpose of establishing groundwater availability for drought condition planning in the 2021 Region H RWP. This letter confirms that the TWDB approves the request as shown in the table below:

County	Aquifer	Groundwater Conservation District (GCD)	Groundwater Management Area (GMA)	MAG Peak Factor
Austin	Gulf Coast	Bluebonnet GCD	14	123.92%
Brazoria	Gulf Coast	Brazoria Co. GCD	14	140.87%
Madison	Sparta	Mid-East Texas GCD	12	117.41%
Montgomery	Gulf Coast	Lone Star GCD	12	133.15%
Walker	Gulf Coast	Bluebonnet GCD	14	114.76%
Waller	Gulf Coast	Bluebonnet GCD	14	144.70%

Our Mission

To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas

Board Members

Peter M. Lake, Chairman | Kathleen Jackson, Board Member | Brooke T. Paup, Board Member
 Jeff Walker, Executive Administrator


Mark Evans
March 15, 2019
Page 2

This approval is specific to the Gulf Coast Aquifer in Austin, Brazoria, Montgomery, Walker and Waller Counties and the Sparta Aquifer in Madison County. Any additional MAG peak factor requests for use in the Region H RWP will be subject to the TWDB's review and approval.

While the TWDB authorizes these groundwater availability estimates for development of the 2021 Region H RWP, it is the responsibility of the RWPG to ensure that the estimates of water availability are reasonable for drought planning purposes and will reflect conditions expected in the event of actual drought conditions; and in all other regards will be evaluated in accordance with the contract Exhibit C, *Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development*.

If you have any questions, please do not hesitate to contact Lann Bookout, project manager for Region H, at 512-936-9439 or via email at lann.bookout@twdb.texas.gov.

Sincerely,



Jeff Walker 
Executive Administrator

Attachment: MAG Peak Factor Information Sheet

c: Jace Houston, General Manager, San Jacinto River Authority
Jason Afinowicz, Freese and Nichols, Inc.
Philip Taucer, Freese and Nichols, Inc.
Gary Westbrook, GMA 12
John M. Martin, GMA 14
Zach Holland, Bluebonnet GCD
Kent Burkett, Brazoria County GCD
Rick Moffatt, Lone Star GCD
David Bailey, Mid-East Texas GCD
Larry French, TWDB
Sarah Backhouse, TWDB
Lann Bookout, TWDB



Modeled Available Groundwater (MAG) Peak Factor

Texas Water Code (TWC) §36.1132 requires management of groundwater production on a long-term basis to achieve applicable desired future conditions. In practice, this may include variations in pumping from year to year, for example, in response to relative wet and dry periods. Modeled available groundwater (MAG) is the amount of water that the Texas Water Development Board (TWDB) Executive Administrator determines may be produced on an average annual basis to achieve a desired future condition. Most of the MAG values were developed using groundwater availability models calibrated for long-term average, not drought of record, conditions.

In response to stakeholder concerns during the fourth cycle of regional water planning, the TWDB revised its planning rules to include a MAG Peak Factor that ensures regional water plans have the ability to fully reflect how, under current statute, groundwater conservation districts anticipate managing *groundwater production* under drought conditions.¹

What is the MAG Peak Factor?

The purpose of the MAG Peak Factor is to

- provide reasonable flexibility and temporary accommodation of increased groundwater pumping above the MAG;
- accommodate anticipated fluctuations in pumping between wet and dry periods, or to account for other shifts in the timing of pumping while remaining consistent with desired future conditions;
- allow regional water planning groups to develop plans that reflect more realistic drought condition groundwater availability and pumping, where appropriate; and
- maintain the integrity of the regional and state water planning process.

The use of proposed MAG Peak Factors requires review and approval by relevant groundwater conservation districts, groundwater management areas, regional water planning groups, and the TWDB Executive Administrator.

Subject to many factors, the MAG Peak Factor might be considered in instances, for example, where

- actual pumping in wetter years is expected to fall below the MAG, thereby allowing intermittent pumping of volumes greater than the MAG during drought; or,

- groundwater pumping in early decades is expected to consistently remain well below the MAG, thereby accommodating pumping volumes somewhat higher than the MAG in later decades—all while achieving the desired future condition.

The MAG is the amount of water that can be produced on an annual average basis, instead of the amount that can be permitted. Groundwater conservation districts must consider MAGs, along with other factors in TWC §36.1132, when issuing permits for groundwater production. Accordingly, the MAG Peak Factor reflects groundwater available for pumping, not permitting, and is utilized for regional water planning purposes only. The MAG Peak Factor is not intended as a limit to permits or as guaranteed approval or pre-approval of any future permit application.

How does the process work?

It is not a mandatory requirement that regional water planning groups utilize MAG Peak Factors in the development of their regional water plans. Rather, it is the decision of each planning group, in concurrence with the relevant groundwater conservation district and groundwater management area, to determine what, if any, MAG Peak Factor is appropriate for planning efforts. A groundwater conservation district may also initiate the use of the MAG Peak Factor. The definition specifies that a MAG Peak Factor would be expressed as a percentage of modeled available groundwater (e.g., greater than 100 percent) and would represent the quantified annual groundwater availability for planning purposes.

Regional water planning groups must request the TWDB Executive Administrator's approval of each MAG Peak Factor. Each planning group request for MAG Peak Factors must

- include written approval from both the relevant groundwater conservation district, if one exists within the particular aquifer-region-county-basin split, and representatives of the groundwater management area;
- include the technical basis for the request in sufficient detail to support groundwater conservation district, groundwater management area, and the Executive Administrator evaluation; and
- document how the MAG Peak Factor will not prevent the associated groundwater conservation district(s) from managing groundwater resources to achieve the desired future condition(s).

If approved by the Executive Administrator, each MAG Peak Factor would be applied by the TWDB to the associated modeled available groundwater volume to calculate the modified groundwater availability volume that would be used by regional water planning groups.

More Information

To learn more about regional water planning requirements, please visit: www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp.

Or please contact:

Sarah Backhouse

sarah.backhouse@twdb.texas.gov

(512) 936-2387

¹ 31 TAC §357.10(20); process §357.32(d)(3). This rule change eliminated the effect of modeled available groundwater values acting as immovable, "hard caps" on groundwater pumping that could be reflected in the regional water plans.



APPENDIX 3-A4

ORIGINAL AND MODIFIED GROUNDWATER SOURCE AVAILABILITY



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Table 3-A1 – Original and Modified Groundwater Source Availability

Aquifer Name	County	Basin	Peak Factor	Unmodified Modeled Available Groundwater (ac ft/yr)						Modified Groundwater Availability for Planning (ac ft/yr)						
				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
Gulf Coast Aquifer System	Austin	Brazos	123.92%	6,579	6,579	6,579	6,579	6,579	6,579	6,579	8,153	8,153	8,153	8,153	8,153	8,153
	Austin	Brazos-Colorado	123.92%	15,598	15,598	15,598	15,598	15,598	15,598	15,598	19,329	19,329	19,329	19,329	19,329	19,329
	Austin	Colorado	123.92%	121	121	121	121	121	121	121	150	150	150	150	150	150
	Brazoria	Brazos	140.87%	3,223	3,057	2,992	2,923	2,865	2,821	2,821	4,540	4,306	4,215	4,118	4,036	3,974
	Brazoria	Brazos-Colorado	140.87%	9,135	8,930	8,737	8,476	8,219	7,988	7,988	12,868	12,580	12,308	11,940	11,578	11,253
	Brazoria	San Jacinto-Brazos	140.87%	38,059	38,552	38,855	39,228	39,587	39,911	39,911	53,614	54,308	54,735	55,260	55,766	56,223
	Montgomery*	San Jacinto	133.15%	61,629	61,629	61,629	61,629	61,629	61,629	61,629	82,059	82,059	82,059	82,059	82,059	82,059
	Walker	San Jacinto	114.76%	9,107	9,107	9,107	9,107	9,107	9,107	9,107	10,451	10,451	10,451	10,451	10,451	10,451
	Walker	Trinity	114.76%	8,866	8,866	8,866	8,866	8,866	8,866	8,866	10,175	10,175	10,175	10,175	10,175	10,175
	Waller	Brazos	144.70%	14,919	14,919	14,919	14,919	14,919	14,919	14,919	21,588	21,588	21,588	21,588	21,588	21,588
Waller	San Jacinto	144.70%	26,674	26,674	26,674	26,674	26,674	26,674	26,674	38,597	38,597	38,597	38,597	38,597	38,597	
Sparta Aquifer	Madison	Brazos	117.41%	7	9	9	9	9	9	9	8	11	11	11	11	11
	Madison	Trinity	117.41%	3,313	3,313	3,313	3,313	3,313	3,313	3,313	3,890	3,890	3,890	3,890	3,890	3,890

*Due to the filing of a Desired Future Condition petition by Lone Star Groundwater Conservation District, Texas Water Development Board required that the Modeled Available Groundwater (MAG) for Montgomery County included in the 2016 Regional Water Plan (RWP) be used as the base groundwater availability for the county in the 2021 RWP. For this reason, the values shown in the table for Montgomery County differ from those in the more recent GAM Run 16-024 MAG report for GMA 14.

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APPENDIX 3-B

**DOCUMENTATION OF MODEL FILES USED IN DETERMINING SURFACE WATER
AVAILABILITY**

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APPENDIX 3-B1
HYDROLOGIC VARIANCE REQUEST AND APPROVAL

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REGION H

Water Planning Group

REGION H WATER PLANNING GROUP

Senate Bill 1 - Texas Water Development Board

c/o San Jacinto River Authority

P. O. Box 329, Conroe, Texas 77305

Telephone 936-588-1111 Facsimile 936-588-3043

May 29, 2018

Agricultural
Robert Bruner
Pudge Willcox,
Executive Committee

Counties
John Blount
Judge Mark Evans, Chair
Judge Art Henson

Electric Generating Utilities
Vacant

Environmental
John R. Bartos,
Executive Committee

Groundwater Management Areas
David Bailey
Kathy Jones

Industries
James Comin
Glenn Lord

Municipalities
Yvonne Forrest
Robert Istre

Public
Carl Masterson

River Authorities
Brad Brunett
Jace Houston, Secretary
Kevin Ward

Small Businesses
Judge Bob Hebert
Ruth Stultz
Vacant

Water Districts
Marvin Marcell
Mike Turco
Jimmie Schindewolf

Water Utilities
Ivan Langford
James Morrison
William Teer

TWDB Liaison
Lann Bookout

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
1700 North Congress Avenue
Austin, Texas 78701

Re: Request for Modifications to TCEQ Water Availability Models

Dear Mr. Walker:

The Region H Water Planning Group (RHWP) considered and took action recommending the use of alternatives to the unmodified TCEQ WAM Run 3 models as a basis for determining firm water supplies for the 2021 Regional Water Plan (RWP) at its April 4, 2018 meeting. After consideration of TWDB guidance and the results of review of the TCEQ WAM Run 3 models by the Region H Consultant Team, the RHWP requests TWDB's approval for exceptions to modeling requirements for the Trinity, San Jacinto, Brazos/San Jacinto-Brazos, and Colorado/Brazos-Colorado WAMS. The proposed exceptions build upon the existing TCEQ WAM Run 3 with modifications to better reflect right or basin-specific factors for Regional Planning purposes. In brief, the requested exceptions include the following.

- Trinity River Basin – Use of the modified Region C WAM as a base model to promote greater inter-regional consistency and incorporation of a limited quantity of return flows.
- San Jacinto Basin – Application of alternate reservoir conservation pool capacities to reflect water right holder operational procedures.
- Brazos River Basin / San Jacinto-Brazos Coastal Basin – Use of the modified Brazos G WAM as a base model to promote greater inter-regional consistency.
- Brazos-Colorado Coastal Basin – Adjustment of modeling procedures for multiple rights to better reflect permit conditions.

The requested exceptions are described in greater detail in *Attachment A* to this letter. Please feel free to contact myself or Philip Taucer of Freese and Nichols at 713-600-6835 with any questions regarding this request. Thank you for your consideration on this matter.

Sincerely,



Mark Evans, Chair
Region H Water Planning Group

Attachment A

Proposed Region H Modifications to the TCEQ WAMs

Overview

At its April 4, 2018 meeting, the Region H Water Planning Group (RHWPG) considered and took action recommending the use of alternatives to the unmodified TCEQ WAM Run 3 models as a basis for determining firm water supplies for the 2021 Regional Water Plan (RWP). The proposed exceptions, which are discussed by basin in the following sections, build upon the existing TCEQ WAM Run 3 with modifications to reflect right or basin-specific factors for Regional Planning purposes.

Trinity River Basin WAM

In order to promote inter-regional consistency, the RHWPG is seeking an exception from TWDB surface water modeling requirements to utilize the modified Region C WAM for the Trinity River Basin as a base model for analyses of surface water supply availability in Region H. This model, as noted in the April 10, 2018 letter from Region C to TWDB, is based upon a draft version of the TCEQ WAM Run 3 provided by TCEQ to Region C in December of 2017, which incorporates major water right amendments granted by TCEQ but not yet available on the TCEQ website at that time. The proposed model, as indicated in the Region C letter, also includes further modifications to reflect operation of groups of reservoirs as systems, adjustment of pool elevations where appropriate, adjustment of complex reservoir code to facilitate firm yield determination where applicable, as well as other changes.

The RHWPG has adopted the use of a modified Run 3 model for determining firm yield in the lower Trinity River Basin in the 2001, 2006, 2011, and 2016 RWPs. These models included a limited quantity of return flows in the upper basin expected to be available for future conditions as determined through correspondence with the Region C Planning Group. The RHWPG therefore requests an exception to conduct firm yield analysis to include a limited quantity of return flows in the Trinity River Basin.

San Jacinto River Basin WAM

Changes in reservoir conservation pool elevation operations have been discussed for the San Jacinto Basin. Region H therefore requests an exception to allow modification to the WAM Run 3 for the San Jacinto River Basin to reflect applicable adjustments to reservoir conservation pool levels.

Brazos River Basin / San Jacinto-Brazos Coastal Basin WAM

In order to promote inter-regional consistency, the RHWPG is seeking an exception from TWDB surface water modeling requirements to utilize the modified Brazos G WAM for the Brazos River Basin as a base model for analyses of surface water supply availability in Region H. This model is inclusive of the San Jacinto-Brazos Coastal Basin. This model, as noted in the February 23, 2018 letter from HDR on behalf of the Brazos G RWPG to TWDB, is based upon the TCEQ WAM Run 3. The proposed Brazos G model, as indicated in the letter, includes modifications to extend the modeled period of record, reflect existing subordination agreements, and incorporate some return flows, as well as other changes. Region H has similarly utilized the Brazos G WAM for prior RWPs.

Colorado River Basin / Brazos-Colorado Coastal Basin WAM

The Region H Water Planning Area includes the Brazos-Colorado Coastal Basin in the western portions of Austin, Fort Bend, and Brazoria Counties, with the remainder of the coastal basin within the Region K Water Planning Area. There are a number of surface water rights for various permitted uses in the

basin, including multiple authorizations for irrigation diversions as well as several larger permits for industrial use. In reviewing the WAM for the basin (included within the TCEQ Run 3 WAM for the Colorado River Basin), the RHWPG identified opportunities to adjust model code to facilitate determination of firm yield and reflect annual streamflow diversion limits as specified in water right permits.

Certificate of Adjudication (CoA) 13-3421, as amended, authorizes diversion of 20,000 ac-ft/yr of water from the San Bernard River by multiple water rights holders and storage in several off-channel reservoirs in the Region K Water Planning Area, with the various right holders granted access to differing storage volumes in the reservoirs. A portion of the diversion is also able to be taken as a run of river diversion at a downstream point within Region H if certain flow conditions are met or through releases of stored water to the downstream point. The WAM Run 3 represents this complex situation with composite reservoirs for each right holder's share of storage and an attempted downstream diversion of a portion of the permit. The following modifications to the WAM Run 3 are proposed for RWP supply determination for Region H:

- Modeling of all diversions for the CoA occurring at the upstream reservoirs and diversion point on the San Bernard River to facilitate evaluation of reliable supply from the right.
- Applying limits to river diversions to prevent excess diversions from off-channel reservoir refilling.
- Application of a firm yield approach to determine the reliable supply from this portion of the run-of-river availability of the San Bernard River.

Certificate of Adjudication (CoA) 13-3423, as amended, authorizes diversion of 32,000 ac-ft/yr of water from the San Bernard River and storage in four off-channel reservoirs. The following modifications to the WAM Run 3 are proposed for RWP supply determination for Region H:

- Modeling of the off-channel reservoirs as a single composite reservoir to better reflect actual interconnectivity and use of storage by the right holder.
- Applying limits to river diversions to prevent excess diversions from off-channel reservoir refilling.
- Application of a firm yield approach to determine the reliable supply from this portion of the run-of-river availability of the San Bernard River.

Texas Water Development Board

P.O. Box 13231, 1700 N. Congress Ave.
Austin, TX 78711-3231, www.twdb.texas.gov
Phone (512) 463-7847, Fax (512) 475-2053

July 6, 2018

Mark Evans
Region H Chair
Region H Regional Water Planning Group
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305

RE: Region H Regional Water Planning Group (RWPG) request for approval to modify existing surface water availability hydrologic assumptions for development of the 2021 Region H Regional Water Plan (RWP)

Dear Mr. Evans:

The Texas Water Development Board (TWDB) has reviewed your request dated May 29, 2018 for approval of alternative water supply assumptions to be used in determining existing surface water availability. This letter confirms that the TWDB approves the following requests:

1. Use of the modified Trinity River Basin Water Availability Model (WAM) approved for use by the Region C RWPG in analysis of Trinity River Basin water rights.
2. Include a limited quantity of return flows in the Trinity River Basin.
3. Use of the modified Brazos River Basin WAM approved for use by the Region G RWPG, for analysis of the Brazos River and San Jacinto-Brazos Coastal Basins.
4. Modify the Colorado WAM RUN3 to adjust multiple water rights within the Brazos-Colorado Coastal Basin.

Through subsequent clarification of the submitted letter from the RWPG consultant, it was determined that the requested variance to modify reservoir conservation pool elevation levels for the San Jacinto River Basin is not being used. The RWPG must submit a follow up hydrologic variance request with additional details on this specific exception, should Region H determine this variance to be necessary at a later date.

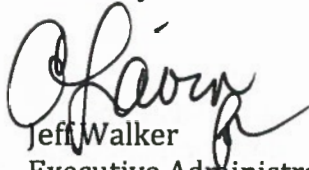
For the purpose of evaluating potentially feasible water management strategies, the appropriate Texas Commission on Environmental Quality's WAM RUN3 is to be used, unless a hydrologic variance request for future surface water source availabilities is submitted and approved.

Mark Evans
July 6, 2018
Page 2

While the TWDB has authorized these modifications to evaluate existing water supplies for development of the 2021 Region H RWP, it is the responsibility of the RWPG to ensure that the resulting estimates of water availability are reasonable for drought planning purposes and will reflect conditions expected in the event of actual drought conditions; and in all other regards will be evaluated in accordance with the contract Exhibit C, *Second Amended General Guidelines for Fifth Cycle of Regional Water Plan Development*.

If you have any questions, please do not hesitate to contact Lann Bookout, project manager for Region H, at 512-936-9439 or via email at lann.bookout@twdb.texas.gov.

Sincerely,



Jeff Walker
Executive Administrator

- c: Jace Houston, General Manager, San Jacinto River Authority
- Jason Afinowicz, Freese and Nichols, Inc.
- Lann Bookout, Project Manager
- David Dunn, HDR, Inc. (Region G)
- Amy Kaarlela, Freese and Nichols, Inc. (Region C)

APPENDIX 3-B2

**SUMMARY OF MODEL RUNS TO DETERMINE SURFACE WATER SOURCE
AVAILABILITY**

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Table 3-B1 – Summary of Model Runs to Determine Surface Water Source Availability

Model Root File Name	Basin	Run 3 Version Date	Description of Modifications	EA Approval Date	DB22 Source Name	Modeler	Execution Date
BrazosG_2020_WithSysOps	Brazos	2/1/2018	Modifications by Region G RWPG, including extension of hydrology and simulation period through 2015	7/6/2018	Brazos Run-of-River	FNI	9/7/2018
BrazosG_2070_WithSysOps	Brazos	2/1/2018	Modifications by Region G RWPG, including extension of hydrology and simulation period through 2015	7/6/2018	Brazos Run-of-River	FNI	9/7/2018
C3_FNI	Colorado / Brazos-Colorado	2/1/2018	Reduced model period to 59 years (1940 - 1998) due to lack of hydrology information for Brazos-Colorado coastal basin	7/6/2018	Brazos-Colorado Run-of-River (portion of availability associated with water rights 13-3433 and 13-5331)	FNI	7/17/2018
C3_FNI3421	Colorado / Brazos-Colorado	2/1/2018	Reduced model period to 59 years (1940 - 1998) due to lack of hydrology information for Brazos-Colorado coastal basin; Modified CoA 3421 and CoA 3423 to take all diversions at composite reservoirs; Run to determine firm yield of composite reservoir associated with CoA 3421	7/6/2018	Brazos-Colorado Run-of-River (portion of availability associated with the portion of water right 13-3421 in Region H)	FNI	5/8/2018
C3_FNI3423	Colorado / Brazos-Colorado	2/1/2018	Reduced model period to 59 years (1940 - 1998) due to lack of hydrology information for Brazos-Colorado coastal basin; Modified CoA 3421 and CoA 3423 to take all diversions at composite reservoirs; Run to determine firm yield of composite reservoir associated with CoA 3423	7/6/2018	Brazos-Colorado Run-of-River (portion of availability associated with water right 13-3423)	FNI	5/8/2018
neches3	Neches	10/1/2012	n/a	n/a	Neches Run-of-River	FNI	3/16/2018
NT3	Neches-Trinity	1/2/2013	n/a	n/a	Neches-Trinity Run-of-River	FNI	3/8/2018
sjarun3_ROR	San Jacinto	9/24/2014	n/a	n/a	San Jacinto Run-of-River	FNI	11/22/2017
sja3_2020_conroe	San Jacinto	9/24/2014	2020 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018
sja3_2030_conroe	San Jacinto	9/24/2014	2030 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018

Model Root File Name	Basin	Run 3 Version Date	Description of Modifications	EA Approval Date	DB22 Source Name	Modeler	Execution Date
sja3_2040_conroe	San Jacinto	9/24/2014	2040 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018
sja3_2050_conroe	San Jacinto	9/24/2014	2050 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018
sja3_2060_conroe	San Jacinto	9/24/2014	2060 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018
sja3_2070_conroe	San Jacinto	9/24/2014	2070 sedimentation of major reservoirs	n/a	Conroe Lake/Reservoir	FNI	3/29/2018
sja3_2020_houston	San Jacinto	9/24/2014	2020 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
sja3_2030_houston	San Jacinto	9/24/2014	2030 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
sja3_2040_houston	San Jacinto	9/24/2014	2040 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
sja3_2050_houston	San Jacinto	9/24/2014	2050 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
sja3_2060_houston	San Jacinto	9/24/2014	2060 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
sja3_2070_houston	San Jacinto	9/24/2014	2070 sedimentation of major reservoirs	n/a	Houston Lake/Reservoir	FNI	3/29/2018
BrazosG_2020_WithSysOps	San Jacinto-Brazos	2/1/2018	Modifications by Region G RWPG, limited analysis to simulated years 1940-1997 (hydrology not extended in San Jacinto-Brazos basin)	7/6/2018	San Jacinto-Brazos Run-of-River	FNI	9/7/2018
BrazosG_2070_WithSysOps	San Jacinto-Brazos	2/1/2018	Modifications by Region G RWPG, limited analysis to simulated years 1940-1997 (hydrology not extended in San Jacinto-Brazos basin)	7/6/2018	San Jacinto-Brazos Run-of-River	FNI	9/7/2018
TSJ3	Trinity-San Jacinto	1/2/2013	n/a	n/a	Trinity-San Jacinto Run-of-River	FNI	12/22/2017
trin3_NoSed	Trinity	10/7/2014	Modifications by Region C RWPG	7/6/2018	Trinity Run-of-River	FNI	6/4/2018
trin3_2020	Trinity	10/7/2014	Modifications by Region C RWPG, including 2020 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018
trin3_2030	Trinity	10/7/2014	Modifications by Region C RWPG, including 2030 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018

Model Root File Name	Basin	Run 3 Version Date	Description of Modifications	EA Approval Date	DB22 Source Name	Modeler	Execution Date
trin3_2040	Trinity	10/7/2014	Modifications by Region C RWPG, including 2040 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018
trin3_2050	Trinity	10/7/2014	Modifications by Region C RWPG, including 2050 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018
trin3_2060	Trinity	10/7/2014	Modifications by Region C RWPG, including 2060 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018
trin3_2070	Trinity	10/7/2014	Modifications by Region C RWPG, including 2070 sedimentation of major reservoirs and return flows	7/6/2018	Livingston-Wallisville Lake/Reservoir System	FNI	6/21/2018

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APPENDIX 3-B3

ORIGINAL AND MODIFIED SURFACE WATER SOURCE AVAILABILITY



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Table 3-B2 – Original and Modified Firm Yield for Reservoirs

Basin	Reservoir	Unmodified WAM Firm Yield (ac ft/yr)						Modified WAM Firm Yield (ac ft/yr)					
		2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Trinity	Livingston-Wallisville Lake / Reservoir System	1,111,300	1,111,080	1,110,860	1,110,640	1,110,420	1,110,200	1,326,000	1,320,500	1,327,100	1,276,300	1,276,900	1,275,900

Table 3-B3 – Original and Modified Firm Diversions for Run-of-River Sources

Basin	County	Run of River Source Detail	Unmodified WAM Firm Diversion (ac ft/yr)						Modified WAM Firm Diversion (ac ft/yr)					
			2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
Brazos	Brazoria	Multiple / 12-5323, 12-5327, 12-5328, 12-5329, 12-5366, 12-5492	154,331	154,331	154,331	154,331	154,331	154,331	166,632	166,270	165,907	165,545	165,182	164,820
Brazos	Fort Bend	Multiple / 12-5168, 12-5171, 12-5320, 12-5322, 12-5325, 12-5552, 12-5567	278,765	278,765	278,765	278,765	278,765	278,765	286,743	286,649	286,553	286,458	286,362	286,267
Brazos	Waller	Multiple / 12-5319, 12-4009	61	61	61	61	61	61	43	43	43	43	43	43
Brazos-Colorado	Brazoria	Multiple / 13-3421, 13-3423, 13-3433, 13-5331, 13-5446	1,824	1,824	1,824	1,824	1,824	1,824	11,729	11,729	11,729	11,729	11,729	11,729
San Jacinto-Brazos	Brazoria	Multiple / See source availability comments	32,599	32,599	32,599	32,599	32,599	32,599	32,600	32,600	32,600	32,600	32,600	32,600
San Jacinto-Brazos	Fort Bend	Multiple / 11-5170, 11-5335, 11-5336	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803	5,803
San Jacinto-Brazos	Galveston	Single / 11-5362	36	36	36	36	36	36	36	36	36	36	36	36
San Jacinto-Brazos	Harris	Multiple / 11-5230, 11-5686	388	388	388	388	388	388	388	388	388	388	388	388
Trinity	Chambers	Single / 08-4279	60,838	60,838	60,838	60,838	60,838	60,838	60,837	60,837	60,837	60,837	60,837	60,837
Trinity	Leon	Multiple / 08-4238, 08-5083, 08-5085	159	159	159	159	159	159	158	158	158	158	158	158
Trinity	Liberty	Multiple / 08-4277, 08-5271, 08-5739	49,023	49,023	49,023	49,023	49,023	49,023	49,083	49,083	49,083	49,083	49,083	49,083
Trinity	Madison	Single / 08-4240	169	169	169	169	169	169	169	169	169	169	169	169
Trinity	Polk	Single / 08-4261	26,510	26,510	26,510	26,510	26,510	26,510	26,510	26,510	26,510	26,510	26,510	26,510
Trinity	Trinity	Single / 08-4256	0	0	0	0	0	0	34	34	34	34	34	34
Trinity	Walker	Multiple / 08-4249, 08-4250, 08-4253	460	460	460	460	460	460	460	460	460	460	460	460

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APPENDIX 3-C

LIST OF WATER RIGHTS USED AS BASIS OF SUPPLY

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Table 3-C1 – Water Rights Used in Development of Surface Water Source Availability

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
Conroe Lake/Reservoir	San Jacinto	Reservoir	10-4963	San Jacinto River Authority	100,000	430,260
Conroe Lake/Reservoir	San Jacinto	Reservoir	10-4963	City of Houston		
Houston Lake/Reservoir	San Jacinto	Reservoir	10-4965	City of Houston	168,000	160,000
Houston Lake/Reservoir	San Jacinto	Reservoir	10-5807	San Jacinto River Authority	28,200	0
Livingston-Wallisville Lake/Reservoir System	Trinity	Reservoir	08-4248	Trinity River Authority	403,200	1,806,300
Livingston-Wallisville Lake/Reservoir System	Trinity	Reservoir	08-4261	City of Houston	940,800	
Brazos-Colorado Run-of-River	Brazos-Colorado	Brazoria	13-3421	Phillips 66 Company Et Al	17,400	16,118
Brazos-Colorado Run-of-River	Brazos-Colorado	Brazoria	13-3423	Phillips 66 Company	32,000	9,327
Brazos-Colorado Run-of-River	Brazos-Colorado	Brazoria	13-3433	Hilcorp Energy I Lp Et Al	2,000	300
Brazos-Colorado Run-of-River	Brazos-Colorado	Brazoria	13-5331	Texas Dept Of Criminal Justice	1,076	966
Brazos Run-Of-River	Brazos	Brazoria	12-5323	Beverly T Mcdonald Et Al	112	550
Brazos Run-Of-River	Brazos	Brazoria	12-5327	Texas Dept Of Criminal Justice	746	0
Brazos Run-Of-River	Brazos	Brazoria	12-5328	Dow Inc.	305,656	89,563
Brazos Run-Of-River	Brazos	Brazoria	12-5329	Multiple	500	2,000
Brazos Run-Of-River	Brazos	Brazoria	12-5366	Brazosport Water Authority	45,000	0
Brazos Run-Of-River	Brazos	Brazoria	12-5492	US Dept of the Interior	1,800	11,315
Brazos Run-Of-River	Brazos	Fort Bend	12-5168	Gulf Coast Water Authority	99,932	7,308
Brazos Run-Of-River	Brazos	Fort Bend	12-5171	Gulf Coast Water Authority	125,000	0
Brazos Run-Of-River	Brazos	Fort Bend	12-5320	NRG Texas Power LLC	40,000	0
Brazos Run-Of-River	Brazos	Fort Bend	12-5322	Gulf Coast Water Authority	155,000	864
Brazos Run-Of-River	Brazos	Fort Bend	12-5325	NRG Texas Power LLC	28,711	18,750

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
Brazos Run-Of-River	Brazos	Fort Bend	12-5552	Campbell Concrete & Materials Lp	2,300	11
Brazos Run-Of-River	Brazos	Fort Bend	12-5567	Sand Supply	2,100	2,000
Brazos Run-Of-River	Brazos	Waller	12-5319	Weldon S Laas Et Al	117	41
Brazos Run-Of-River	Brazos	Waller	12-4009	C H & Betty Jean Williamson	136	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5338	Texas Dept Of Criminal Justice	300	90
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5341	Tom Tigner Trust	600	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5343	Tigner Irrigation Co	6,871	750
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5344	Vrazel Trust, Jned II Land Co Ltd	1,482	414
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5345	Multiple	1,901	2,565
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5346	Multiple	2,813	783
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5347	Albert Kuchar, James D Clawson	683	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5348	Cleveland Davis Iii Et Al	454	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5349	Bieri Farm Inc	1,500	1,292
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5351	A Farrer Et Al	1,500	550
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5352	The Randolph Co Et Al	4,818	4,541
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5354	R T Marshall Trustee	187	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5356	John Russell Isaacs Co-Trustee Et Al	560	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5357	Gulf Coast Water Authority	57,500	8,951
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5359	Alvin Golf & Country Club	54	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5360	James Scopel	160	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5364	Robert L Alexander, Martha A Crouch	968	0
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-4010	J V 3 Inc	360	73
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-4132	Michael H Bonini	657	120

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-4201	Multiple	2,000	31
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-4216	Raymond Le Compte Et Al	2,925	1,455
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-4221	Anna Kolacny, Gladys Kolacny Viktorin	425	250
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5023	Rex C Bailey Jr Et Al	2,600	270
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Brazoria	11-5256	John D Vieman Et Al	1,231	162
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Fort Bend	11-5170	City of Sugar Land	18,159	8,925
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Fort Bend	11-5335	Larry J Schulgen Trustee	1,316	379
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Fort Bend	11-5336	The Lakes Limited	542	442
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Galveston	11-5362	Chaparral Recreation Assn	46	15
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Harris	11-5230	Baywood Country Club	150	6
San Jacinto-Brazos Run-Of-River	San Jacinto-Brazos	Harris	11-5686	Coastal Bend Prop Dev Lic	460	47
Neches Run-of-River	Neches	Liberty	06-4431	Jim Best	354	180
Neches Run-of-River	Neches	Liberty	06-5508	Henderson Partners Ltd.	1,250	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3944	Winzer Family Trust Et Al	1,123	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3945	Winzer Family Trust	403	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3951	Don Wesley Lagow Et Al	1,220	187
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3952	Solmon Wesley Barrow Et Al	1,220	800
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3953	Wayne Morris Et Ux	880	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-3954	Louise Barrow Gorton	880	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4287	W E Jenkins Jr Et Al	4,900	589
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4288	Gene A Nelson Et Al	204	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4289	Octavia F Stanley	535	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4290	Thomas Lloyd Fahring Jr Family Trusts	535	0

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4291	John G Middleton Et Al	43	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4292	Donald G Nelson et al	250	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4293	Edmonds Brothers Farms	1,780	530
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4294	1951 Interests Lp	674	2,669
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4295	Jewel Fitzgerald	1,400	773
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4296	US Anahuac National Wildlife Refuge	21,000	1,025
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4297	Chambers County	675	675
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4298	Brown Brothers Farm	891	120
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4299	Ocie R Jackson	1,834	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4300	Bobby Jack Enloe Et Ux	875	252
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4301	Barrow Ranches	2,000	604
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4302	US Department of the Interior	5,932	952
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4303	Don W Lagow & Wife	68	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4304	East Bay Farms Lic	7,560	485
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4305	William S Edwards	1,200	2,139
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4306	W S Edwards Family Lp	2,100	353
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4308	Jerry Devillier Et Al	1,109	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4309	Spindletop Bayou Farm Inc	2,118	480
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4310	Winzer Family Trust	413	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4311	John Middleton	2,700	649
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-4312	Jess Matthews Jr Et Al	2,223	0
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-5016	John M Blackwell	1,250	411
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-5059	Jere Ruff	30	3

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
Neches-Trinity Run-of-River	Neches-Trinity	Chambers	07-5467	Randy G Price ET UX	150	64
San Jacinto Run-of-River	San Jacinto	Harris	10-4964	San Jacinto River Authority	55,000	3,800
San Jacinto Run-of-River	San Jacinto	Harris	10-3779	Marian W. Fleming	45	9
San Jacinto Run-of-River	San Jacinto	Harris	10-4038	Kocide Chemical Corp	230	0
San Jacinto Run-of-River	San Jacinto	Harris	10-5209	Inwood Forest CC	230	16
San Jacinto Run-of-River	San Jacinto	Harris	10-5311	Brae-Burn CC	220	13
San Jacinto Run-of-River	San Jacinto	Harris	10-5332	Pine Forest CC	378	35
San Jacinto Run-of-River	San Jacinto	Harris	10-5336	Houston CC	175	20
San Jacinto Run-of-River	San Jacinto	Harris	10-5565	Our Savior Lutheran Church	62	4
San Jacinto Run-of-River	San Jacinto	Harris	10-5711	Westwood CC	250	18
San Jacinto Run-of-River	San Jacinto	Harris	10-5762	Memorial Park Golf Course	184	17
San Jacinto Run-of-River	San Jacinto	Harris	10-3982	Cinco Ranch East	45	0
San Jacinto Run-of-River	San Jacinto	Harris	10-3983	Harold and Jesse Freeman	800	150
San Jacinto Run-of-River	San Jacinto	Harris	10-3984	Lenoir M. Josey Inc	26	0
San Jacinto Run-of-River	San Jacinto	Harris	10-3985	River Oaks CC	460	75
San Jacinto Run-of-River	San Jacinto	Harris	10-3986	MFAH	19	0
San Jacinto Run-of-River	San Jacinto	Harris	10-5257	Lakeside CC	350	75
San Jacinto Run-of-River	San Jacinto	Harris	10-3980	Seaberg et al/Riceland	1,600	400
San Jacinto Run-of-River	San Jacinto	Harris	10-5826	City of Houston	130,000	0
San Jacinto Run-of-River	San Jacinto	Harris	10-3966	Bridgeland Development Lp	25	0
San Jacinto Run-of-River	San Jacinto	Montgomery	10-3752	Conroe CC	66	65
San Jacinto Run-of-River	San Jacinto	Montgomery	10-3882	SJRA/Woodlands Dev. Corp.	500	600
San Jacinto Run-of-River	San Jacinto	Montgomery	10-3974	V. E. Rhoton	40	0

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
San Jacinto Run-of-River	San Jacinto	Liberty	10-3970	Jacqueline H G Albrecht Et Al	15	0
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Chambers	09-3924	FVI Ltd Et Al	2,133	1,057
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3909	Stoesser Farms Inc	1,402	480
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3910	Roy A Seaberg	327	50
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3911	Stoesser Farms Inc	525	42
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3912	Stoesser Farms Inc	4	0
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3918	Gin City Land Company Inc	2,500	570
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Liberty	09-3919	Fpl Farming Co Ltd	1,152	472
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3913	Gin City Land Company Inc	1,542	605
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3914	Riceland Properties Inc	900	416
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3915	Roy A Seaberg Et Al	308	0
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3921	Richard L Shuman	60	20
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3922	Cedar Bayou Ltd	1,500	0
Trinity-San Jacinto Run-of-River	Trinity-San Jacinto	Harris	09-3923	Billy E Muirff	954	365
Trinity Run-of-River	Trinity	Chambers	08-4279	Chambers-Liberty Cos Nd	112,947	35,300
Trinity Run-of-River	Trinity	Chambers	08-4279	San Jacinto River Authority	30,000	0
Trinity Run-of-River	Trinity	Leon	08-4238	Ray Simpson Et Ux	6	3
Trinity Run-of-River	Trinity	Leon	08-5083	Mrs A P Van Winkle Et Al	50	15
Trinity Run-of-River	Trinity	Leon	08-5085	Charles W Kennedy Iii Et Al	175	216
Trinity Run-of-River	Trinity	Liberty	08-5271	Devers Canal Rice Pro Assn Inc	2,500	1,195
Trinity Run-of-River	Trinity	Liberty	08-5271	San Jacinto River Authority	56,000	0
Trinity Run-of-River	Trinity	Liberty	08-5739	Mitigation Management Ltd et al	1,550	408
Trinity Run-of-River	Trinity	Liberty	08-4277	City of Houston	38,000	65

DB22 Source Name	Basin	County	Water Right Permit Number	Water Right Owner Name	Permitted Annual Diversion Volume (acre feet/year)	Permitted Storage Capacity (acre feet/year)
Trinity Run-of-River	Trinity	Madison	08-4240	Texas Dept Of Criminal Justice	701	830
Trinity Run-of-River	Trinity	Polk	08-4261	City of Houston	45,000	0
Trinity Run-of-River	Trinity	Trinity	08-4256	Westwood Shores Property Owners Assn	150	387
Trinity Run-of-River	Trinity	Walker	08-4249	Texas Dept of Criminal Justice	179	280
Trinity Run-of-River	Trinity	Walker	08-4250	Texas Parks & Wildlife Dept Et Al	1,200	51
Trinity Run-of-River	Trinity	Walker	08-4253	Thomas G Jameson	20	0

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APPENDIX 3-D

MAJOR WATER PROVIDER SUPPLY SUMMARIES

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Table 3-D1 – MWP Water Supplies by Use Category

Major Water Provider	Category	MWP Supply (ac ft)*					
		2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	IRRIGATION	140	140	140	140	137	134
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	72,714	73,151	73,373	73,608	73,148	72,497
	MINING	0	0	0	0	0	0
	MUNICIPAL	72,739	72,372	72,157	71,927	70,178	67,939
	STEAM ELECTRIC POWER	83,000	83,000	83,000	83,000	83,000	83,000
BRAZOSPORT WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	1,120	1,120	1,120	1,120	1,120	1,120
	MINING	0	0	0	0	0	0
	MUNICIPAL	15,772	15,772	15,772	15,772	15,772	15,772
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	IRRIGATION	41,201	41,201	41,201	41,201	41,201	41,201
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	2,026	2,026	2,026	2,026	2,026	2,026
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	1,792	1,792	1,792	1,792	1,792	1,792
	MINING	0	0	0	0	0	0
	MUNICIPAL	22,358	22,377	22,458	22,530	22,604	22,682
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CONROE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	16,832	16,832	16,832	16,832	16,832	16,832
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Supply (ac ft)*					
		2020	2030	2040	2050	2060	2070
DOW INC	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	164,424	164,092	163,760	163,428	163,096	162,764
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GALVESTON	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	16	16	16	16	16	16
	MINING	0	0	0	0	0	0
	MUNICIPAL	20,217	20,288	20,365	20,452	20,535	20,625
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GULF COAST WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	103,721	103,693	103,667	103,641	103,613	103,587
	MINING	0	0	0	0	0	0
	MUNICIPAL	123,869	123,822	123,778	123,730	123,680	123,630
	STEAM ELECTRIC POWER	0	0	0	0	0	0
HOUSTON	IRRIGATION	26,874	26,874	26,874	26,874	26,874	26,874
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	370,653	370,653	370,653	370,653	370,653	370,653
	MINING	0	0	0	0	0	0
	MUNICIPAL	769,969	720,112	688,000	691,965	696,540	701,340
	STEAM ELECTRIC POWER	29,711	29,711	29,711	29,711	29,711	29,711
HUNTSVILLE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	27,530	27,563	27,584	27,613	27,642	27,668
	STEAM ELECTRIC POWER	6,720	6,720	6,720	6,720	6,720	6,720

Major Water Provider	Category	MWP Supply (ac ft)*					
		2020	2030	2040	2050	2060	2070
LEAGUE CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	23,951	24,099	24,215	24,316	24,375	24,417
	STEAM ELECTRIC POWER	0	0	0	0	0	0
LOWER NECHES VALLEY AUTHORITY	IRRIGATION	62,173	62,173	62,173	62,173	62,173	62,173
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	6,737	6,737	6,737	6,737	6,737	6,737
	STEAM ELECTRIC POWER	0	0	0	0	0	0
MISSOURI CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	11,556	11,294	11,333	11,360	11,389	11,421
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	63,732	53,956	60,760	64,917	67,136	68,269
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	122,956	87,499	62,014	63,022	64,003	64,923
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Supply (ac ft)*					
		2020	2030	2040	2050	2060	2070
NRG	IRRIGATION	12,000	12,000	12,000	12,000	12,000	12,000
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	131,488	131,464	131,440	131,415	131,391	131,367
PASADENA	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	5,040	5,040	5,040	5,040	5,040	5,040
	MINING	0	0	0	0	0	0
	MUNICIPAL	47,829	47,833	47,844	47,904	47,998	48,105
	STEAM ELECTRIC POWER	0	0	0	0	0	0
PEARLAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	22,773	23,626	24,856	26,219	27,732	29,197
	STEAM ELECTRIC POWER	0	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	IRRIGATION	1,733	1,733	1,733	1,733	1,733	1,733
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	63,701	62,457	61,395	60,626	61,450	62,454
	MINING	0	0	0	0	0	0
	MUNICIPAL	38,924	38,924	38,924	38,924	38,924	38,924
	STEAM ELECTRIC POWER	7,841	7,841	7,841	7,841	7,841	7,841
SUGAR LAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	647	647	647	647	647	647
	MINING	0	0	0	0	0	0
	MUNICIPAL	36,473	27,217	27,850	28,505	29,082	29,387
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Supply (ac ft)*					
		2020	2030	2040	2050	2060	2070
TEXAS CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	609	609	609	609	609	609
	MINING	0	0	0	0	0	0
	MUNICIPAL	10,278	10,318	10,351	10,383	10,418	10,450
	STEAM ELECTRIC POWER	0	0	0	0	0	0
THE WOODLANDS	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	29,921	28,871	28,115	28,171	28,214	28,246
	STEAM ELECTRIC POWER	0	0	0	0	0	0
TRINITY RIVER AUTHORITY	IRRIGATION	27,620	27,620	27,620	27,620	27,620	27,620
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	32	32	32	32	32	32
	MUNICIPAL	282,363	282,363	282,363	282,363	282,363	282,363
	STEAM ELECTRIC POWER	6,720	6,720	6,720	6,720	6,720	6,720
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	79,404	58,634	44,891	45,786	46,103	46,400
	STEAM ELECTRIC POWER	0	0	0	0	0	0

* The values in this table reflect the sum of MWP municipal self-supply as well as transfers to other entities. Existing but currently unutilized volumes are therefore not shown in the table. Values represent MWP supplies to entities within Region H only and do not include supplies for other regions.

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Table 3-D2 – MWP Water Supply Summary

Major Water Provider	MWP Supply (ac ft)*					
	2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	228,593	228,663	228,670	228,675	226,463	223,570
BRAZOSPORT WATER AUTHORITY	16,892	16,892	16,892	16,892	16,892	16,892
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	43,227	43,227	43,227	43,227	43,227	43,227
CLEAR LAKE CITY WATER AUTHORITY	24,150	24,169	24,250	24,322	24,396	24,474
CONROE	16,832	16,832	16,832	16,832	16,832	16,832
DOW INC	164,424	164,092	163,760	163,428	163,096	162,764
GALVESTON	20,233	20,304	20,381	20,468	20,551	20,641
GULF COAST WATER AUTHORITY	227,590	227,515	227,445	227,371	227,293	227,217
HOUSTON	1,197,207	1,147,350	1,115,238	1,119,203	1,123,778	1,128,578
HUNTSVILLE	34,250	34,283	34,304	34,333	34,362	34,388
LEAGUE CITY	23,951	24,099	24,215	24,316	24,375	24,417
LOWER NECHES VALLEY AUTHORITY	68,910	68,910	68,910	68,910	68,910	68,910
MISSOURI CITY	11,556	11,294	11,333	11,360	11,389	11,421
NORTH FORT BEND WATER AUTHORITY	63,732	53,956	60,760	64,917	67,136	68,269
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	122,956	87,499	62,014	63,022	64,003	64,923
NRG	143,488	143,464	143,440	143,415	143,391	143,367
PASADENA	52,869	52,873	52,884	52,944	53,038	53,145
PEARLAND	22,773	23,626	24,856	26,219	27,732	29,197
SAN JACINTO RIVER AUTHORITY	112,199	110,955	109,893	109,124	109,948	110,952
SUGAR LAND	37,120	27,864	28,497	29,152	29,729	30,034
TEXAS CITY	10,887	10,927	10,960	10,992	11,027	11,059
THE WOODLANDS	29,921	28,871	28,115	28,171	28,214	28,246
TRINITY RIVER AUTHORITY	316,735	316,735	316,735	316,735	316,735	316,735
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	79,404	58,634	44,891	45,786	46,103	46,400

* The values in this table reflect the sum of MWP municipal self-supply as well as transfers to other entities. Existing but currently unutilized volumes are therefore not shown in the table. Values represent MWP supplies to entities within Region H only and do not include supplies for other regions.

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APPENDIX 3-E

EXISTING SUPPLY FROM RUN-OF-RIVER DIVERSIONS

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Table 3-E1– Existing Supplies from Run-of-River Diversions

Basin	County	WUG Use Category	Existing Supply Allocations (acre feet per year)					
			2020	2030	2040	2050	2060	2070
Brazos	Brazoria	Irrigation	2,661	2,661	2,661	2,661	2,661	2,661
		Manufacturing	145,124	144,792	144,460	144,128	143,796	143,464
	Municipal	12,748	12,748	12,748	12,748	12,748	12,748	
	Irrigation	12,000	12,000	12,000	12,000	12,000	12,000	
Fort Bend	Manufacturing	63,575	63,540	63,506	63,474	63,437	63,403	
	Mining	378	378	378	378	378	378	
	Municipal	59,734	59,707	59,680	59,649	59,620	59,592	
Waller	Steam Electric Power	41,743	41,719	41,695	41,670	41,646	41,622	
	Irrigation	43	43	43	43	43	43	
Brazos-Colorado	Brazoria	Manufacturing	11,729	11,729	11,729	11,729	11,729	11,729
Neches-Trinity	Chambers	Irrigation	37,474	37,474	37,474	37,474	37,474	37,474
		Irrigation	2,749	2,749	2,749	2,749	2,749	2,749
San Jacinto	Harris	Manufacturing	1,558	1,558	1,558	1,558	1,558	1,558
		Municipal	7,846	7,859	7,886	7,884	7,882	7,884
	Montgomery	Irrigation	25	25	25	25	25	25
		Municipal	116	116	116	116	116	116
Brazoria	Irrigation	16,670	16,670	16,670	16,670	16,670	16,670	
	Manufacturing	20,727	20,732	20,741	20,750	20,756	20,760	
San Jacinto-Brazos	Fort Bend	Irrigation	165	165	165	165	165	165
		Municipal	3,660	3,660	3,660	3,660	3,660	3,660
	Galveston	Irrigation	36	36	36	36	36	36
Harris		Irrigation	388	388	388	388	388	388

Basin	County	WUG Use Category	Existing Supply Allocations (acre feet per year)						
			2020	2030	2040	2050	2060	2070	
Trinity	Chambers	Irrigation	41,201	41,201	41,201	41,201	41,201	41,201	41,201
		Manufacturing	17,610	17,610	17,610	17,610	17,610	17,610	
	Leon	Municipal	2,026	2,026	2,026	2,026	2,026	2,026	
		Irrigation	158	158	158	158	158	158	
	Liberty	Irrigation	17,537	17,537	17,537	17,537	17,537	17,537	
		Manufacturing	31,546	31,546	31,546	31,546	31,546	31,546	
	Madison	Irrigation	169	169	169	169	169	169	
	Polk	Manufacturing	26,510	26,510	26,510	26,510	26,510	26,510	
	Trinity	Irrigation	34	34	34	34	34	34	
	Walker	Irrigation	122	122	122	122	122	122	
Trinity-San Jacinto	Chambers	Manufacturing	337	337	337	337	337	337	
		Irrigation	1,213	1,213	1,213	1,213	1,213	1,213	
	Harris	Irrigation	2,420	2,420	2,420	2,420	2,420	2,420	
	Liberty	Irrigation	1,904	1,904	1,904	1,904	1,904	1,904	

CHAPTER 4 APPENDICES

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APPENDIX 4-A

MAJOR WATER PROVIDER NEEDS SUMMARIES

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Table 4-A1 – MWP Water Needs by Use Category

Major Water Provider	Category	MWP Need (ac ft)*					
		2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	2,263	2,268	2,280	2,293
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	2,177	7,469	15,844
	STEAM ELECTRIC POWER	0	0	0	0	0	0
BRAZOSPORT WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	31	59	89	122	161
	MUNICIPAL	0	1,106	2,510	3,531	3,689	2,026
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
CONROE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	313	4,331	6,200	7,964	9,909	12,005
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Need (ac ft)*					
		2020	2030	2040	2050	2060	2070
DOW INC	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GALVESTON	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	855
	STEAM ELECTRIC POWER	0	0	0	0	0	0
GULF COAST WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	355	9,220	9,546	9,569	9,619	9,674
	MINING	277	434	581	738	901	1,095
	MUNICIPAL	2,809	11,496	11,800	15,251	18,430	24,926
	STEAM ELECTRIC POWER	0	0	0	0	0	0
HOUSTON	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	292	570	570	0	0	0
	MINING	2,946	2,927	2,875	2,843	2,818	2,798
	MUNICIPAL	4,579	209,145	367,816	405,654	448,919	487,585
	STEAM ELECTRIC POWER	4,968	4,968	4,968	4,968	4,968	4,968
HUNTSVILLE	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Need (ac ft)*					
		2020	2030	2040	2050	2060	2070
LEAGUE CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
LOWER NECHES VALLEY AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	70	76	83	89	95	103
	MUNICIPAL	346	636	961	1,294	1,669	2,053
	STEAM ELECTRIC POWER	0	0	0	0	0	0
MISSOURI CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	170	5,364	6,785	7,963	9,453	10,566
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	36,858	48,288	54,697	59,293	61,953
	STEAM ELECTRIC POWER	0	0	0	0	0	0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	3,663	47,964	78,905	83,179	87,231	91,009
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Need (ac ft)*					
		2020	2030	2040	2050	2060	2070
NRG	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	21,772	27,812	27,812	27,812	27,812	27,855
	MINING	0	58	110	167	228	306
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	4,968	4,968	4,968	4,968	4,968	4,968
PASADENA	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
PEARLAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	7,696	21,470	22,532	23,301	22,477	21,473
	MINING	0	0	0	0	0	0
	MUNICIPAL	6,095	37,286	56,240	81,763	114,404	153,385
	STEAM ELECTRIC POWER	0	0	0	0	0	0
SUGAR LAND	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	12,608	14,316	15,284	16,156	16,874
	STEAM ELECTRIC POWER	0	0	0	0	0	0

Major Water Provider	Category	MWP Need (ac ft)*					
		2020	2030	2040	2050	2060	2070
TEXAS CITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
THE WOODLANDS	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	1,717	9,039	10,840	12,413	14,639	17,297
	STEAM ELECTRIC POWER	0	0	0	0	0	0
TRINITY RIVER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	0	0	0	0	0
	STEAM ELECTRIC POWER	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	IRRIGATION	0	0	0	0	0	0
	LIVESTOCK	0	0	0	0	0	0
	MANUFACTURING	0	0	0	0	0	0
	MINING	0	0	0	0	0	0
	MUNICIPAL	0	24,483	50,344	53,991	55,333	56,542
	STEAM ELECTRIC POWER	0	0	0	0	0	0

** For this table, values indicate a water need; no surpluses are shown. The values in this table reflect WUG needs met through recommended WMS (see Chapter 5 for additional information), excluding any portion of WMS allocations which are in excess of WUG need and result in a net surplus at the WUG level. Existing but currently unutilized contractual transfers are reflected as part of the existing supply analysis for the RWP and are therefore not shown as part of the needs estimated for the MWP of origin. Values represent projected MWP need within Region H only and do not include MWP needs for other regions.*

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Table 4-A2 – MWP Water Need Summary

Major Water Provider	MWP Need (ac ft)*					
	2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	0	0	2,263	4,445	9,749	18,137
BRAZOSPORT WATER AUTHORITY	0	1,137	2,569	3,620	3,811	2,187
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	0	0	0	0	0	0
CONROE	313	4,331	6,200	7,964	9,909	12,005
DOW INC	0	0	0	0	0	0
GALVESTON	0	0	0	0	0	855
GULF COAST WATER AUTHORITY	3,441	21,150	21,927	25,558	28,950	35,695
HOUSTON	12,785	217,610	376,229	413,465	456,705	495,351
HUNTSVILLE	0	0	0	0	0	0
LEAGUE CITY	0	0	0	0	0	0
LOWER NECHES VALLEY AUTHORITY	416	712	1,044	1,383	1,764	2,156
MISSOURI CITY	170	5,364	6,785	7,963	9,453	10,566
NORTH FORT BEND WATER AUTHORITY	0	36,858	48,288	54,697	59,293	61,953
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	3,663	47,964	78,905	83,179	87,231	91,009
NRG	26,740	32,838	32,890	32,947	33,008	33,129
PASADENA	0	0	0	0	0	0
PEARLAND	0	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	13,791	58,756	78,772	105,064	136,881	174,858
SUGAR LAND	0	12,608	14,316	15,284	16,156	16,874
TEXAS CITY	0	0	0	0	0	0
THE WOODLANDS	1,717	9,039	10,840	12,413	14,639	17,297
TRINITY RIVER AUTHORITY	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	24,483	50,344	53,991	55,333	56,542

* For this table, values indicate a water need; no surpluses are shown. The values in this table reflect WUG needs met through recommended WMS (see Chapter 5 for additional information), excluding any portion of WMS allocations which are in excess of WUG need and result in a net surplus at the WUG level. Existing but currently unutilized contractual transfers are reflected as part of the existing supply analysis for the RWP and are therefore not shown as part of the needs estimated for the MWP of origin. Values represent projected MWP need within Region H only and do not include MWP needs for other regions.

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CHAPTER 5 APPENDICES

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APPENDIX 5-A

WATER MANAGEMENT STRATEGY TABLES

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Table 5-A1 – Considered and Potential WMS Type by WUG

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
BAKER ROAD MUD	151	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
BLUE BELL MANOR UTILITY	421	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
BLUE RIDGE WEST MUD	347	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
BRAZORIA COUNTY MUD 29	20	●	○	○	●	○	●	○	○	○	○	●	○	○	●	○	○	○	○	○	○
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	3,014	●	○	●	●	○	●	●	●	○	○	●	○	○	○	○	○	○	○	○	○
CONROE	9,223	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
CORINTHIAN POINT MUD 2	9	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTRY TERRACE WATER	15	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, AUSTIN	2,177	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, BRAZORIA	24,358	●	○	●	●	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, FORT BEND	28,574	●	○	●	●	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, GALVESTON	1,042	●	○	○	●	○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, HARRIS	17,882	●	○	●	●	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, MONTGOMERY	110,797	●	○	●	●	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○
COUNTY-OTHER, WALLER	3,783	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
CUT & SHOOT	374	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
DOBBIN PLANTERSVILLE WSC	2,254	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" and evaluated																					
● = Considered "potentially feasible" and evaluated																					
DOMESTIC WATER	91	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
DOUGLAS UTILITY	102	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
EL DORADO UD	207	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
FAR HILLS UD	11	●	○	○	○	○	○	●	○	●	○	○	○	○	○	○	●	○	○	○	○
FIRST COLONY MUD 9	588	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
FOREST HILLS MUD	182	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY FWSD 1	70	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY FWSD 2	189	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 115	327	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 116	703	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 121	137	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 129	342	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 140	147	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 149	106	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 152	82	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 155	199	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 158	126	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 162	140	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 187	126	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
FORT BEND COUNTY MUD 23	539	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY MUD 24	77	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY MUD 25	431	●	○	●	●	○	●	●	●	○	○	●	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY MUD 26	334	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY MUD 42	369	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY MUD 48	126	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 49	89	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY MUD 5	108	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FORT BEND COUNTY WCID 2	7,533	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	○	○	○	○	○
FORT BEND COUNTY WCID 3	237	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
FULSHEAR	1,178	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
G & W WSC	462	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
GALVESTON	855	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	○	○	○	○	○
GALVESTON COUNTY FWSD 6	43	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	○	○	○	○	○
GALVESTON COUNTY WCID 1	1,223	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	○	○	○	○	○
GALVESTON COUNTY WCID 12	1,284	●	○	○	●	○	○	○	●	○	○	○	○	○	●	○	○	○	○	○	○
GREEN TRAILS MUD	315	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY FWSD 27	3	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY FWSD 58	283	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○

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					Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting																		
HARRIS COUNTY MUD 106	846	●	○	○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○						
HARRIS COUNTY MUD 11	159	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
HARRIS COUNTY MUD 119	276	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
HARRIS COUNTY MUD 122	51	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○				
HARRIS COUNTY MUD 132	518	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
HARRIS COUNTY MUD 151	542	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○			
HARRIS COUNTY MUD 152	617	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
HARRIS COUNTY MUD 153	638	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
HARRIS COUNTY MUD 154	570	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
HARRIS COUNTY MUD 180	303	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
HARRIS COUNTY MUD 189	227	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
HARRIS COUNTY MUD 216	82	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 221	301	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 290	438	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 345	431	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 36	204	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 400	839	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 46	292	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY MUD 58	143	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
HARRIS COUNTY MUD 6	196	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
HARRIS COUNTY UD 14	204	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
HARRIS COUNTY UD 15	337	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
HARRIS COUNTY WCID 133	450	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
HARRIS COUNTY WCID 70	127	●	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
HARRIS COUNTY WCID 74	264	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
HEMPSTEAD	225	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
HMW SUD	915	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
HOUSTON	220,772	●	○	●	●	○	●	○	●	○	○	●	○	○	○	●	○	○	○	○	○
IRRIGATION, BRAZORIA	57,800	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
IRRIGATION, CHAMBERS	12,572	●	○	○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
IRRIGATION, GALVESTON	4,804	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
IRRIGATION, LIBERTY	9,344	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
IRRIGATION, WALLER	18	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
JOHNSTON WATER UTILITY	1,516	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
KATY	3,800	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LA MARQUE	885	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LAKE BONANZA WSC	410	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LAKE CONROE HILLS MUD	439	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
LAZY RIVER IMPROVEMENT DISTRICT	128	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
LIVESTOCK, BRAZORIA	8	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LIVESTOCK, GALVESTON	237	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LIVESTOCK, HARRIS	1,123	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LIVESTOCK, LIBERTY	538	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LONGHORN TOWN UD	173	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
LUCE BAYOU PUD	83	●	○	○	●	○	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MAGNOLIA	2,255	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, BRAZORIA	27,855	○	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, CHAMBERS	3,452	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, FORT BEND	1,086	○	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, GALVESTON	9,497	○	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, HARRIS	22,731	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, LEON	143	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MANUFACTURING, MONTGOMERY	570	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MASON CREEK UD	672	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MEADOWCREEK MUD	166	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MEADOWS PLACE	222	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
MEMORIAL VILLAGES WATER AUTHORITY	4,373	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
MINING, AUSTIN	193	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MINING, BRAZORIA	1,163	○	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
MINING, FORT BEND	10	○	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
MINING, GALVESTON	500	○	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
MINING, HARRIS	2,946	○	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
MINING, LEON	79	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MINING, LIBERTY	102	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MINING, MADISON	375	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MISSOURI CITY	591	●	○	●	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MONT BELVIEU	3,188	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY	1,597	●	○	○	●	○	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○
MONTGOMERY COUNTY MUD 112	78	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 115	119	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 119	465	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 15	534	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 18	1,270	●	○	○	●	○	●	○	○	○	○	●	○	●	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" and evaluated																					
● = Considered "potentially feasible" and evaluated																					
MONTGOMERY COUNTY MUD 56	153	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 83	163	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 9	294	●	○	●	●	○	●	○	●	○	○	●	○	○	○	○	●	○	○	○	○
MONTGOMERY COUNTY MUD 95	97	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 98	16	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY MUD 99	103	●	○	○	○	○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY UD 4	156	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○
MONTGOMERY COUNTY WCID 1	118	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MOUNT HOUSTON ROAD MUD	628	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
MSEC ENTERPRISES	5,309	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NEW CANEY MUD	350	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTH BELT UD	284	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTH FOREST MUD	96	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTH FORT BEND WATER AUTHORITY	54,202	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTH GREEN MUD	238	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	85,100	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
NORTHWEST HARRIS COUNTY MUD 16	262	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
OAK RIDGE NORTH	48	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" and evaluated																					
● = Considered "potentially feasible" and evaluated																					
PALMER PLANTATION MUD 1	221	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
PALMER PLANTATION MUD 2	109	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
PANORAMA VILLAGE	274	●	○	○	●	○	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○
PINEHURST DECKER PRAIRIE WSC	543	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
PINEWOOD COMMUNITY	57	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
PLANTATION MUD	113	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
PORTER SUD	3,323	○	○	●	●	○	●	○	●	○	○	●	○	●	○	○	○	○	○	○	○
QUADVEST	11,368	●	○	○	●	○	●	○	●	○	○	●	○	●	○	○	○	○	○	○	○
QUAIL VALLEY UD	698	●	○	●	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
RANCH UTILITIES	36	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
RAYFORD ROAD MUD	282	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
RICHMOND	758	●	○	○	●	○	○	○	●	○	○	●	○	○	○	○	○	○	○	○	○
RIVER PLANTATION MUD	529	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
ROLLING FORK PUD	167	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
ROMAN FOREST CONSOLIDATED MUD	155	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
ROSENBERG	293	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
ROYAL VALLEY UTILITIES	351	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
SEABROOK	16	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" and evaluated																					
SEQUOIA IMPROVEMENT DISTRICT	95	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
SHENANDOAH	1,068	●	○	○	●	○	●	○	○	○	○	●	○	●	○	○	○	○	○	○	○
SIENNA PLANTATION	2,994	●	○	●	●	○	●	○	○	○	○	●	○	○	●	○	○	○	○	○	○
SOUTHERN WATER	239	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
SPLENDORA	898	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
SPRING CREEK UD	344	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
STANLEY LAKE MUD	1,018	●	○	○	●	○	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○
STEAM ELECTRIC POWER, CHAMBERS	1,387	○	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
STEAM ELECTRIC POWER, HARRIS	3,581	○	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
SUBURBAN UTILITY	156	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
SUGAR LAND	13,458	●	○	●	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
SURFSIDE BEACH	26	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
T & W WATER SERVICE	2,699	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
TDCJ JESTER UNITS	398	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
THE COMMONS WATER SUPPLY	244	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
THE WOODLANDS	10,251	●	○	○	●	○	●	○	●	○	○	●	○	●	○	○	○	○	○	○	○
THUNDERBIRD UD	518	●	○	○	●	○	●	○	●	○	○	●	○	○	●	○	○	○	○	○	○
TOMBALL	2,098	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○

WUG Name	Max. Need (Ac Ft/Yr)	Conservation	Drought Management	Reuse	Mgmt. of Existing Supplies	Conjunctive Use	Acquisition of Existing Supplies	Development of New Supplies	Dev. of Regional Water Supply	Brackish Desal/ Blending	Seawater Desalination	Voluntary Transfer of Water	Emergency Transfers	Interbasin Transfers	System Optimization*	New Surface Water Supply	New Groundwater Supply	Brush Ctrl / Enhance Precip.	Aquifer Storage and Recovery	Cancellation of Rights	Rainwater Harvesting
○ = Considered but determined "not potentially feasible" ● = Considered "potentially feasible" and evaluated																					
TRAIL OF THE LAKES MUD	540	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
TRINITY BAY CONSERVATION DISTRICT	2,474	●	○	○	●	○	●	○	○	○	○	●	○	○	○	○	○	○	○	○	○
WEST HARRIS COUNTY MUD 6	224	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	39,318	●	○	●	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
WESTWOOD NORTH WSC	235	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
WHITE OAK WSC	9	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
WOOD BRANCH VILLAGE	83	●	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
WOODCREEK MUD	188	●	○	○	●	○	●	○	●	○	○	●	○	○	○	○	○	○	○	○	○
WOODCREEK WATER OF LIBERTY	116	●	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

*Includes reservoir storage and supply reallocation, quality-based usable supply enhancements, and other yield enhancements.

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Table 5-A2 – Region H Supply Source Increases

Source	Yield Type	New or Increased Source Supply (ac ft)					
		2020	2030	2040	2050	2060	2070
Conservation							
IRRIGATION CONSERVATION	New	93,562	93,562	93,562	93,562	93,562	93,562
MUNICIPAL CONSERVATION*	New	34,537	58,626	71,262	87,726	101,515	124,573
WATER LOSS REDUCTION	New	5,892	17,612	28,916	39,904	51,149	62,601
Groundwater							
GULF COAST AQUIFER ASR	New	0	0	0	0	0	9,426
GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	Increased	973	1,554	4,255	13,016	13,627	14,479
Surface Water							
ALLENS CREEK LAKE/RESERVOIR	New	0	0	99,650	99,650	99,650	99,650
BRAZOS RUN-OF-RIVER, BRAZORIA	Increased	0	0	10,000	10,000	10,000	10,000
DOW HARRIS RESERVOIR EXPANSION	New	0	80,000	80,000	80,000	80,000	80,000
GULF OF MEXICO SALINE	New	0	0	11,200	11,200	11,200	11,200
MANVEL MUSTANG BAYOU RESERVOIR	New	0	902	902	902	902	902
TRINITY-SAN JACINTO RUN-OF-RIVER (SALINE), CHAMBERS	New	0	22,400	22,400	22,400	22,400	22,400
Reuse							
DIRECT REUSE, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	New	0	47	79	110	138	168
DIRECT REUSE, COUNTY-OTHER, MONTGOMERY	Increased	0	925	2,157	3,728	5,718	8,168
DIRECT REUSE, FORT BEND COUNTY MUD #25	Increased	0	68	68	68	68	68
DIRECT REUSE, GALVESTON COUNTY INDUSTRIES	New	0	22,400	22,400	22,400	22,400	22,400
DIRECT REUSE, MASTER PLANNED COMMUNITIES, BRAZORIA	New	0	314	615	955	1,328	1,740
DIRECT REUSE, MASTER PLANNED COMMUNITIES, FORT BEND	New	0	581	754	1,408	2,322	3,448
DIRECT REUSE, MASTER PLANNED COMMUNITIES, HARRIS	New	0	304	420	478	738	996
DIRECT REUSE, MISSOURI CITY	New	163	197	223	250	277	307
DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	Increased	3,816	4,753	5,488	5,915	6,141	6,257
DIRECT REUSE, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Increased	300	739	1,098	1,403	1,672	1,918
DIRECT REUSE, QUAIL VALLEY UD	Increased	286	478	486	486	486	486
DIRECT REUSE, RIVER PLANTATION MUD	Increased	0	5	51	51	51	51
DIRECT REUSE, SIENNA PLANTATION	Increased	1,956	2,489	3,383	4,278	5,173	5,420
DIRECT REUSE, SUGAR LAND	New	0	1,232	1,680	1,680	1,680	1,680
DIRECT REUSE, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Increased	0	245	600	962	1,087	1,197
DIRECT REUSE, WESTWOOD SHORES MUD	New	150	150	150	150	150	150
SAN JACINTO COH REUSE	New	0	0	195,085	209,992	225,850	242,554
SAN JACINTO REGIONAL RETURN FLOWS	New	60,888	64,767	85,566	94,738	106,558	119,673

*Includes savings volumes for Sugar Land Advanced Demand Management.

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Table 5-A3 – Scoring for Key Projects

WMS Project		Cost	Location	Water Quality	Environmental Land & Habitat	Impacts on Environmental Flows	Local Preference	Institutional Constraints / Risk of Implementability	Development Timeline	Sponsorship	Vulnerability	Impacts on Other WMS
Conservation												
CNSV-001	Advanced Municipal Conservation and Water Loss Reduction	3	5	3	5	3	4	5	5	3	5	2
CNSV-002	Irrigation Conservation	5	5	4	4	3	3	5	5	3	5	3
Conveyance												
CONV-001	BWA Transmission Expansion	5	4	3	5	3	4	3	4	4	5	5
CONV-002	CHCRWA Transmission and Internal Distribution	4	4	3	3	3	4	3	4	5	5	3
CONV-003	City of Houston GRP Transmission	5	4	3	3	3	4	3	5	5	5	3
CONV-004	COH, NHCRA, and CHCRWA Shared Transmission	4	4	3	3	3	4	3	5	5	5	5
CONV-005	CWA Transmission Expansion	5	4	3	3	3	3	3	4	4	5	4
CONV-006	East Texas Transfer	5	1	3	2	2	3	1	3	3	2	4
CONV-007	GCWA Industrial Raw Water Line	5	5	3	4	3	4	3	5	4	5	3
CONV-008	Lake Livingston to SJRA Transfer	4	2	3	2	2	3	2	4	4	4	4
CONV-009	LNVA Neches-Trinity Basin Interconnect	5	3	3	3	2	3	3	4	5	5	3
CONV-010	NFBWA Phase 2 Distribution Segments	5	4	3	3	3	4	3	5	5	5	3
CONV-011	NHCRA Distribution Expansion	4	4	3	3	3	4	3	4	5	5	3
CONV-012	NHCRA Transmission Lines	5	4	3	3	3	4	3	4	5	5	3
CONV-013	Southeast Transmission Line Improvements	5	4	3	5	3	5	3	5	5	5	5
CONV-014	Surfside Beach Supply Infrastructure	4	4	5	3	3	4	3	5	5	4	3
CONV-015	WHCRA Distribution Expansion	4	4	3	3	3	4	3	4	5	5	3
CONV-016	WHCRA/NFBWA Transmission Line	3	4	3	3	3	4	3	4	5	5	5
Groundwater Development												
GWDV-001	Aquifer Storage and Recovery	1	5	3	3	2	3	2	3	4	4	3
GWDV-002	Brackish Groundwater Development and Groundwater Blending	3	5	3	4	4	3	3	5	3	4	4
GWDV-003	BWA Brackish Groundwater Development	3	3	3	3	4	4	4	5	5	4	5
GWDV-004	City of Houston Area 2 Groundwater Infrastructure	4	5	3	3	4	4	3	5	5	4	3

WMS Project		Cost	Location	Water Quality	Environmental Land & Habitat	Impacts on Environmental Flows	Local Preference	Institutional Constraints / Risk of Implementability	Development Timeline	Sponsorship	Vulnerability	Impacts on Other WMS
GWDV-005	Expanded Use of Groundwater	1	5	3	4	4	4	3	5	3	5	3
GWDV-006	Forestar Houston County Project	3	2	3	2	4	3	2	5	2	3	3
GWDV-007	Forestar Liberty County Project	1	2	3	2	4	3	2	4	2	3	3
GWDV-008	GCWA Backup Well Development	5	4	3	3	4	3	2	5	2	4	3
GWDV-009	Groveton Groundwater Expansion	3	5	3	5	3	4	5	5	5	5	3
GWDV-010	SJRA Catahoula Aquifer Supplies	4	5	2	5	4	3	3	5	3	3	5
Groundwater Reduction Plans												
GWRP-001	CHCRWA GRP	5	3	3	3	3	4	3	5	5	5	3
GWRP-002	City of Houston GRP	5	3	3	3	3	5	3	5	5	5	3
GWRP-003	City of Missouri City GRP	4	4	3	4	2	4	3	5	4	5	3
GWRP-004	City of Richmond GRP	1	4	3	4	2	4	3	5	5	5	3
GWRP-005	City of Rosenberg GRP	4	3	3	3	2	4	3	5	5	5	3
GWRP-006	City of Sugar Land IWRP	2	4	3	4	2	4	3	5	5	5	3
GWRP-007	Fort Bend County MUD 25 GRP	1	4	3	5	2	4	3	5	4	5	3
GWRP-008	Fort Bend County WC&ID No. 2 GRP	2	5	3	4	2	4	3	5	5	5	3
GWRP-009	Montgomery County MUDs 8 and 9 GRP	1	4	3	4	2	3	5	5	4	5	3
GWRP-010	NFBWA GRP	5	3	3	3	3	4	3	5	5	5	3
GWRP-011	NHCRWA GRP	5	3	3	3	3	4	3	5	5	5	3
GWRP-012	Porter SUD Joint GRP	1	4	3	4	2	4	5	5	5	5	3
GWRP-013	River Plantation and East Plantation Joint GRP	5	5	3	5	2	4	3	5	4	5	3
GWRP-014	SJRA GRP	3	4	3	4	2	3	3	5	5	5	3
GWRP-015	WHCRWA GRP	5	3	3	3	3	4	3	5	5	5	3
Reuse												
REUS-001	City of Houston Reuse	1	4	3	4	2	4	3	4	4	4	3
REUS-002	City of Pearland Reuse	2	4	3	4	2	4	5	5	4	5	3
REUS-003	Galveston County Industrial Reuse	3	4	3	4	2	3	3	5	4	5	3
REUS-004	NFBWA Member District Reuse	1	4	3	4	2	3	3	5	4	5	3
REUS-005	NHCRWA Member District Reuse	1	4	3	4	2	3	3	5	3	5	3
REUS-006	San Jacinto Basin Regional Return Flows	5	4	3	5	2	3	3	5	3	5	5

WMS Project		Cost	Location	Water Quality	Environmental Land & Habitat	Impacts on Environmental Flows	Local Preference	Institutional Constraints / Risk of Implementability	Development Timeline	Sponsorship	Vulnerability	Impacts on Other WMS
REUS-007	Wastewater Reclamation for Industry	2	4	4	4	2	3	3	4	3	4	2
REUS-008	Wastewater Reclamation for Municipal Irrigation	1	5	3	5	2	3	3	5	3	5	3
REUS-009	Westwood Shores MUD Reuse	1	5	3	4	3	3	3	5	5	5	3
Surface Water Development												
SWDV-001	Allens Creek Reservoir	5	5	3	4	3	4	4	4	4	2	5
SWDV-002	BRA System Operation Permit	5	4	3	3	2	2	2	5	5	5	3
SWDV-003	Dow Reservoir and Pump Station Expansion	4	5	4	4	2	5	4	5	5	3	4
SWDV-004	Freeport Seawater Desalination	1	3	3	3	3	3	3	4	2	3	3
SWDV-005	Lake Somerville Augmentation	2	4	3	3	2	3	3	4	3	4	4
SWDV-006	Lone Star Lake	2	5	4	1	2	3	2	2	2	2	3
SWDV-007	Manvel Supply Expansion	1	5	3	3	2	4	4	4	4	3	3
SWDV-008	NRG Cedar Bayou Desalination	1	3	3	3	2	3	3	5	3	3	3
Treatment												
TRET-001	BWA Conventional Treatment Expansion	4	3	3	5	3	4	3	5	5	4	5
TRET-002	City of Houston Treatment Expansion	5	3	3	4	3	3	3	5	3	4	5
TRET-003	City of Houston West Water Purification Plant	1	5	3	3	3	3	2	4	3	4	5
TRET-004	GCWA Western Galveston County Treatment Expansion	2	3	3	3	3	3	2	5	3	4	5
TRET-005	Northeast Water Purification Plant Expansion	2	3	3	4	3	5	5	4	5	4	5
TRET-006	Pearland Surface Water Treatment Plant	2	4	3	4	3	4	3	5	4	5	3
TRET-007	SEWPP Additional Module	4	3	3	4	3	3	3	5	4	4	5
Other												
OTHR-001	Brazos Saltwater Barrier	3	5	5	2	2	4	2	4	3	3	5
OTHR-002	GCWA Shannon Pump Station Expansion	5	5	3	3	2	3	5	5	5	3	5
OTHR-003	Municipal Drought Management	1	5	3	5	3	2	5	5	3	5	2
OTHR-004	New and Expanded Contracts	5	4	3	5	2	3	5	5	3	5	5

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Table 5-A4 – Water Management Strategy and Project Relationships

Project	Project Type	Associated WMS
ALLENS CREEK RESERVOIR	WMS	CITY OF HOUSTON GRP NEW / EXPANDED CONTRACT WITH BRA NEW / EXPANDED CONTRACT WITH GCWA RICHMOND GRP
BRAZOS SALTWATER BARRIER	WMS	BRAZOS SALTWATER BARRIER
BWA BRACKISH GROUNDWATER DEVELOPMENT	WMS	NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER
BWA CONVENTIONAL TREATMENT EXPANSION	WMS	DOW RESERVOIR AND PUMP STATION EXPANSION NEW / EXPANDED CONTRACT WITH BWA ROSENBERG GRP
BWA TRANSMISSION EXPANSION	WMS	DOW RESERVOIR AND PUMP STATION EXPANSION NEW / EXPANDED CONTRACT WITH BWA NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER
CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	WMS	CHCRWA GRP
CITY OF HOUSTON AREA 2 GROUNDWATER INFRASTRUCTURE	WMS	CITY OF HOUSTON AREA 2 GROUNDWATER DEVELOPMENT
CITY OF HOUSTON GRP TRANSMISSION	WMS	CITY OF HOUSTON GRP CITY OF HOUSTON REUSE NFBWA GRP NHRWA GRP WHCRWA GRP
CITY OF HOUSTON REUSE INFRASTRUCTURE	WMS	CITY OF HOUSTON GRP CITY OF HOUSTON GRP
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 1	WMS	CITY OF HOUSTON GRP
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 2	WMS	CITY OF HOUSTON GRP

Project	Project Type	Associated WMS
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WMS	CHCRWA GRP CITY OF HOUSTON GRP NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON NFBWA GRP NHCRA GRP WHCRWA GRP CHCRWA GRP CITY OF HOUSTON GRP
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WMS	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON NFBWA GRP NHCRA GRP WHCRWA GRP CHCRWA GRP CITY OF HOUSTON GRP NHCRA GRP
COH, NHCRA, AND CHCRWA SHARED TRANSMISSION	WMS	CHCRWA GRP CITY OF HOUSTON GRP NHCRA GRP
CWA TRANSMISSION EXPANSION	WMS	CITY OF HOUSTON GRP
DOW RESERVOIR AND PUMP STATION EXPANSION	WMS	DOW RESERVOIR AND PUMP STATION EXPANSION
EAST TEXAS TRANSFER	WMS	EAST TEXAS TRANSFER
FORT BEND MUD 25 GRP INFRASTRUCTURE	WMS	FORT BEND MUD 25 GRP
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 1	WMS	FORT BEND WCID 2 GRP
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 2	WMS	FORT BEND WCID 2 GRP
FREEPORT SEAWATER DESALINATION	WMS	FREEPORT SEAWATER DESALINATION
GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	WMS	GALVESTON COUNTY INDUSTRIAL REUSE
GCWA BACKUP WELL DEVELOPMENT	WMS	GCWA BACKUP WELLS
GCWA INDUSTRIAL RAW WATER LINE	WMS	GCWA GALVESTON COUNTY RAW WATER EXPANSION NEW / EXPANDED CONTRACT WITH GCWA

Project	Project Type	Associated WMS
GCWA SHANNON PUMP STATION EXPANSION	WMS	GCWA GALVESTON COUNTY RAW WATER EXPANSION GCWA GALVESTON COUNTY TREATED WATER EXPANSION NEW / EXPANDED CONTRACT WITH GCWA
GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	WMS	GCWA GALVESTON COUNTY TREATED WATER EXPANSION NEW / EXPANDED CONTRACT WITH GCWA
GROVETON WELL DEVELOPMENT	WMS	GROVETON GROUNDWATER EXPANSION
IRRIGATION CONSERVATION, AUSTIN COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, BRAZORIA COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, CHAMBERS COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, FORT BEND COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, GALVESTON COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, HARRIS COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, LIBERTY COUNTY	WUG	IRRIGATION CONSERVATION
IRRIGATION CONSERVATION, WALLER COUNTY	WUG	IRRIGATION CONSERVATION
LAKE LIVINGSTON TO SJRA TRANSFER	WMS	NEW / EXPANDED CONTRACT WITH SJRA SJRA GRP
LNVA NECHES-TRINITY BASIN INTERCONNECT	WMS	LNVA NECHES-TRINITY BASIN INTERCONNECT
MANVEL SUPPLY EXPANSION - GROUNDWATER DEVELOPMENT	WMS	MANVEL SUPPLY EXPANSION
MANVEL SUPPLY EXPANSION - MUSTANG BAYOU RIGHT AND STORAGE	WMS	MANVEL SUPPLY EXPANSION
MANVEL SUPPLY EXPANSION - TREATMENT AND TRANSMISSION EXPANSION	WMS	MANVEL SUPPLY EXPANSION
MISSOURI CITY GRP INFRASTRUCTURE	WMS	MISSOURI CITY GRP
MONTGOMERY COUNTY MUDDS 8 AND 9 GRP INFRASTRUCTURE	WMS	MONTGOMERY COUNTY MUDDS 8 AND 9 GRP
MUNICIPAL CONSERVATION, ALVIN	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ANAHUAC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ANGLETON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, AUSTIN COUNTY WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BACLIFF MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BAKER ROAD MUD	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, BAYBROOK MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BAYTOWN	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BAYVIEW MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BELLAIRE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BELLVILLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BLUE RIDGE WEST MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 21	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 25	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 29	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 3	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 31	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 6	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BROOKSHIRE MWD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BUFFALO	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CAPE ROYALE UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CENTERVILLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CHAMBERS COUNTY MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CLEVELAND	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CLUTE	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CONROE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CORINTHIAN POINT MUD 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTRY TERRACE WATER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, AUSTIN	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, BRAZORIA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, CHAMBERS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, FORT BEND	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, GALVESTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, HARRIS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, LEON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, LIBERTY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, MADISON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, MONTGOMERY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, POLK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, SAN JACINTO	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALKER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALLER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CROSBY MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, CUT AND SHOOT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DAISSETTA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DANBURY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DAYTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DEER PARK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DEVERS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DOBBIN PLANTERSVILLE WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DODGE OAKHURST WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, DOMESTIC WATER	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, DOUGLAS UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, EAST PLANTATION UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, EL DORADO UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FAR HILLS UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FIRST COLONY MUD 9	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FOREST HILLS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY FWSD 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 116	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 121	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 140	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 152	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 155	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 187	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 23	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 24	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 25	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 26	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 42	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 46	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 47	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 48	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 49	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 5	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 81	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 3	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FREEPORT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FRIENDSWOOD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, FULSHEAR	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, G & W WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALENA PARK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON COUNTY FWSD 6	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON COUNTY MUD 12	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 12	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 8	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GLENDALE WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GREEN TRAILS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GREENWOOD UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GROVETON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, GULF UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARDIN WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 1-A	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 27	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 58	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 106	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 11	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 119	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 122	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 132	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 148	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 151	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 152	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 153	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 154	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 158	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 180	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 189	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 216	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 221	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 23	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 278	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 290	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 321	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 342	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 344	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 345	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 36	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 361	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 372	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 400	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 412	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 420	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 46	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 49	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 5	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 50	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 55	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 58	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 6	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 8	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 96	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY UD 15	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 133	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 156	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 50	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 70	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 74	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 89	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 96	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HARRIS-MONTGOMERY COUNTIES MUD 386	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HEMPSTEAD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HILLCREST VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HILLTOP LAKES WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HITCHCOCK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HMW SUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HOUSTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HUMBLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, HUNTSVILLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, JACINTO CITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, JAMAICA BEACH	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, JERSEY VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, JEWETT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, JOHNSTON WATER UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, KATY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, KENDLETON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, KINGS MANOR MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, KIRKMONT MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LA MARQUE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LA PORTE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAKE BONANZA WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAKE CONROE HILLS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAKE JACKSON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAKE LIVINGSTON WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAKE MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LAZY RIVER IMPROVEMENT DISTRICT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LEAGUE CITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LEGGETT WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LIBERTY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LIBERTY COUNTY FWSD 1 HULL	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LIVINGSTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LONGHORN TOWN UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, LUCE BAYOU PUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MADISON COUNTY WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MADISONVILLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MAGNOLIA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MANVEL	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MASON CREEK UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MEADOW CREEK MUD	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, MEADOWS PLACE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MEMORIAL POINT UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MEMORIAL VILLAGES WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MERCY WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MISSOURI CITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONT BELVIEU	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 112	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 115	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 119	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 15	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 18	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 19	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 56	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 8	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 83	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 84	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 88	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 89	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 9	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 95	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 98	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 99	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 3	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 4	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MORGANS POINT	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, MSEC ENTERPRISES	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NASSAU BAY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NEEDVILLE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NEW CANEY MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NEW WAVERLY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NEWPORT MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORMANGEE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH BELT UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH FOREST MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH GREEN MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTH ZULCH MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, NORTHWEST HARRIS COUNTY MUD 16	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, OAK HOLLOW UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, OAK RIDGE NORTH	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ONALASKA WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ONE FIVE O WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, OYSTER CREEK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, P B & S C WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 2	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PANORAMA VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PARKWAY MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PASADENA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PATTISON WSC	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, PEARLAND	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PECAN GROVE MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PENNINGTON WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PHELPS SUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PINE VILLAGE PUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PINEWOOD COMMUNITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PLANTATION MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PRAIRIE VIEW	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, PROVIDENCE WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, QUADVEST	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, QUAIL VALLEY UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, RANCH UTILITIES	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, RICHMOND	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, RICHWOOD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ROLLING FORK PUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ROMAN FOREST CONSOLIDATED MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ROSENBERG	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, ROYAL VALLEY UTILITIES	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SAGEMEADOW UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SAN JACINTO SUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SEABROOK	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SEALY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SEDONA LAKES MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SEQUOIA IMPROVEMENT DISTRICT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SHENANDOAH	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, SHEPHERD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SHOREACRES	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SIENNA PLANTATION	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SODA WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTH CLEVELAND WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTH HOUSTON	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTHEAST WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTHERN WATER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SOUTHWEST HARRIS COUNTY MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SPLENDORA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SPRING CREEK UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SPRING MEADOWS MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SPRING VALLEY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, STANLEY LAKE MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SUBURBAN UTILITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SUGAR LAND	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SUNBELT FWSD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SURFSIDE BEACH	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, SWEENEY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, T & W WATER SERVICE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TARKINGTON SUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TDCJ JESTER UNITS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TDCJ RAMSEY AREA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TEMPE WSC 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TEXAS CITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY	WUG	MUNICIPAL CONSERVATION

Project	Project Type	Associated WMS
MUNICIPAL CONSERVATION, THE WOODLANDS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, THUNDERBIRD UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TOMBALL	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TRINITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, TRINITY RURAL WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, VALLEY RANCH MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, VARNER CREEK UD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WALKER COUNTY RURAL SUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WALLER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WALLIS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WATERWOOD MUD 1	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEBSTER	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEST COLUMBIA	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEST END WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WESTWOOD SHORES MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WHITE OAK UTILITIES	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WHITE OAK WSC	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WILLIS	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WOOD BRANCH VILLAGE	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WOODCREEK MUD	WUG	MUNICIPAL CONSERVATION
MUNICIPAL CONSERVATION, WOODCREEK WATER OF LIBERTY	WUG	MUNICIPAL CONSERVATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION

Project	Project Type	Associated WMS
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRA	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	WUG	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION
NFBWA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	NFBWA MEMBER DISTRICT REUSE
NFBWA PHASE 2 DISTRIBUTION SEGMENTS	WMS	NFBWA GRP
NHCRA DISTRIBUTION EXPANSION - 2025 PHASE	WMS	NHCRA GRP
NHCRA DISTRIBUTION EXPANSION - 2035 PHASE	WMS	NHCRA GRP
NHCRA DISTRIBUTION EXPANSION - 2045 PHASE	WMS	NHCRA GRP
NHCRA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	NHCRA MEMBER DISTRICT REUSE
NHCRA TRANSMISSION LINES	WMS	NHCRA GRP
NRG CEDAR BAYOU DESALINATION	WMS	NRG CEDAR BAYOU DESALINATION
PEARLAND REUSE INFRASTRUCTURE	WMS	CITY OF PEARLAND REUSE
PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	WMS	PEARLAND SWTP
PORTER SUD GRP INFRASTRUCTURE - P PHASE 1	WMS	PORTER SUD JOINT GRP
PORTER SUD GRP INFRASTRUCTURE - P PHASE 2	WMS	PORTER SUD JOINT GRP
RICHMOND GRP INFRASTRUCTURE	WMS	RICHMOND GRP
RICHMOND REUSE INFRASTRUCTURE	WMS	RICHMOND GRP
ROSENBERG GRP INFRASTRUCTURE	WMS	ROSENBERG GRP
SEWPP ADDITIONAL MODULE	WMS	SOUTHEAST TRANSMISSION LINE EXPANSION
SIRA AQUIFER STORAGE AND RECOVERY	WMS	SIRA AQUIFER STORAGE AND RECOVERY
SIRA CATAHOULA AQUIFER SUPPLIES	WMS	SIRA CATAHOULA AQUIFER SUPPLIES
SIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	WMS	NEW / EXPANDED CONTRACT WITH SIRA
		SIRA GRP

Project	Project Type	Associated WMS
SJRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	WMS	NEW / EXPANDED CONTRACT WITH SJRA
SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	WMS	SJRA GRP
SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	WMS	NEW / EXPANDED CONTRACT WITH SJRA
SJRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	WMS	SJRA GRP
SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	WMS	NEW / EXPANDED CONTRACT WITH SJRA
SUGAR LAND ADVANCED LOSS REDUCTION	WMS	SJRA GRP
SUGAR LAND AMI	WMS	SOUTHEAST TRANSMISSION LINE EXPANSION
SUGAR LAND GROUNDWATER PLANT CONVERSION	WMS	SUGAR LAND ADVANCED DEMAND MANAGEMENT
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	WMS	SUGAR LAND ADVANCED DEMAND MANAGEMENT
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	WMS	SUGAR LAND IWRP
SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	WMS	SUGAR LAND IWRP
SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	WMS	SUGAR LAND IWRP
SURFSIDE BEACH SUPPLY INFRASTRUCTURE	WMS	SUGAR LAND IWRP
WATER LOSS REDUCTION, ANAHUAC	WUG	SURFSIDE BEACH SUPPLY ENHANCEMENT
WATER LOSS REDUCTION, ANGLETON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, AUSTIN COUNTY WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BAYBROOK MUD 1	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BAYTOWN	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BRAZORIA COUNTY MUD 2	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BROOKSHIRE MWD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, BUFFALO	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, CAPE ROYALE UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, CLEVELAND	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, AUSTIN	WUG	WATER LOSS REDUCTION

Project	Project Type	Associated WMS
WATER LOSS REDUCTION, COUNTY-OTHER, LEON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, LIBERTY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, MADISON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, POLK	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, SAN JACINTO	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, COUNTY-OTHER, WALLER	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, CROSBY MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, DEER PARK	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, EL DORADO UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FLO COMMUNITY WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FOREST HILLS MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FORT BEND COUNTY FWSD 1	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 81	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FORT BEND COUNTY WCID 2	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, FRIENDSWOOD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, G & W WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, GALVESTON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 1	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 8	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, GREENWOOD UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, GROVETON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 1-A	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 58	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 106	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 11	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 180	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 216	WUG	WATER LOSS REDUCTION

Project	Project Type	Associated WMS
WATER LOSS REDUCTION, HARRIS COUNTY MUD 412	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 5	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 50	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY MUD 55	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY UD 14	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY WCID 1	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY WCID 70	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY WCID 89	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HILLCREST VILLAGE	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HOUSTON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, HUNTSVILLE	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, JACINTO CITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, JERSEY VILLAGE	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, KENDLETON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LA MARQUE	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LA PORTE	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LAKE CONROE HILLS MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LAKE LIVINGSTON WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LAKE MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LEAGUE CITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LEGGETT WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LIBERTY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LIVINGSTON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LONGHORN TOWN UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, LUCE BAYOU PUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MADISON COUNTY WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MADISONVILLE	WUG	WATER LOSS REDUCTION

Project	Project Type	Associated WMS
WATER LOSS REDUCTION, MANVEL	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MEMORIAL POINT UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MERCY WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MISSOURI CITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MONTGOMERY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 84	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 88	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 99	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, MONTGOMERY COUNTY UD 3	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NASSAU BAY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NEW WAVERLY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NEWPORT MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NORTH BELT UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NORTH FOREST MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, NORTH ZULCH MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, ONALASKA WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, ONE FIVE O WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, PEARLAND	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, PINE VILLAGE PUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, PINEHURST DECKER PRAIRIE WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, RICHWOOD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SEDONA LAKES MUD 1	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SEQUOIA IMPROVEMENT DISTRICT	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SOUTH HOUSTON	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SOUTHEAST WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SPLENDORA	WUG	WATER LOSS REDUCTION

Project	Project Type	Associated WMS
WATER LOSS REDUCTION, SUBURBAN UTILITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SUGAR LAND	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, SUNBELT FWSD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, TEXAS CITY	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, TOMBALL	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, TRINITY RURAL WSC	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, VARNER CREEK UD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, WALKER COUNTY RURAL SUD	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, WALLER	WUG	WATER LOSS REDUCTION
WATER LOSS REDUCTION, WALLIS	WUG	WATER LOSS REDUCTION
WESTWOOD SHORES REUSE INFRASTRUCTURE	WMS	WESTWOOD SHORES MUD REUSE
WHCRWA 2025 DISTRIBUTION EXPANSION	WMS	WHCRWA GRP
WHCRWA 2035 DISTRIBUTION EXPANSION	WMS	WHCRWA GRP
WHCRWA/NFBWA TRANSMISSION LINE	WMS	NFBWA GRP WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - ANGLETON	WUG	DOW RESERVOIR AND PUMP STATION EXPANSION
WUG INFRASTRUCTURE EXPANSION - BA CLIFF MUD	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - BAYVIEW MUD	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - BLUE RIDGE WEST MUD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 25	WUG	MANVEL SUPPLY EXPANSION
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 29	WUG	MANVEL SUPPLY EXPANSION
WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	WUG	CHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 1	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 2	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B)	WUG	NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B-C)	WUG	NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (SIB)	WUG	NEW / EXPANDED CONTRACT WITH BWA NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH GCWA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	WUG	NEW / EXPANDED CONTRACT WITH GCWA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (BRA CUSTOMERS)	WUG	NEW / EXPANDED CONTRACT WITH BRA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (SJ-B)	WUG	MANVEL SUPPLY EXPANSION
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (B)	WUG	NEW / EXPANDED CONTRACT WITH GCWA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (SJ)	WUG	NEW / EXPANDED CONTRACT WITH GCWA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 1	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 2	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON (SJ-B)	WUG	NEW / EXPANDED CONTRACT WITH GCWA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS (COH GRP PARTICIPANTS)	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (SIB)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ) - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ) - PHASE 2	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH SIRA
		SIRA AQUIFER STORAGE AND RECOVERY
		SIRA CATAHOULA AQUIFER SUPPLIES
		NEW / EXPANDED CONTRACT WITH SIRA
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 2	WUG	SIRA AQUIFER STORAGE AND RECOVERY
		SIRA CATAHOULA AQUIFER SUPPLIES
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 3	WUG	NEW / EXPANDED CONTRACT WITH SIRA
		SIRA AQUIFER STORAGE AND RECOVERY
		SIRA CATAHOULA AQUIFER SUPPLIES
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 4	WUG	NEW / EXPANDED CONTRACT WITH SIRA
		SIRA AQUIFER STORAGE AND RECOVERY
		SIRA CATAHOULA AQUIFER SUPPLIES

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SIRA GRP PARTICIPANTS)	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - EL DORADO UD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - FIRST COLONY MUD 9	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FOREST HILLS MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 115	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 128	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 129	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 140	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 149	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 152	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 155	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 158	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 187	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 23	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 24	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 26	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 42	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 46	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 47	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 48	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 49	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - FULSHEAR	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION - GALVESTON	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY FWSD 6	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY MUD 12	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 1	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 12	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 8	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 106	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 11	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 119	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 122	WUG	FORT BEND WCID 2 GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 132	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 151	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 152	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 154	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 189	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 221	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 278	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 290	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 36	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 46	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 6	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 14	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 15	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 133	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 74	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - HITCHCOCK	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - HMW SUD	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - LA MARQUE	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - LAKE BONANZA WSC	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	WUG	DOW RESERVOIR AND PUMP STATION EXPANSION
WUG INFRASTRUCTURE EXPANSION - LEAGUE CITY	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - MAGNOLIA	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	WUG	INDUSTRIAL SUPPLY REALLOCATION

Project		Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SJB)	WUG	NEW / EXPANDED CONTRACT WITH BWA	
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (B)	WUG	NEW / EXPANDED CONTRACT WITH GCWA	
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (SJ)	WUG	NEW / EXPANDED CONTRACT WITH GCWA	
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, GALVESTON COUNTY	WUG	GCWA GALVESTON COUNTY RAW WATER EXPANSION	
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	WUG	NEW / EXPANDED CONTRACT WITH SJRA	
WUG INFRASTRUCTURE EXPANSION - MEADOWCREEK MUD	WUG	MISSOURI CITY GRP	
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 2	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	WUG	NEW / EXPANDED CONTRACT WITH BWA	
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	WUG	INDUSTRIAL SUPPLY REALLOCATION	
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SJB)	WUG	NEW / EXPANDED CONTRACT WITH GCWA	
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	WUG	NEW / EXPANDED CONTRACT WITH LNVA	
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SJB)	WUG	GCWA GALVESTON COUNTY RAW WATER EXPANSION	
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJ)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJB)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TSJ)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY	WUG	NEW / EXPANDED CONTRACT WITH SJRA	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 112	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 115	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 119	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 15	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 18	WUG	NEW / EXPANDED CONTRACT WITH SJRA	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 19	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 56	WUG	NEW / EXPANDED CONTRACT WITH SJRA	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 88	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 89	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 99	WUG	SJRA GRP	
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY WCID 1	WUG	SJRA GRP	

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - MOUNT HOUSTON ROAD MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - MSEC ENTERPRISES	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION - NHCROWA DISTRICTS 2025	WUG	NHCROWA GRP
WUG INFRASTRUCTURE EXPANSION - NHCROWA DISTRICTS 2035	WUG	NHCROWA GRP
WUG INFRASTRUCTURE EXPANSION - NORTH BELT UD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - NORTH FOREST MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - NORTH GREEN MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - OAK RIDGE NORTH	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 1	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 2	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	WUG	NEW / EXPANDED CONTRACT WITH SJIRA
WUG INFRASTRUCTURE EXPANSION - PINE VILLAGE PUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - PORTER SUD	WUG	NEW / EXPANDED CONTRACT WITH SJIRA
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 1	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 2	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - QUAIL VALLEY UD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - RAYFORD ROAD MUD	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - RICHWOOD	WUG	DOW RESERVOIR AND PUMP STATION EXPANSION
WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	WUG	NEW / EXPANDED CONTRACT WITH SJIRA
WUG INFRASTRUCTURE EXPANSION - ROLLING FORK PUD	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - SAN LEON MUD	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	WUG	NEW / EXPANDED CONTRACT WITH SJIRA
WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	WUG	SJIRA GRP
WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	WUG	NEW / EXPANDED CONTRACT WITH SJIRA
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, CHAMBERS COUNTY (TSI)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SI)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	WUG	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON
WUG INFRASTRUCTURE EXPANSION - SUNBELT FWSD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 1	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 2	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION - TEXAS CITY	WUG	GCWA GALVESTON COUNTY TREATED WATER EXPANSION
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 1	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 2	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	WUG	NHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - THUNDERBIRD UD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION - TOMBALL	WUG	NHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 1	WUG	NEW / EXPANDED CONTRACT WITH LNVA
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 2	WUG	NEW / EXPANDED CONTRACT WITH LNVA
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 3	WUG	NEW / EXPANDED CONTRACT WITH LNVA
WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION - WOODCREEK MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 1	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 2	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BAKER ROAD MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE RIDGE WEST MUD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CORINTHIAN POINT MUD 2	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 3	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN

Project	Project Type	Associated WWS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 1	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 2	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, FORT BEND
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, FORT BEND
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (SIB)	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY (SIRA GRP PARTICIPANTS)	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 3	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 3	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CUT AND SHOOT	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOMESTIC WATER	WUG	SIRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOUGLAS UTILITY	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FAR HILLS UD	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FIRST COLONY MUD 9	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 1	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 2	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 1	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 2	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 162	WUG	ROSENBERG GRP

Project	Project Type	Associated WWS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 23	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 24	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 26	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 42	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 5	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY WCID 3	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - G & W WSC (S)	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY FWSD 58	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 153	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 180	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 216	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 345	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 400	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 58	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID 70	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD (B)	WUG	EXPANDED USE OF GROUNDWATER, WALLER
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HMW SUD, HARRIS COUNTY	WUG	NHCRWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	RICHMOND GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (S)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 1	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 2	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	WUG	WHCRWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAKE CONROE HILLS MUD	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAZY RIVER IMPROVEMENT DISTRICT	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (SJ)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LUCE BAYOU PUD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 1	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 2	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, CHAMBERS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, LEON
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWCREEK MUD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWS PLACE	WUG	FORT BEND WCID 2 GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	WUG	EXPANDED USE OF GROUNDWATER, AUSTIN
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	WUG	EXPANDED USE OF GROUNDWATER, LEON
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, LEON
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (SJ)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	WUG	EXPANDED USE OF GROUNDWATER, MADISON
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	WUG	EXPANDED USE OF GROUNDWATER, MADISON
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	WUG	EXPANDED USE OF GROUNDWATER, CHAMBERS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	WUG	EXPANDED USE OF GROUNDWATER, CHAMBERS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 15	WUG	SJRA GRP

Project	Project Type	Associated WWS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 84	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 95	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY UD 4	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST HARRIS COUNTY MUD 16	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 1	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 2	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEHURST DECKER PRAIRIE WSC	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEWOOD COMMUNITY	WUG	NHCWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST (ROSENBERG GRP PARTICIPANT)	WUG	ROSENBERG GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 1	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 2	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, HARRIS COUNTY	WUG	NHCWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUAIL VALLEY UD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - RANCH UTILITIES	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST CONSOLIDATED MUD	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (NFBWA GRP PARTICIPANT)	WUG	NFBWA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (SUGAR LAND GRP PARTICIPANT)	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SEQUOIA IMPROVEMENT DISTRICT	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SOUTHERN WATER	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPLENDORA	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STANLEY LAKE MUD	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUBURBAN UTILITY	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (B)	WUG	SUGAR LAND IWRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (SJB)	WUG	SUGAR LAND IWRP

Project	Project Type	Associated WMS
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THUNDERBIRD UD	WUG	MISSOURI CITY GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD 6	WUG	CITY OF HOUSTON GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	WUG	BRACKISH GROUNDWATER SUPPLIES
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOOD BRANCH VILLAGE	WUG	SJRA GRP
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK WATER OF LIBERTY	WUG	EXPANDED USE OF GROUNDWATER, LIBERTY

Table 5-A5 – Second-Tier Identified Water Need¹

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
ALVIN	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
ANAHUAC	CHAMBERS	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
ANAHUAC	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
ANGLETON	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
AUSTIN COUNTY WSC	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
AUSTIN COUNTY WSC	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
BACLIFF MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BAKER ROAD MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	84	139	138	137	137
BAYBROOK MUD 1	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYVIEW MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BELLAIRE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BELLVILLE	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BLUE BELL MANOR UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	171	316	338	366	387
BLUE RIDGE WEST MUD	FORT BEND	SAN JACINTO	MUNICIPAL	0	275	266	261	256	247
BLUE RIDGE WEST MUD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	23	23	22	22	22
BOLIVAR PENINSULA SUD	GALVESTON	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
BRAZORIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 2	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 21	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 25	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
BRAZORIA COUNTY MUD 29	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 3	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 31	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 6	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BROOKSHIRE MWD	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BUFFALO	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
BUNKER HILL VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CAPE ROYALE UD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
CENTERVILLE	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	718	1,960	2,045	2,155	2,224
CHAMBERS COUNTY MUD 1	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CHATEAU WOODS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CHIMNEY HILL MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLEAR BROOK CITY MUD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CLEVELAND	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLEVELAND	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLUTE	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CONCORD-ROBBINS WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
CONCORD-ROBBINS WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
CONROE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	70	1,966	3,715	5,634	7,681
CORINTHIAN POINT MUD 2	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTRY TERRACE WATER	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, AUSTIN	AUSTIN	BRAZOS	MUNICIPAL	0	69	297	576	894	1,227
COUNTY-OTHER, AUSTIN	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	25	97	181	267
COUNTY-OTHER, AUSTIN	AUSTIN	COLORADO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, BRAZORIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	189
COUNTY-OTHER, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	433	975	1,505	2,061	2,603
COUNTY-OTHER, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	690	4,014	7,922	12,367	17,196
COUNTY-OTHER, CHAMBERS	CHAMBERS	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, CHAMBERS	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, FORT BEND	FORT BEND	BRAZOS	MUNICIPAL	582	4,731	4,648	5,751	7,255	8,387
COUNTY-OTHER, FORT BEND	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	913	3,099	6,296	10,892
COUNTY-OTHER, FORT BEND	FORT BEND	SAN JACINTO	MUNICIPAL	93	189	183	153	105	69
COUNTY-OTHER, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	556	1,302
COUNTY-OTHER, GALVESTON	GALVESTON	NECHES-TRINITY	MUNICIPAL	4	5	6	8	11	12
COUNTY-OTHER, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	996	856	781	703	633	554
COUNTY-OTHER, HARRIS	HARRIS	SAN JACINTO	MUNICIPAL	0	4,781	8,390	8,535	10,825	12,806
COUNTY-OTHER, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	216	322	294	33	179	303
COUNTY-OTHER, HARRIS	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	615	891	1,262	1,504	1,738	1,944
COUNTY-OTHER, LEON	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LEON	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MADISON	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MADISON	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MONTGOMERY	MONTGOMERY	SAN JACINTO	MUNICIPAL	4,416	14,491	28,088	45,491	67,799	94,649
COUNTY-OTHER, POLK	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, POLK	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, SAN JACINTO	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, SAN JACINTO	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, TRINITY	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALKER	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALKER	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALLER	WALLER	BRAZOS	MUNICIPAL	212	417	679	970	1,304	1,649
COUNTY-OTHER, WALLER	WALLER	SAN JACINTO	MUNICIPAL	320	510	754	1,025	1,335	1,659
CROSBY MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CUT & SHOOT	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	30	94	188	306
DAISETTA	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
DAISETTA	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DANBURY	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
DAYTON	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DAYTON	LIBERTY	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DEER PARK	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DEER PARK	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
DEVERS	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
DEVERS	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DOBBIN PLANTERSVILLE WSC	GRIMES	BRAZOS	MUNICIPAL	0	0	0	0	0	0
DOBBIN PLANTERSVILLE WSC	GRIMES	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DOBBIN PLANTERSVILLE WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	258	432	683	1,008	1,462	2,059
DODGE OAKHURST WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
DODGE OAKHURST WSC	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DODGE OAKHURST WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
DOMESTIC WATER	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	31	76	70	67	63

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
DOUGLAS UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	56	93	92	92	93
EAST PLANTATION UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
EL DORADO UD	HARRIS	SAN JACINTO	MUNICIPAL	0	94	167	166	166	162
FAR HILLS UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FIRST COLONY MUD 9	FORT BEND	BRAZOS	MUNICIPAL	0	124	120	119	117	116
FIRST COLONY MUD 9	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	396	387	380	376	370
FLO COMMUNITY WSC	FREESTONE	TRINITY	MUNICIPAL	0	0	0	0	0	0
FLO COMMUNITY WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
FOREST HILLS MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	71	152	143	139	135
FORT BEND COUNTY FWSD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	30	35	40	45	50
FORT BEND COUNTY FWSD 2	FORT BEND	BRAZOS	MUNICIPAL	0	82	101	119	137	154
FORT BEND COUNTY MUD 115	FORT BEND	BRAZOS	MUNICIPAL	0	185	176	172	170	170
FORT BEND COUNTY MUD 115	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	98	92	90	90	89
FORT BEND COUNTY MUD 116	FORT BEND	BRAZOS	MUNICIPAL	0	309	407	480	555	626
FORT BEND COUNTY MUD 121	FORT BEND	BRAZOS	MUNICIPAL	0	117	115	112	109	104
FORT BEND COUNTY MUD 128	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 129	FORT BEND	BRAZOS	MUNICIPAL	0	305	302	299	296	292
FORT BEND COUNTY MUD 140	FORT BEND	BRAZOS	MUNICIPAL	0	129	126	124	123	121
FORT BEND COUNTY MUD 149	FORT BEND	BRAZOS	MUNICIPAL	0	67	83	76	73	67
FORT BEND COUNTY MUD 152	FORT BEND	BRAZOS	MUNICIPAL	0	55	68	66	65	62
FORT BEND COUNTY MUD 155	FORT BEND	BRAZOS	MUNICIPAL	0	135	168	160	157	152
FORT BEND COUNTY MUD 158	FORT BEND	BRAZOS	MUNICIPAL	0	86	107	103	102	98
FORT BEND COUNTY MUD 162	FORT BEND	BRAZOS	MUNICIPAL	0	96	117	112	109	103
FORT BEND COUNTY MUD 187	FORT BEND	BRAZOS	MUNICIPAL	0	90	86	83	80	77
FORT BEND COUNTY MUD 23	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	365	380	392	406	412
FORT BEND COUNTY MUD 24	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	50	62	58	56	52

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 25	FORT BEND	BRAZOS	MUNICIPAL	0	31	30	30	30	30
FORT BEND COUNTY MUD 25	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	225	220	218	223	223
FORT BEND COUNTY MUD 26	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	227	293	285	279	271
FORT BEND COUNTY MUD 42	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	330	323	317	313	309
FORT BEND COUNTY MUD 46	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 46	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 47	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 48	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	106	103	100	97	93
FORT BEND COUNTY MUD 49	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	80	77	75	75	74
FORT BEND COUNTY MUD 5	FORT BEND	BRAZOS	MUNICIPAL	0	90	84	80	77	73
FORT BEND COUNTY MUD 81	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 2	FORT BEND	SAN JACINTO	MUNICIPAL	0	640	796	951	1,105	1,265
FORT BEND COUNTY WCID 2	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	2,245	2,870	3,491	4,109	4,754
FORT BEND COUNTY WCID 2	HARRIS	SAN JACINTO	MUNICIPAL	0	118	262	309	358	409
FORT BEND COUNTY WCID 3	FORT BEND	BRAZOS	MUNICIPAL	0	200	199	198	197	197
FORT BEND COUNTY WCID 3	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	21	21	21	21	21
FREEPORT	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FREEPORT	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
FREEPORT	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FRIENDSWOOD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FRIENDSWOOD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FULSHEAR	FORT BEND	BRAZOS	MUNICIPAL	0	270	272	262	255	242
FULSHEAR	FORT BEND	SAN JACINTO	MUNICIPAL	0	65	106	102	101	95
FULSHEAR	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	625	615	585	565	526
G & W WSC	GRIMES	BRAZOS	MUNICIPAL	0	0	0	0	0	0
G & W WSC	GRIMES	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
G & W WSC	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	33	79
G & W WSC	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	102	245
GALENA PARK	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY FWSD 6	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	31	20	17	15	15	14
GALVESTON COUNTY MUD 12	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY WCID 1	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	87	282	444
GALVESTON COUNTY WCID 12	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	716	1,066	1,091	1,120	1,153	1,181
GALVESTON COUNTY WCID 8	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GLENDALE WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
GREEN TRAILS MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	164	287	288	288	288
GREENWOOD UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GROVETON	TRINITY	NECHES	MUNICIPAL	0	0	0	0	0	0
GROVETON	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
GULF UTILITY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARDIN WSC	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
HARDIN WSC	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 1-A	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 27	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 58	HARRIS	SAN JACINTO	MUNICIPAL	0	112	208	224	240	255
HARRIS COUNTY MUD 106	HARRIS	SAN JACINTO	MUNICIPAL	0	366	675	682	684	690
HARRIS COUNTY MUD 11	HARRIS	SAN JACINTO	MUNICIPAL	0	46	113	115	122	126
HARRIS COUNTY MUD 119	HARRIS	SAN JACINTO	MUNICIPAL	0	103	218	218	224	227
HARRIS COUNTY MUD 122	HARRIS	SAN JACINTO	MUNICIPAL	2	21	41	37	35	33
HARRIS COUNTY MUD 132	HARRIS	SAN JACINTO	MUNICIPAL	0	269	463	463	462	461
HARRIS COUNTY MUD 148	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 151	HARRIS	SAN JACINTO	MUNICIPAL	0	280	490	485	483	480
HARRIS COUNTY MUD 152	HARRIS	SAN JACINTO	MUNICIPAL	0	285	520	531	541	545
HARRIS COUNTY MUD 153	HARRIS	SAN JACINTO	MUNICIPAL	0	332	581	573	568	564
HARRIS COUNTY MUD 154	HARRIS	SAN JACINTO	MUNICIPAL	0	260	464	471	487	501
HARRIS COUNTY MUD 158	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 180	HARRIS	SAN JACINTO	MUNICIPAL	0	136	251	238	227	215
HARRIS COUNTY MUD 189	HARRIS	SAN JACINTO	MUNICIPAL	0	101	182	192	202	213
HARRIS COUNTY MUD 216	HARRIS	SAN JACINTO	MUNICIPAL	0	38	65	61	58	55
HARRIS COUNTY MUD 221	HARRIS	SAN JACINTO	MUNICIPAL	0	133	238	247	256	262
HARRIS COUNTY MUD 23	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 278	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 290	HARRIS	SAN JACINTO	MUNICIPAL	0	183	349	358	365	364
HARRIS COUNTY MUD 321	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 342	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 344	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 345	HARRIS	SAN JACINTO	MUNICIPAL	0	229	396	388	386	383
HARRIS COUNTY MUD 36	HARRIS	SAN JACINTO	MUNICIPAL	0	114	190	187	187	188
HARRIS COUNTY MUD 361	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 372	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 400	HARRIS	SAN JACINTO	MUNICIPAL	0	378	695	739	762	770
HARRIS COUNTY MUD 412	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 420	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 46	HARRIS	SAN JACINTO	MUNICIPAL	0	154	265	259	257	254
HARRIS COUNTY MUD 49	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 5	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 50	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 55	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 58	HARRIS	SAN JACINTO	MUNICIPAL	0	75	135	131	131	129
HARRIS COUNTY MUD 6	HARRIS	SAN JACINTO	MUNICIPAL	0	78	171	164	161	156
HARRIS COUNTY MUD 8	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 96	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY UD 14	HARRIS	SAN JACINTO	MUNICIPAL	0	68	126	135	147	167
HARRIS COUNTY UD 15	HARRIS	SAN JACINTO	MUNICIPAL	0	155	300	297	300	304
HARRIS COUNTY WCID 1	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 1	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 133	HARRIS	SAN JACINTO	MUNICIPAL	0	165	300	326	363	401
HARRIS COUNTY WCID 156	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 50	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 70	HARRIS	SAN JACINTO	MUNICIPAL	0	60	101	95	91	84
HARRIS COUNTY WCID 74	HARRIS	SAN JACINTO	MUNICIPAL	0	143	240	228	226	221
HARRIS COUNTY WCID 89	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 96	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID-FONDREN ROAD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS-MONTGOMERY COUNTIES MUD 386	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HEMPSTEAD	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	105
HILLCREST VILLAGE	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HILLTOP LAKES WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
HILSHIRE VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HITCHCOCK	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HMW SUD	HARRIS	SAN JACINTO	MUNICIPAL	0	139	289	353	333	313
HMW SUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	97	249	423	380	336
HOUSTON	FORT BEND	SAN JACINTO	MUNICIPAL	0	225	514	545	609	652

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
HOUSTON	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	145	330	351	392	421
HOUSTON	HARRIS	SAN JACINTO	MUNICIPAL	0	33,727	82,195	95,154	112,780	130,077
HOUSTON	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	1,564	3,207	3,771	4,502	5,213
HOUSTON	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	7	9	10	11
HOUSTON	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	303	635	964	1,023
HUMBLE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HUNTSVILLE	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HUNTSVILLE	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
IRRIGATION, AUSTIN	AUSTIN	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, AUSTIN	AUSTIN	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	IRRIGATION	38,229	38,229	38,229	38,229	38,229	38,229
IRRIGATION, CHAMBERS	CHAMBERS	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, CHAMBERS	CHAMBERS	TRINITY	IRRIGATION	4,695	4,695	4,695	4,695	4,695	4,695
IRRIGATION, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	IRRIGATION	1,616	1,616	1,616	1,616	1,616	1,616
IRRIGATION, FORT BEND	FORT BEND	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, GALVESTON	GALVESTON	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	IRRIGATION	2,765	2,765	2,765	2,765	2,765	2,765
IRRIGATION, HARRIS	HARRIS	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, HARRIS	HARRIS	TRINITY-SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LEON	LEON	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LEON	LEON	TRINITY	IRRIGATION	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
IRRIGATION, LIBERTY	LIBERTY	NECHES	IRRIGATION	3,905	3,905	3,905	3,905	3,905	3,905
IRRIGATION, LIBERTY	LIBERTY	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	SAN JACINTO	IRRIGATION	710	710	710	710	710	710
IRRIGATION, LIBERTY	LIBERTY	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MADISON	MADISON	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MADISON	MADISON	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MONTGOMERY	MONTGOMERY	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, POLK	POLK	NECHES	IRRIGATION	0	0	0	0	0	0
IRRIGATION, POLK	POLK	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, SAN JACINTO	SAN JACINTO	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, SAN JACINTO	SAN JACINTO	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, TRINITY	TRINITY	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALKER	WALKER	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALKER	WALKER	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALLER	WALLER	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALLER	WALLER	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
JACINTO CITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
JAMAICA BEACH	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
JERSEY VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
JEWETT	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
JEWETT	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
JOHNSTON WATER UTILITY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	180	408	682	1,023	1,432
KATY	FORT BEND	SAN JACINTO	MUNICIPAL	0	1,636	1,601	1,578	1,562	1,545
KATY	HARRIS	SAN JACINTO	MUNICIPAL	0	902	1,616	1,666	1,717	1,764
KATY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
KENDLETON	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
KINGS MANOR MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KINGS MANOR MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KIRK MOUNT MUD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LA MARQUE	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	391	371	217	77	0	0
LA PORTE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LA PORTE	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LAKE BONANZA WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	40	98	167	256	359
LAKE CONROE HILLS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	39	95	163	248	354
LAKE JACKSON	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
LAKE JACKSON	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	HARDIN	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	TYLER	NECHES	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAKE MUD	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAZY RIVER IMPROVEMENT DISTRICT	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	52	117	115	113	112
LEAGUE CITY	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LEAGUE CITY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LEGGETT WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
LIBERTY COUNTY FWSD 1 HULL	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, BRAZORIA	BRAZORIA	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	8
LIVESTOCK, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	NECHES-TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, GALVESTON	GALVESTON	NECHES-TRINITY	LIVESTOCK	53	53	53	53	53	53
LIVESTOCK, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	LIVESTOCK	184	184	184	184	184	184
LIVESTOCK, HARRIS	HARRIS	SAN JACINTO	LIVESTOCK	388	766	1,022	1,022	1,022	1,022
LIVESTOCK, HARRIS	HARRIS	TRINITY-SAN JACINTO	LIVESTOCK	101	101	101	101	101	101
LIVESTOCK, LEON	LEON	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LEON	LEON	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	NECHES	LIVESTOCK	55	55	55	55	55	55
LIVESTOCK, LIBERTY	LIBERTY	NECHES-TRINITY	LIVESTOCK	30	30	30	30	30	30
LIVESTOCK, LIBERTY	LIBERTY	SAN JACINTO	LIVESTOCK	94	94	94	94	94	94
LIVESTOCK, LIBERTY	LIBERTY	TRINITY	LIVESTOCK	323	323	323	323	323	323
LIVESTOCK, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	LIVESTOCK	36	36	36	36	36	36

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
LIVESTOCK, MADISON	MADISON	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, MADISON	MADISON	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, MONTGOMERY	MONTGOMERY	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, POLK	POLK	NECHES	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, POLK	POLK	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, SAN JACINTO	SAN JACINTO	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, SAN JACINTO	SAN JACINTO	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, TRINITY	TRINITY	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALKER	WALKER	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALKER	WALKER	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALLER	WALLER	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALLER	WALLER	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVINGSTON	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LONGHORN TOWN UD	HARRIS	SAN JACINTO	MUNICIPAL	0	91	158	156	155	155
LUCE BAYOU PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	37	70	67	63	62
MADISON COUNTY WSC	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
MADISON COUNTY WSC	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
MADISONVILLE	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
MAGNOLIA	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	19	270	650	1,213	2,081
MANUFACTURING, AUSTIN	AUSTIN	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, AUSTIN	AUSTIN	BRAZOS-COLORADO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, BRAZORIA	BRAZORIA	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MANUFACTURING	21,772	27,812	27,812	27,812	27,812	27,855
MANUFACTURING, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, CHAMBERS	CHAMBERS	TRINITY	MANUFACTURING	2,753	3,452	3,452	3,452	3,452	3,452
MANUFACTURING, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MANUFACTURING	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
MANUFACTURING, FORT BEND	FORT BEND	BRAZOS	MANUFACTURING	194	949	949	949	949	949
MANUFACTURING, FORT BEND	FORT BEND	SAN JACINTO	MANUFACTURING	62	137	137	137	137	137
MANUFACTURING, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MANUFACTURING	138	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	TRINITY-SAN JACINTO	MANUFACTURING	7,404	20,900	21,962	22,731	21,907	20,903
MANUFACTURING, LEON	LEON	TRINITY	MANUFACTURING	0	143	143	143	143	143
MANUFACTURING, LIBERTY	LIBERTY	NECHES	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LIBERTY	LIBERTY	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LIBERTY	LIBERTY	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, MONTGOMERY	MONTGOMERY	SAN JACINTO	MANUFACTURING	292	570	570	570	570	570
MANUFACTURING, POLK	POLK	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, SAN JACINTO	SAN JACINTO	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALKER	WALKER	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALKER	WALKER	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALLER	WALLER	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALLER	WALLER	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANVEL	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MASON CREEK UD	HARRIS	SAN JACINTO	MUNICIPAL	0	357	616	608	603	597
MEADOWCREEK MUD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	146	143	139	137	133
MEADOWS PLACE	FORT BEND	SAN JACINTO	MUNICIPAL	0	156	150	150	154	158
MEADOWS PLACE	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	16	15	16	16	16
MEMORIAL POINT UD	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
MEMORIAL VILLAGES WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	2,069	2,388	2,758	3,168	3,623	4,108
MERCY WSC	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
MERCY WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MINING, AUSTIN	AUSTIN	BRAZOS	MINING	0	147	99	51	4	0
MINING, AUSTIN	AUSTIN	BRAZOS-COLORADO	MINING	0	43	29	15	1	0
MINING, AUSTIN	AUSTIN	COLORADO	MINING	0	3	2	1	0	0
MINING, BRAZORIA	BRAZORIA	BRAZOS	MINING	0	31	59	89	122	161
MINING, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MINING	0	58	110	167	228	306
MINING, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MINING	0	132	252	385	524	696
MINING, CHAMBERS	CHAMBERS	NECHES-TRINITY	MINING	0	0	0	0	0	0
MINING, CHAMBERS	CHAMBERS	TRINITY	MINING	0	0	0	0	0	0
MINING, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	BRAZOS	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	BRAZOS-COLORADO	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MINING	4	10	7	5	4	2
MINING, GALVESTON	GALVESTON	NECHES-TRINITY	MINING	70	76	83	89	95	103
MINING, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MINING	273	292	322	348	373	397
MINING, HARRIS	HARRIS	SAN JACINTO	MINING	2,622	2,605	2,559	2,531	2,508	2,491
MINING, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MINING	176	175	172	170	169	167
MINING, HARRIS	HARRIS	TRINITY-SAN JACINTO	MINING	148	147	144	142	141	140
MINING, LEON	LEON	BRAZOS	MINING	0	24	0	0	0	0
MINING, LEON	LEON	TRINITY	MINING	0	55	0	0	0	0
MINING, LIBERTY	LIBERTY	NECHES	MINING	0	2	1	4	7	12
MINING, LIBERTY	LIBERTY	NECHES-TRINITY	MINING	0	1	0	2	3	5
MINING, LIBERTY	LIBERTY	SAN JACINTO	MINING	0	4	2	6	11	18
MINING, LIBERTY	LIBERTY	TRINITY	MINING	0	12	5	17	34	61
MINING, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	MINING	0	1	1	2	4	6
MINING, MADISON	MADISON	BRAZOS	MINING	0	75	31	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
MINING, MADISON	MADISON	TRINITY	MINING	0	300	126	0	0	0
MINING, MONTGOMERY	MONTGOMERY	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, POLK	POLK	NECHES	MINING	0	0	0	0	0	0
MINING, POLK	POLK	TRINITY	MINING	0	0	0	0	0	0
MINING, SAN JACINTO	SAN JACINTO	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, SAN JACINTO	SAN JACINTO	TRINITY	MINING	0	0	0	0	0	0
MINING, TRINITY	TRINITY	TRINITY	MINING	0	0	0	0	0	0
MINING, WALKER	WALKER	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, WALKER	WALKER	TRINITY	MINING	0	0	0	0	0	0
MINING, WALLER	WALLER	BRAZOS	MINING	0	0	0	0	0	0
MINING, WALLER	WALLER	SAN JACINTO	MINING	0	0	0	0	0	0
MISSOURI CITY	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	193	201	208	219	226
MONT BELVIEU	CHAMBERS	TRINITY	MUNICIPAL	0	0	325	929	1,580	2,257
MONT BELVIEU	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	98	280	476	679
MONTGOMERY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	249	505	766	1,037	1,467
MONTGOMERY COUNTY MUD 112	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	66	62	60	58	57
MONTGOMERY COUNTY MUD 115	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	46	106	102	100	98
MONTGOMERY COUNTY MUD 119	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	183	419	408	404	398
MONTGOMERY COUNTY MUD 15	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	17	92	162	279	448
MONTGOMERY COUNTY MUD 18	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	129	413	1,110
MONTGOMERY COUNTY MUD 19	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 56	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	32	84	141	140	137
MONTGOMERY COUNTY MUD 8	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 83	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	108	114	122	132	138
MONTGOMERY COUNTY MUD 84	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 88	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 89	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 9	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	106	211	199	185
MONTGOMERY COUNTY MUD 95	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	5	30	44	62	78
MONTGOMERY COUNTY MUD 98	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 99	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	30	78	70	65	60
MONTGOMERY COUNTY UD 2	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY UD 3	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY UD 4	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	73
MONTGOMERY COUNTY WCID 1	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	20	47	79
MORGANS POINT	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MORGANS POINT	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MOSCOW WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
MOUNT HOUSTON ROAD MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	235	455	505	541	562
MSEC ENTERPRISES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	2,919	3,281	3,762	4,393	4,699
NASSAU BAY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
NEEDVILLE	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NEEDVILLE	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
NEW CANEY MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	29	132	258
NEW WAVERLY	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NEWPORT MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORTH BELT UD	HARRIS	SAN JACINTO	MUNICIPAL	0	121	220	226	236	245
NORTH CHANNEL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH FOREST MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	37	66	57	51	43

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
NORTH FORT BEND WATER AUTHORITY	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	FORT BEND	SAN JACINTO	MUNICIPAL	0	16,331	21,401	23,747	24,993	25,148
NORTH FORT BEND WATER AUTHORITY	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	7,777	11,923	14,032	15,150	15,327
NORTH FORT BEND WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH GREEN MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	123	215	214	218	220
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	37,548	65,909	67,771	70,388	71,779
NORTH ZULCH MUD	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORTH ZULCH MUD	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORTHWEST HARRIS COUNTY MUD 16	HARRIS	SAN JACINTO	MUNICIPAL	0	140	238	232	230	225
OAK HOLLOW UTILITY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
OAK RIDGE NORTH	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	1	7	9
ONALASKA WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
ONE FIVE O WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
OYSTER CREEK	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
P B & S C WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
P B & S C WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
PALMER PLANTATION MUD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	200	196	193	192	190
PALMER PLANTATION MUD 2	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	94	91	89	87	84
PANORAMA VILLAGE	MONTGOMERY	SAN JACINTO	MUNICIPAL	33	27	54	93	152	231
PARKWAY MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PASADENA	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PASADENA	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PATTISON WSC	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
PECAN GROVE MUD 1	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PECAN GROVE MUD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PENNINGTON WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
PHELPS SUD	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PHELPS SUD	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
PINE VILLAGE PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PINEHURST DECKER PRAIRIE WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	10	68	154	289	523
PINEWOOD COMMUNITY	HARRIS	SAN JACINTO	MUNICIPAL	0	30	51	49	48	47
PLANTATION MUD	FORT BEND	BRAZOS	MUNICIPAL	0	91	81	73	70	65
POINT AQUARIUS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PORTER SUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	1,117	1,662	2,143	2,556	2,975	3,323
PRAIRIE VIEW	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PROVIDENCE WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
QUADVEST	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
QUADVEST	FORT BEND	BRAZOS	MUNICIPAL	0	157	228	309	406	506
QUADVEST	HARRIS	SAN JACINTO	MUNICIPAL	0	73	163	213	278	342
QUADVEST	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	1,189	2,806	4,694	6,981	9,382
QUADVEST	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
QUAIL VALLEY UD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	56	12	0	0
RANCH UTILITIES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	27	22	18	17	15
RAYFORD ROAD MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	36	143	166
RICHMOND	FORT BEND	BRAZOS	MUNICIPAL	0	412	430	488	551	584
RICHWOOD	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
RIVER PLANTATION MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	148	354	422
RIVERSIDE WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
RIVERSIDE WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
ROLLING FORK PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	64	148	145	143	141
ROMAN FOREST CONSOLIDATED MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	7	37	78	129
ROSENBERG	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
ROSENBERG	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
ROYAL VALLEY UTILITIES	FORT BEND	BRAZOS	MUNICIPAL	0	256	321	317	314	311
SAGEMEADOW UD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SAN JACINTO SUD	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SAN JACINTO SUD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
SAN LEON MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEABROOK	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEALY	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEALY	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
SEDONA LAKES MUD 1	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEQUOIA IMPROVEMENT DISTRICT	HARRIS	SAN JACINTO	MUNICIPAL	0	43	80	77	77	75
SHENANDOAH	MONTGOMERY	SAN JACINTO	MUNICIPAL	112	463	597	691	810	969
SHEPHERD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
SHOREACRES	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SIENNA PLANTATION	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SIENNA PLANTATION	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SODA WSC	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0
SODA WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
SOUTH CLEVELAND WSC	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTH HOUSTON	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
SOUTHEAST WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SOUTHEAST WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
SOUTHERN MONTGOMERY COUNTY MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHERN WATER	HARRIS	SAN JACINTO	MUNICIPAL	0	128	214	207	203	198
SOUTHSIDE PLACE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHWEST HARRIS COUNTY MUD 1	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPLENDORA	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	73	206	382	582
SPRING CREEK UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	10	39	111	204	180
SPRING MEADOWS MUD	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPRING VALLEY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
STANLEY LAKE MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	126	475	910
STEAM ELECTRIC POWER, CHAMBERS	CHAMBERS	NECHES-TRINITY	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	STEAM ELECTRIC POWER	1,387	1,387	1,387	1,387	1,387	1,387
STEAM ELECTRIC POWER, FORT BEND	FORT BEND	BRAZOS	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, HARRIS	HARRIS	SAN JACINTO	STEAM ELECTRIC POWER	3,412	3,412	3,412	3,412	3,412	3,412
STEAM ELECTRIC POWER, HARRIS	HARRIS	SAN JACINTO-BRAZOS	STEAM ELECTRIC POWER	169	169	169	169	169	169
STEAM ELECTRIC POWER, HARRIS	HARRIS	TRINITY-SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, MONTGOMERY	MONTGOMERY	SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
SUBURBAN UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	71	130	124	121	116
SUGAR LAND	FORT BEND	BRAZOS	MUNICIPAL	0	4,383	4,908	5,538	6,028	6,395
SUGAR LAND	FORT BEND	SAN JACINTO	MUNICIPAL	0	149	158	171	179	181
SUGAR LAND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	1,446	1,171	1,358	1,472	1,527
SUNBELT FWSD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SURFSIDE BEACH	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	18	16	14	13	12
SWEENEY	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
T & W WATER SERVICE	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
T & W WATER SERVICE	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
T & W WATER SERVICE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	315	725	1,207	1,797	2,448
TARKINGTON SUD	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
TARKINGTON SUD	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TDCJ JESTER UNITS	FORT BEND	BRAZOS	MUNICIPAL	0	146	144	142	142	141
TDCJ JESTER UNITS	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	216	215	213	212	210
TDCJ RAMSEY AREA	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
TEMPE WSC 1	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
TEXAS CITY	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
THE COMMONS WATER SUPPLY	HARRIS	SAN JACINTO	MUNICIPAL	0	112	204	211	214	215
THE CONSOLIDATED WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
THE WOODLANDS	HARRIS	SAN JACINTO	MUNICIPAL	0	1,260	2,367	2,561	2,700	2,795
THE WOODLANDS	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	196	1,523	3,584	6,093
THUNDERBIRD UD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	462	449	441	437	431
TOMBALL	HARRIS	SAN JACINTO	MUNICIPAL	0	846	1,546	1,594	1,666	1,710
TRAIL OF THE LAKES MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	269	477	473	472	465
TRINITY	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY BAY CONSERVATION DISTRICT	CHAMBERS	NECHES-TRINITY	MUNICIPAL	272	501	758	1,021	1,316	1,620
TRINITY BAY CONSERVATION DISTRICT	CHAMBERS	TRINITY	MUNICIPAL	70	130	197	265	342	421
TRINITY RURAL WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY RURAL WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
VALLEY RANCH MUD 1	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
VARNER CREEK UD	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
WALLER	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
				2020	2030	2040	2050	2060	2070
WALLER	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WALLIS	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
WATERWOOD MUD 1	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
WEBSTER	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST COLUMBIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST COLUMBIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	AUSTIN	COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	FAYETTE	COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	WASHINGTON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST HARDIN WSC	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
WEST HARRIS COUNTY MUD 6	HARRIS	SAN JACINTO	MUNICIPAL	0	109	192	199	205	208
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	11,961	28,679	30,962	31,522	31,359
WEST UNIVERSITY PLACE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WESTWOOD NORTH WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	32	79	127	196
WESTWOOD SHORES MUD	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
WHITE OAK UTILITIES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WHITE OAK UTILITIES	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WHITE OAK WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	4	0	0	0	0
WILLIS	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WOOD BRANCH VILLAGE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WOODCREEK MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	96	167	164	163	164
WOODCREEK WATER OF LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	1	20	39	60	79

1. Positive values shown in this table represent second-tier needs. Values of 0 indicate either no need or a surplus after allocation of conservation and direct reuse.

2. Entries in italics represent portions of split WUGs located outside of Region H.

Table 5-A6 – Second-Tier Identified Water Need Summary*

Water User Group Category	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
	2020	2030	2040	2050	2060	2070
MUNICIPAL (NAMED WUG)	5,071	151,469	276,219	311,684	351,843	388,788
MUNICIPAL (COUNTY-OTHER)	7,454	28,385	51,309	77,372	113,539	155,708
MANUFACTURING	32,615	53,963	55,025	55,794	54,970	54,009
MINING	3,293	4,193	4,004	4,024	4,228	4,565
STEAM ELECTRIC POWER	4,968	4,968	4,968	4,968	4,968	4,968
LIVESTOCK	1,259	1,642	1,898	1,898	1,898	1,906
IRRIGATION	51,920	51,920	51,920	51,920	51,920	51,920

*Positive values shown in this table represent second-tier needs.

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Table 5-A7 – MWP Second-Tier Identified Water Need*

Major Water Provider	Second Tier Needs Remaining After Conservation and Direct Reuse (ac ft)					
	2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	0	0	2,263	4,445	9,749	18,137
BRAZOSPORT WATER AUTHORITY	0	1,137	2,569	3,620	3,811	2,187
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	0	0	0	0	0	0
CONROE	0	3,891	5,590	7,168	8,648	10,463
DOW INC	0	0	0	0	0	0
GALVESTON	0	0	0	0	0	9
GULF COAST WATER AUTHORITY	3,441	16,197	18,156	21,779	25,151	31,873
HOUSTON	12,785	187,397	362,442	391,456	426,390	454,003
HUNTSVILLE	0	0	0	0	0	0
LEAGUE CITY	0	0	0	0	0	0
LOWER NECHES VALLEY AUTHORITY	416	712	1,044	1,383	1,764	2,156
MISSOURI CITY	6	4,753	5,571	6,081	6,563	7,054
NORTH FORT BEND WATER AUTHORITY	0	32,651	41,780	46,141	49,547	50,967
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	0	45,885	74,827	77,912	81,122	83,499
NRG	26,740	32,838	32,890	32,947	33,008	33,129
PASADENA	0	0	0	0	0	0
PEARLAND	0	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	13,791	58,756	78,772	105,064	136,881	174,858
SUGAR LAND	0	9,706	11,612	12,287	12,825	13,219
TEXAS CITY	0	0	0	0	0	0
THE WOODLANDS	1,567	8,565	10,275	11,663	13,614	15,946
TRINITY RIVER AUTHORITY	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	23,636	48,431	51,359	52,323	52,879

**Positive values shown in this table represent second-tier needs. Values of 0 indicate either no need or a surplus after allocation of conservation and direct reuse. Values are based on projected needs and may not be indicative of any MWP-to-WUG contract in excess of existing supply. Values represent projected MWP need within Region H only and do not include MWP needs for other regions.*

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Table 5-A8 – Water Management Strategy Supply Allocations

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
ALVIN	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	131	225	273	331	401	494
ANAHUAC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	13	15	17	18	22
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	10	16	21	26	31
	DOW RESERVOIR AND PUMP STATION EXPANSION	BRAZOSPORT WATER AUTHORITY	DOW HARRIS RESERVOIR EXPANSION	0	6,048	6,048	6,048	6,048	6,048
ANGLETON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	67	127	147	172	191	233
AUSTIN COUNTY WSC	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	15	41	63	82	101	102
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	22	28	34	43
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	4	5	6	8	9
BACLIFF MUD	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	280	281	282	282	283
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	22	17	0	0	0	0
BAKER ROAD MUD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	84	139	138	137	137
BAYBROOK MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	10	12	12	13	13
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	11	14	16	17	17
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	5	8	8	9	9
BAYTOWN	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	293	490	563	663	746	916
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	60	171	217	219	225	231
BAYVIEW MUD	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	91	91	92	92	92
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	10	11	14	15	19
BELLAIRE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	118	186	221	272	335	414
BELLVILLE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	56	70	79	86	91
BLUE BELL MANOR UTILITY	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	171	316	338	366	387
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	21	23	26	29	34

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)						
				2020	2030	2040	2050	2060	2070	
BLUE RIDGE WEST MUD	MISSOURI CITY GRP	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	217	217	217	217	217	217
		MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	130	222	317	338	338	338
BOLIVAR PENINSULA SUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	36	49	52	56	60	60	68
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	6	12	19	27	27	38
BRAZORIA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	19	21	24	27	27	33
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	39	48	51	53	55	55	56
BRAZORIA COUNTY MUD 2	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	21	59	94	125	154	154	179
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	20	31	36	43	48	48	56
BRAZORIA COUNTY MUD 21	MANVEL SUPPLY EXPANSION	MANVEL	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	103	103	103	101	101	97
	MUNICIPAL CONSERVATION	N/A	MANVEL MUSTANG BAYOU RESERVOIR	0	25	25	25	25	25	25
BRAZORIA COUNTY MUD 25	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	18	21	27	32	32	41
	MANVEL SUPPLY EXPANSION	MANVEL	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	167	167	167	162	162	156
BRAZORIA COUNTY MUD 29	MUNICIPAL CONSERVATION	N/A	MANVEL MUSTANG BAYOU RESERVOIR	0	40	40	40	40	40	40
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	32	48	59	64	64	75
BRAZORIA COUNTY MUD 3	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	20	27	29	33	35	35	40
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	22	28	36	43	43	51
BRAZORIA COUNTY MUD 31	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	41	44	47	49	49	52
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	29	37	48	60	60	80
BRAZORIA COUNTY MUD 6	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	7	24	46	71	102	102	138
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	19	23	24	25	25	26
BUFFALO	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	11	17	24	29	29	35
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	40	51	57	64	72	72	83
BUNKER HILL VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	14	16	19	22	22	25
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	6	10	13	13	13	14
CAPE ROYALE UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	15	18	20	22	22	23
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION							

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)						
				2020	2030	2040	2050	2060	2070	
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	CHCRWA GRP	HOUSTON	HOUSTON LAKE/RESERVOIR	0	5,466	5,466	5,466	5,466	5,466	5,466
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	164	285	337	417	487	622	
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	DIRECT REUSE, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	0	47	79	110	138	168	
CHAMBERS COUNTY MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	16	20	27	31	34	
CHATEAU WOODS MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	16	19	22	23	27	
CHIMNEY HILL MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	18	28	31	35	38	45	
CLEAR BROOK CITY MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	60	106	128	164	197	255	
CLEAR LAKE CITY WATER AUTHORITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	352	526	610	729	864	1,030	
CLEVELAND	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	80	232	354	372	390	410	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	42	65	74	79	81	83	
CLUTE	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	14	39	61	83	103	123	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	40	59	64	73	81	98	
CONCORD-ROBBINS WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	17	3	0	0	0	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	356	631	811	1,021	1,261	1,542	
CONROE	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	5,581	7,438	9,190	8,648	8,648	
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	0	1,815	
CORINTHIAN POINT MUD 2	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	14	15	16	18	
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	64	143	142	141	141	
COUNTRY TERRACE WATER	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	9	10	12	14	17	
	EXPANDED USE OF GROUNDWATER, AUSTIN	N/A	GULF COAST AQUIFER SYSTEM, AUSTIN	0	400	550	1,250	1,450	1,900	
COUNTY-OTHER, AUSTIN	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	67	116	147	194	245	331	
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	19	63	117	183	262	355	

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)						
				2020	2030	2040	2050	2060	2070	
COUNTY-OTHER, BRAZORIA	MANVEL SUPPLY EXPANSION	MANVEL	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	3,438	3,438	3,438	3,438	3,340	3,213
			GULF COAST AQUIFER SYSTEM, BRAZORIA	331	0	0	0	0	0	0
			MANVEL MUSTANG BAYOU RESERVOIR	0	831	831	831	831	831	831
	MUNICIPAL CONSERVATION	N/A								
	NEW / EXPANDED CONTRACT WITH BRA	BRAZOS RIVER AUTHORITY		0	0	0	0	0	2,061	2,603
	NEW / EXPANDED CONTRACT WITH BWA	BRAZOSPORT WATER AUTHORITY		0	1,380	1,321	1,261	1,197	1,128	1,128
	NEW / EXPANDED CONTRACT WITH BWA - BRACKISH GROUNDWATER	BRAZOSPORT WATER AUTHORITY		0	3,110	3,597	3,899	3,698	3,698	1,007
	NEW / EXPANDED CONTRACT WITH GCWA	BRAZOS RIVER AUTHORITY		0	0	0	2,663	4,798	11,010	11,010
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	GULF COAST WATER AUTHORITY		0	690	4,014	5,259	3,402	1,427	1,427
		N/A		0	314	615	955	1,328	1,740	1,740
COUNTY-OTHER, CHAMBERS	MUNICIPAL CONSERVATION	N/A		44	70	88	112	137	178	178
	EXPANDED USE OF GROUNDWATER, FORT BEND	N/A		0	0	1,100	3,450	6,900	11,850	11,850
	MUNICIPAL CONSERVATION	N/A		452	838	1,150	1,757	2,615	4,036	4,036
	NEW / EXPANDED CONTRACT WITH GCWA ²	GULF COAST WATER AUTHORITY		675	3,675	2,589	2,692	3,265	3,615	3,615
	NFBWA GRP	NORTH FORT BEND WATER AUTHORITY		0	3,644	3,720	3,803	3,879	3,970	3,970
		BRAZOS RIVER AUTHORITY		0	0	0	701	1,793	2,840	2,840
				0	304	1,012	1,342	1,210	1,075	1,075
	RICHMOND GRP	RICHMOND		0	692	692	692	692	692	692
				440	440	440	440	440	440	440
	SUGAR LAND IWRP	SUGAR LAND		0	143	143	143	143	143	143
COUNTY-OTHER, FORT BEND	SUGAR LAND IWRP	SUGAR LAND		0	505	852	852	852	852	852
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A		0	581	754	1,408	2,322	3,448	3,448

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, GALVESTON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	42	63	64	68	68	73
	NEW / EXPANDED CONTRACT WITH GCWA ²	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	996	996	996	996	996	996
	NEW / EXPANDED CONTRACT WITH LNVA ³	LOWER NECHES VALLEY AUTHORITY	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	4	5	6	8	11	12
COUNTY-OTHER, HARRIS	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	2,949	3,954	4,100	4,257	4,432
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	742	763	780	799
	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ⁴	HOUSTON	MUNICIPAL CONSERVATION	482	828	993	1,150	1,395	1,833
COUNTY-OTHER, LEON	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	831	3,047	5,677	5,657	8,170	10,306
	MUNICIPAL CONSERVATION	N/A	DIRECT REUSE, MASTER PLANNED COMMUNITIES, HARRIS	0	304	420	478	738	996
	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	10	15	15	17	17	18
COUNTY-OTHER, LIBERTY	MUNICIPAL CONSERVATION	N/A	WATER LOSS REDUCTION	3	8	12	15	16	17
	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	144	225	259	307	351	429
	MUNICIPAL CONSERVATION	N/A	WATER LOSS REDUCTION	54	165	274	382	495	607
COUNTY-OTHER, MADISON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	43	69	79	94	107	132
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	16	46	77	109	141	173
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	679	1,398	2,234	3,516	5,198	7,980
COUNTY-OTHER, MONTGOMERY	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	0	11,322	5,648	2,110	123
	SJRA AQUIFER STORAGE AND RECOVERY	SAN JACINTO RIVER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	16,801	44,797	36,141
	SJRA CATAHOULA AQUIFER SUPPLIES	SAN JACINTO RIVER AUTHORITY	SAN JACINTO REGIONAL RETURN FLOWS	0	0	0	0	306	31,566
COUNTY-OTHER, MONTGOMERY	SJRA GRP ⁵	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER ASR	0	0	0	0	0	9,426
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	0	2,287	10,500	10,500	10,500
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	CONROE LAKE/RESERVOIR	0	597	597	597	597	597
			GULF COAST AQUIFER SYSTEM, MONTGOMERY	4,416	16,548	14,151	12,298	9,969	6,958
			DIRECT REUSE, COUNTY-OTHER, MONTGOMERY	0	925	2,157	3,728	5,718	8,168

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, POLK	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	53	86	98	114	124	145
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	10	28	42	42	42	41
COUNTY-OTHER, SAN JACINTO	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	48	80	93	111	127	155
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	9	28	47	52	54	56
COUNTY-OTHER, WALKER	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	79	109	117	129	139	159
	EXPANDED USE OF GROUNDWATER, WALLER	N/A	GULF COAST AQUIFER SYSTEM, WALLER	975	975	2,050	2,050	3,400	3,400
COUNTY-OTHER, WALLER	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	88	150	191	250	314	419
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	15	31	36	42	49	56
CROSBY MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	17	19	22	24	28
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	10	16	22	27	32
CUT & SHOOT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	22	27	36	47	68
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	11	57	130	235	374
DAISETTA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	7	8	10	12	15
DANBURY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	11	12	13	15
DAYTON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	63	108	148	210	271	338
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	135	245	289	352	405	508
DEER PARK	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	51	150	241	330	417	502
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	7	8	9	11	13
DEVERS	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	258	432	683	1,008	1,462	2,059
	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY						
DOBBIN PLANTERSVILLE WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	24	48	74	117	150	195
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	11	14	15	19
DODGE OAKHURST WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	11	15	18	20	23
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	42	91	88	87	86
DOMESTIC WATER	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	56	93	92	92	93
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	7	7	8	8	9

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
EAST PLANTATION UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	12	14	18	22	26
EL DORADO UD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	94	0	0	0	0
			MUNICIPAL CONSERVATION	0	0	288	287	287	283
			WATER LOSS REDUCTION	11	17	18	21	23	27
FAR HILLS UD	BRACKISH GROUNDWATER SUPPLIES	N/A	WATER LOSS REDUCTION	3	8	13	17	18	18
			MUNICIPAL CONSERVATION	0	97	207	205	204	204
			MUNICIPAL CONSERVATION	10	15	20	23	25	27
FIRST COLONY MUD 9	MISSOURI CITY GRP	MISSOURI CITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	366	366	366	366	366
			MUNICIPAL CONSERVATION	0	222	378	541	576	576
			MUNICIPAL CONSERVATION	48	68	74	79	83	90
FLO COMMUNITY WSC	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	10	17	21	26	32	41
			MUNICIPAL CONSERVATION	5	17	31	47	64	84
			GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	71	0	0	0	0
FOREST HILLS MUD	CITY OF HOUSTON GRP	HOUSTON	MUNICIPAL CONSERVATION	0	0	260	251	247	243
			MUNICIPAL CONSERVATION	10	15	17	19	20	24
			WATER LOSS REDUCTION	3	8	13	17	19	19
FORT BEND COUNTY FWSD 1	WATER LOSS REDUCTION	N/A	GULF COAST AQUIFER SYSTEM, FORT BEND	0	30	35	40	45	50
			MUNICIPAL CONSERVATION	1	4	8	12	16	20
			MUNICIPAL CONSERVATION	7	14	17	22	27	35
FORT BEND COUNTY FWSD 2	ROSENBERG GRP	ROSENBERG	GULF COAST AQUIFER SYSTEM, FORT BEND	0	96	118	141	164	189
			MUNICIPAL CONSERVATION	0	407	405	404	389	378
			MUNICIPAL CONSERVATION	20	26	28	29	30	31
FORT BEND COUNTY MUD 115	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	6	18	29	34	34	34

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 116	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	25	37	46	56	65	77
	RICHMOND GRP	RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	346	453	536	620	703
FORT BEND COUNTY MUD 121	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	20	21	23	25	29
	RICHMOND GRP	RICHMOND	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	215	224	229	234	238
FORT BEND COUNTY MUD 128	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	25	32	34	36	38	41
	SUGAR LAND IWRP	SUGAR LAND	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	472	472	472	472	472
FORT BEND COUNTY MUD 129	MISSOURI CITY GRP	MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	393	391	389	379	372
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	29	37	39	41	43	47
FORT BEND COUNTY MUD 140	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	18	19	20	21	23
	RICHMOND GRP	RICHMOND	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	232	240	246	251	257
FORT BEND COUNTY MUD 149	MISSOURI CITY GRP	MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	112	146	144	137	130
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	18	23	28	31	37
FORT BEND COUNTY MUD 152	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	11	14	16	17	20
	ROSENBERG GRP	ROSENBERG	BRAZOS RUN-OF-RIVER, BRAZORIA	0	66	82	82	82	82
FORT BEND COUNTY MUD 155	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	25	31	37	40	45
	ROSENBERG GRP	ROSENBERG	BRAZOS RUN-OF-RIVER, BRAZORIA	0	160	199	197	197	197
FORT BEND COUNTY MUD 158	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	15	19	22	23	27
	ROSENBERG GRP	ROSENBERG	BRAZOS RUN-OF-RIVER, BRAZORIA	0	101	126	125	125	125
FORT BEND COUNTY MUD 162	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	18	23	27	29	35
	ROSENBERG GRP	ROSENBERG	GULF COAST AQUIFER SYSTEM, FORT BEND	0	114	140	139	138	138
FORT BEND COUNTY MUD 187	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	18	19	21	23	26
	RICHMOND GRP	RICHMOND	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	180	186	191	195	200
			DIRECT REUSE, RICHMOND	18	18	18	18	18	18

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 23	MISSOURI CITY GRP	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	273	273	273	273	273
		MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	164	301	455	511	539
FORT BEND COUNTY MUD 24	MISSOURI CITY GRP	N/A	MUNICIPAL CONSERVATION	44	72	81	94	105	127
		GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	39	39	39	39	39
FORT BEND COUNTY MUD 25	MUNICIPAL CONSERVATION	MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	23	50	72	76	76
		N/A	MUNICIPAL CONSERVATION	6	12	15	19	20	24
FORT BEND COUNTY MUD 26	MISSOURI CITY GRP	N/A	DIRECT REUSE, FORT BEND COUNTY MUD #25	0	68	68	68	68	68
		SUGAR LAND	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	1,120	1,120	1,120	1,120	1,120
FORT BEND COUNTY MUD 27	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	46	69	75	85	93	110
		GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	162	162	162	162	162
FORT BEND COUNTY MUD 28	MISSOURI CITY GRP	MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	97	217	311	330	330
		N/A	MUNICIPAL CONSERVATION	19	32	41	47	51	59
FORT BEND COUNTY MUD 29	MISSOURI CITY GRP	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	230	230	230	230	230
		MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	139	238	341	363	363
FORT BEND COUNTY MUD 30	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	24	39	43	47	50	54
		MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	89	87	68	52
FORT BEND COUNTY MUD 31	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	25	32	36	38	40
		MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	19	17	11	7
FORT BEND COUNTY MUD 32	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	10	13	15	17	20
		MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	143	140	138	134	132
FORT BEND COUNTY MUD 33	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	20	21	23	25	29

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 49	MISSOURI CITY GRP ⁶	MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	64	115	114	113	108	104
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	9	11	12	12	13
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	18	21	24	26	30
FORT BEND COUNTY MUD 5	ROSENBERG GRP	ROSENBERG	GULF COAST AQUIFER SYSTEM, FORT BEND	0	108	105	104	103	103
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	36	44	50	57	63	71
FORT BEND COUNTY MUD 81	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	9	28	41	44	47	50
	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	1,790	1,795	1,800	1,805	1,810	1,814
	FORT BEND WCID 2 GRP	N/A	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	2,022	2,022	2,022	2,022	2,022
FORT BEND COUNTY WCID 2	MUNICIPAL CONSERVATION	N/A	BRAZOS RUN-OF-RIVER, FORT BEND	0	1,310	4,527	4,524	4,520	4,516
	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	216	356	452	561	677	820
	MUNICIPAL CONSERVATION	N/A	WATER LOSS REDUCTION	51	178	206	231	257	285
FORT BEND COUNTY WCID 3	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	16	17	17	18	18
	RICHMOND GRP	RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	237	237	236	236	236
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	42	66	74	91	131	174
FRIENDSWOOD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	219	360	430	529	648	796
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	60	184	311	445	586	658
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	62	142	185	227	254	310
FULSHEAR	NFBWA GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	960	993	949	921	863
	EXPANDED USE OF GROUNDWATER, WALLER	N/A	GULF COAST AQUIFER SYSTEM, WALLER	0	0	0	0	325	325
G & W WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	26	36	51	67	92
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	11	23	32	39	46
GALENA PARK	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	28	44	19	0	0	0

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
GALVESTON	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	11,891	11,900	11,909	11,918	11,927
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	469	698	798	954	1,116	1,330
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	320	958	1,596	2,242	2,883	3,529
GALVESTON COUNTY FWSD 6	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	31	31	31	31	31	31
	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	54	54	54	54	55
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	18	20	22	23	26
GALVESTON COUNTY MUD 12	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	106	106	106	106	107
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	18	20	23	25	30
	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	982	983	985	987	989
GALVESTON COUNTY WCID 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	95	178	223	288	350	460
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	25	77	133	195	261	319
	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	716	716	716	716	716	716
GALVESTON COUNTY WCID 12	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	350	375	404	437	465
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	47	75	88	95	99	103
	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	236	236	237	237	238
GALVESTON COUNTY WCID 8	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	20	31	35	40	45	55
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	15	43	70	95	120	145
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	7	8	9	10	12
GREEN TRAILS MUD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	164	287	288	288	288
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	21	22	24	25	27
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	29	23	19	18	17
GREENWOOD UD	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	11	36	57	76	94	111
	GROVETON GROUNDWATER EXPANSION	N/A	YEGUA-JACKSON AQUIFER, TRINITY	242	242	242	242	242	242
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	3	5	5	6	6	8
GROVETON	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	3	4	5	7	8

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
GULF UTILITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	24	33	36	39	42	46
HARDIN WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	18	33	43	56	69	91
HARRIS COUNTY FWSD 1-A	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	12	14	16	20
HARRIS COUNTY FWSD 27	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	8	13	18	23	28
HARRIS COUNTY FWSD 58	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	11	12	14	16	20
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	112	208	224	240	255
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	15	17	19	21	25
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	2	3	3	3	3
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	34	42	45	49	52	57
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	11	33	54	74	92	99
HARRIS COUNTY MUD 106	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	366	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	1,398	1,412	1,420	1,430
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	46	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	213	215	222	226
HARRIS COUNTY MUD 11	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	18	20	23	26	32
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	1	1	1	1	1
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	103	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	409	409	415	418
HARRIS COUNTY MUD 119	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	19	29	32	37	41	49
	FORT BEND WCID 2 GRP ⁸	FORT BEND COUNTY WCID 2	BRAZOS RUN-OF-RIVER, FORT BEND	7	29	51	49	48	48
HARRIS COUNTY MUD 122	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	10	12	13	15
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	30	42	47	50	53	57
	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	269	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	989	990	989	989
HARRIS COUNTY MUD 148	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	22	20	16	15	15

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 151	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	44	48	53	56	62
	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	280	0	0	0	0
HARRIS COUNTY MUD 152	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	46	51	57	62	72
	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	285	0	0	0	0
HARRIS COUNTY MUD 153	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	332	581	573	568	564
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	38	53	57	62	66	72
HARRIS COUNTY MUD 154	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	260	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	30	43	47	53	58	69
HARRIS COUNTY MUD 158	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	22	34	36	41	44	51
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	26	30	34	37	43
HARRIS COUNTY MUD 180	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	5	14	22	29	36	41
	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	136	251	238	227	215
HARRIS COUNTY MUD 189	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	101	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	9	10	11	12	14
HARRIS COUNTY MUD 216	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	38	65	61	58	55
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	9	10	11	12
HARRIS COUNTY MUD 221	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	5	8	10	12	14
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	133	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	22	25	29	32	39

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 23	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	20	22	21	19	19
HARRIS COUNTY MUD 278	CITY OF HOUSTON GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	364	364	364	364
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	36	68	89	108	121	148
HARRIS COUNTY MUD 290	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	25	42	47	56	62	74
	WHCWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	183	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	720	734	744	746
HARRIS COUNTY MUD 321	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	16	20	23	25	25
HARRIS COUNTY MUD 342	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	18	24	27	30	31	34
HARRIS COUNTY MUD 344	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	25	37	40	43	45	49
HARRIS COUNTY MUD 345	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	229	396	388	386	383
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	24	33	35	38	39	42
HARRIS COUNTY MUD 36	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	114	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	302	299	299	300
HARRIS COUNTY MUD 361	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	13	14	15	15	14
HARRIS COUNTY MUD 372	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	22	24	27	29	34
HARRIS COUNTY MUD 400	CITY OF HOUSTON GRP	HOUSTON	MUNICIPAL CONSERVATION	32	39	41	44	46	50
			GULF COAST AQUIFER SYSTEM, HARRIS	0	378	695	739	762	770
HARRIS COUNTY MUD 412	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	47	54	61	65	69
			MUNICIPAL CONSERVATION	16	24	27	32	35	41
HARRIS COUNTY MUD 420	MUNICIPAL CONSERVATION	N/A	WATER LOSS REDUCTION	4	12	21	29	38	39
			MUNICIPAL CONSERVATION	5	8	9	11	12	14
HARRIS COUNTY MUD 46	WHCWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MUNICIPAL CONSERVATION	18	25	27	29	30	33
			GULF COAST AQUIFER SYSTEM, HARRIS	0	154	0	0	0	0
HARRIS COUNTY MUD 49	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	21	33	37	42	47	55

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 5	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	28	33	39	42	43
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	10	16	23	25	26
HARRIS COUNTY MUD 50	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	20	22	26	28	33
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	6	16	26	35	43	51
HARRIS COUNTY MUD 55	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	46	73	86	125	155	208
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	8	24	28	29	31	34
HARRIS COUNTY MUD 58	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	75	135	131	131	129
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	7	8	9	9	10
HARRIS COUNTY MUD 6	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	23	25	28	30	35
	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	78	171	164	161	156
HARRIS COUNTY MUD 8	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	15	15	17	18	20
HARRIS COUNTY MUD 96	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	21	34	39	47	54	67
HARRIS COUNTY UD 14	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	68	0	0	0	0
	WATER LOSS REDUCTION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	192	206	223	250
HARRIS COUNTY UD 15	CITY OF HOUSTON GRP	HOUSTON	WATER LOSS REDUCTION	3	8	14	20	27	37
	MUNICIPAL CONSERVATION	N/A	GULF COAST AQUIFER SYSTEM, HARRIS	0	155	0	0	0	0
HARRIS COUNTY WCID 1	CITY OF HOUSTON GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	455	447	444	441
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	22	26	29	30	33
HARRIS COUNTY WCID 133	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	23	36	40	46	51	62
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	8	24	38	52	65	79
HARRIS COUNTY WCID 156	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	165	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	502	528	565	603
HARRIS COUNTY WCID 50	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	19	27	29	34	40	49
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	11	12	14	15	17
HARRIS COUNTY WCID 50	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	21	23	27	29	35

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY WCID 70	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	60	101	95	91	84
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	12	14	15	16	18
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	8	12	16	19	23
HARRIS COUNTY WCID 74	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	143	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	423	411	409	404
	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	17	23	24	27	28	33
HARRIS COUNTY WCID 89	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	21	37	41	47	52	63
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	5	14	21	29	35	41
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	43	55	58	63	66	71
HARRIS COUNTY WCID- FONDREN ROAD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	19	24	28	30	36
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	7	10	10	10	10
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	16	16	17	18	21
HARRIS-MONTGOMERY COUNTIES MUD 386	SJRA GRP ⁵	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	170	0	0	0	0	0
	EXPANDED USE OF GROUNDWATER, WALLER	N/A	GULF COAST AQUIFER SYSTEM, WALLER	0	0	0	0	0	150
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	35	57	72	87	102	120
HILLCREST VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	5	5	6	6	7
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	3	4	6	7	8
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	13	15	17	19	22
HILLSHIRE VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	10	12	13	15
	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	353	354	355	356	357
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	28	46	55	66	75	91
HITCHCOCK	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	43	77	99	139	199	261
	NHCRWA GRP	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	139	289	353	333	313
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	97	249	423	380	336

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
HOUSTON	CITY OF HOUSTON AREA 2 GROUNDWATER DEVELOPMENT	N/A	GULF COAST AQUIFER SYSTEM, HARRIS	0	36,234	39,259	42,619	46,372	50,376
			ALLENS CREEK LAKE/RESERVOIR	0	0	34,875	34,875	69,750	69,750
	CITY OF HOUSTON GRP	N/A	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	4,060	4,060	4,059	4,059
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	5,036	5,043	5,045	5,046	5,047
			SAN JACINTO REGIONAL RETURN FLOWS	0	1,094	1,797	1,797	1,797	1,797
			SAN JACINTO COH REUSE	0	0	195,085	183,938	192,105	193,657
	EAST TEXAS TRANSFER	N/A	TOLEDO BEND LAKE/RESERVOIR	0	0	0	250,000	250,000	250,000
			MUNICIPAL CONSERVATION	11,745	19,117	22,886	27,709	30,664	35,985
	SOUTHEAST TRANSMISSION LINE EXPANSION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	15,758	15,758	15,758	15,758	15,758
			WATER LOSS REDUCTION	4,080	12,326	20,673	29,252	38,172	47,390
HUMBLE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	79	161	215	262	304	344
HUNTSVILLE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	210	331	384	435	490	546
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	49	145	232	237	242	246
IRRIGATION, AUSTIN	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	2,993	2,993	2,993	2,993	2,993	2,993
IRRIGATION, BRAZORIA	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	21,517	21,517	21,517	21,517	21,517	21,517
IRRIGATION, CHAMBERS	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	29,891	29,891	29,891	29,891	29,891	29,891
	LNVA NECHES-TRINITY BASIN INTERCONNECT	LOWER NECHES VALLEY AUTHORITY	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	0	0	33,500	33,500	33,500	33,500
IRRIGATION, FORT BEND	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	5,745	5,745	5,745	5,745	5,745	5,745
IRRIGATION, GALVESTON	RICHMOND GRP	RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	17	17	17	17	17
IRRIGATION, HARRIS	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	2,062	2,062	2,062	2,062	2,062	2,062
	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	39	39	39	39	39	39
IRRIGATION, LIBERTY	EXPANDED USE OF GROUNDWATER, LIBERTY	N/A	GULF COAST AQUIFER SYSTEM, LIBERTY	4,650	4,650	4,650	4,650	4,650	4,650
	LNVA NECHES-TRINITY BASIN INTERCONNECT	LOWER NECHES VALLEY AUTHORITY	IRRIGATION CONSERVATION	23,035	23,035	23,035	23,035	23,035	23,035
			SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	0	0	33,500	33,500	33,500	33,500

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
IRRIGATION, WALLER	IRRIGATION CONSERVATION	N/A	IRRIGATION CONSERVATION	8,280	8,280	8,280	8,280	8,280	8,280
	OTHER BRA SYSTEM OPERATION SUPPLIES ⁹	N/A	BRA SYSTEM OPERATIONS PERMIT SUPPLY	90	90	90	90	87	84
JACINTO CITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	25	13	0	0	0	0
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	5	14	23	29	29	30
JAMAICA BEACH	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	10	11	12	13	15
JERSEY VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	50	75	85	92	97	104
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	12	34	54	65	67	68
JEWETT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	14	17	21	24	28
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	18	28	37	49	64	84
JOHNSTON WATER UTILITY	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	208	445	731	1,087	1,516
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	143	291	366	429	486	547
KATY	WHCRWA GRP	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	2,538	3,217	3,244	3,279	3,309
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	9	11	13	16	18
KENDLETON	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	14	25	38	52	67
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	21	22	24	26	30
KINGS MANOR MUD	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ⁴	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	12	0	0	0	0	0
KIRKMONT MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	17	19	23	26	31
	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	391	391	391	391	391	391
LA MARQUE	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	265	265	266	268	269
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	95	144	161	189	222	262
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	82	250	399	536	666	786
LA PORTE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	158	285	322	367	404	490
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	27	77	79	80	81	82
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	14	19	26	35	51
LAKE BONANZA WSC	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	243	300	368	421	512

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
LAKE CONROE HILLS MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	13	18	25	33	47
	SI/RA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	58	125	208	312	439
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	6	12	20	31	38
LAKE JACKSON	DOW RESERVOIR AND PUMP STATION EXPANSION	BRAZOSPORT WATER AUTHORITY	DOW HARRIS RESERVOIR EXPANSION	0	560	560	560	560	560
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	151	241	275	322	377	445
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	0	0	0	0	0
LAKE LIVINGSTON WSC	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	20	63	110	161	216	278
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	27	31	35	39	46
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	5	6	6	6	6
LAZY RIVER IMPROVEMENT DISTRICT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	11	12	13	14
	SI/RA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	60	128	127	126	126
	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	600	601	601	603	604
LEAGUE CITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	439	781	952	1,182	1,367	1,691
	SOUTHEAST TRANSMISSION LINE EXPANSION	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	24,080	24,080	24,080	24,080	24,080
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	92	290	494	529	546	559
LEGGETT WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	14	17	19	21	23
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	7	22	37	52	67	81
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	45	78	95	106	115	121
LIBERTY	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	21	63	105	147	191	235
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	6	7	9	11	13
	EXPANDED USE OF GROUNDWATER, LIBERTY	N/A	GULF COAST AQUIFER SYSTEM, LIBERTY	725	725	725	725	725	725
LIVINGSTON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	63	97	120	133	141	140
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	34	107	182	258	332	403

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
LONGHORN TOWN UD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	91	158	156	155	155
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	13	14	15	16	16
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	1	1	1	1	1
LUCE BAYOU PUD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	37	70	67	63	62
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	6	7	7	8	8
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	4	6	9	11	12
MADISON COUNTY WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	9	11	13	15
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	1	1	1	2	2
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	26	42	50	57	61	66
MADISONVILLE	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	9	27	44	62	80	98
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	30	53	71	93	122	174
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	19	141	208	310	461
MAGNOLIA	BRAZOS SALTWATER BARRIER	DOW INC	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	129	442	903	1,620
	DOW RESERVOIR AND PUMP STATION EXPANSION	BRAZOSPORT WATER AUTHORITY	BRAZOS RUN-OF-RIVER, BRAZORIA	0	0	10,000	10,000	10,000	10,000
	FREEPORT SEAWATER DESALINATION	DOW INC	DOW HARRIS RESERVOIR EXPANSION	0	1,726	1,726	1,726	1,726	1,726
MANUFACTURING, BRAZORIA	GCWA BACKUP WELLS	DOW INC	DOW HARRIS RESERVOIR EXPANSION	0	71,431	71,431	71,431	71,431	71,431
	INDUSTRIAL SUPPLY REALLOCATION ¹⁰	NRG	GULF OF MEXICO SALINE	0	0	11,200	11,200	11,200	11,200
	NEW / EXPANDED CONTRACT WITH BWA	BRAZOSPORT WATER AUTHORITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	21,772	27,812	27,812	27,812	27,812	27,855
MANUFACTURING, CHAMBERS	OTHER BRA SYSTEM OPERATION SUPPLIES ⁹	DOW INC	BRAZOS RUN-OF-RIVER, BRAZORIA	0	1,634	1,634	1,634	1,634	1,634
	EXPANDED USE OF GROUNDWATER, CHAMBERS	N/A	BRA SYSTEM OPERATIONS PERMIT SUPPLY	15,473	15,473	15,473	15,473	15,034	14,462
	ADDITIONAL SUPPLY FROM GCWA ⁷	N/A	BRA SYSTEM OPERATIONS PERMIT SUPPLY	3,868	3,868	3,868	3,868	3,758	3,615
MANUFACTURING, FORT BEND	EXPANDED USE OF GROUNDWATER, CHAMBERS	N/A	GULF COAST AQUIFER SYSTEM, CHAMBERS	2,775	3,500	3,500	3,500	3,500	3,500
	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	273	274	274	275	276	277

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
MANUFACTURING, GALVESTON	NEW / EXPANDED CONTRACT WITH GCWA ²	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	256	1,086	1,086	1,086	1,086	1,086
	GALVESTON COUNTY INDUSTRIAL REUSE	GULF COAST WATER AUTHORITY	DIRECT REUSE, GALVESTON COUNTY INDUSTRIES	0	22,400	22,400	22,400	22,400	22,400
	GCWA GALVESTON COUNTY RAW WATER EXPANSION ¹¹	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	11,818	12,253	12,476	12,714	12,962	13,233
MANUFACTURING, HARRIS	NEW / EXPANDED CONTRACT WITH GCWA	N/A	BRAZOS RIVER AUTHORITY	2,543	2,135	1,938	1,725	1,504	1,258
	NRG CEDAR BAYOU DESALINATION	NRG	BRA SYSTEM OPERATIONS PERMIT SUPPLY	5,700	5,700	5,700	5,700	5,538	5,327
	SJRA REUSE SUPPLIES FOR MANUFACTURING	SAN JACINTO RIVER AUTHORITY	ALLENS CREEK LAKE/RESERVOIR	0	0	13,440	13,440	13,440	13,440
MANUFACTURING, LEON	EXPANDED USE OF GROUNDWATER, LEON	N/A	TRINITY-SAN JACINTO RUN-OF-RIVER	0	22,400	22,400	22,400	22,400	22,400
	NEW / EXPANDED CONTRACT WITH SJRA ¹²	SAN JACINTO RIVER AUTHORITY	INDIRECT REUSE, SJRA	2,749	3,550	4,308	5,008	5,776	6,594
MANUFACTURING, MONTGOMERY	EXPANDED USE OF GROUNDWATER, LEON	N/A	SAN JACINTO REGIONAL RETURN FLOWS	4,655	17,350	17,654	17,723	16,131	14,309
	MANVEL SUPPLY EXPANSION	N/A	CARRIZO-WILCOX AQUIFER, LEON	0	150	150	150	150	150
	MUNICIPAL CONSERVATION	N/A	CONROE LAKE/RESERVOIR	292	570	570	0	0	0
MANVEL	WATER LOSS REDUCTION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	570	570	570
	CITY OF HOUSTON GRP	HOUSTON	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	23	23	23	22	21
	MUNICIPAL CONSERVATION	N/A	MANVEL MUSTANG BAYOU RESERVOIR	0	6	6	6	6	6
MASON CREEK UD	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	5	13	20	29	38	47
	CITY OF HOUSTON GRP	HOUSTON	WATER LOSS REDUCTION	2	7	15	26	40	58
	MUNICIPAL CONSERVATION	N/A	GULF COAST AQUIFER SYSTEM, HARRIS	0	357	616	608	603	597
MEADOWCREEK MUD	MISSOURI CITY GRP	GULF COAST WATER AUTHORITY	MUNICIPAL CONSERVATION	40	53	56	61	64	70
	MUNICIPAL CONSERVATION	MISSOURI CITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	104	104	104	104	104
	FORT BEND WCID 2 GRP	N/A	GULF COAST AQUIFER SYSTEM, FORT BEND	0	62	107	153	163	163
MEADOWS PLACE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	20	22	24	26	30
	MUNICIPAL CONSERVATION	FORT BEND COUNTY WCID 2	GULF COAST AQUIFER SYSTEM, FORT BEND	0	204	200	205	212	222
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	23	32	35	39	42	48
MEMORIAL POINT UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	9	10	12	13

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
MEMORIAL VILLAGES WATER AUTHORITY	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	11	19	27	34	42
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	128	161	182	205	228	265
MERCY WSC	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ⁴	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,069	2,388	2,758	3,168	3,623	4,108
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	14	17	20	25
MINING, AUSTIN	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	9	15	20	27	33
	EXPANDED USE OF GROUNDWATER, AUSTIN	N/A	GULF COAST AQUIFER SYSTEM, AUSTIN	0	350	350	350	350	350
MINING, BRAZORIA	INDUSTRIAL SUPPLY REALLOCATION	NRG	BRAZOS RIVER AUTHORITY LAKE/RESERVOIR SYSTEM	0	58	110	167	228	306
	NEW / EXPANDED CONTRACT WITH BWA	BRAZOSPORT WATER AUTHORITY	BRAZOS RUN-OF-RIVER, BRAZORIA	0	31	59	89	122	161
MINING, FORT BEND	NEW / EXPANDED CONTRACT WITH GCWA	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	132	252	385	524	696
	NEW / EXPANDED CONTRACT WITH GCWA ²	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	4	10	10	10	10	10
MINING, GALVESTON	GCWA GALVESTON COUNTY RAW WATER EXPANSION ¹¹	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	273	292	322	348	373	397
	NEW / EXPANDED CONTRACT WITH LNVA ³	LOWER NECHES VALLEY AUTHORITY	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	70	76	83	89	95	103
MINING, HARRIS	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ⁴	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,946	2,927	2,875	2,843	2,818	2,798
	EXPANDED USE OF GROUNDWATER, LEON	N/A	CARRIZO-WILCOX AQUIFER, LEON	0	200	200	200	200	200
MINING, LIBERTY	EXPANDED USE OF GROUNDWATER, LIBERTY	N/A	GULF COAST AQUIFER SYSTEM, LIBERTY	0	500	500	500	500	500
	EXPANDED USE OF GROUNDWATER, MADISON	N/A	CARRIZO-WILCOX AQUIFER, MADISON	0	400	400	400	400	400
MISSOURI CITY	MISSOURI CITY GRP ⁶	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	9,136	9,141	9,148	9,155	9,161
		N/A	BRAZOS RIVER AUTHORITY LAKE/RESERVOIR SYSTEM	7	276	318	362	383	402
MONT BELVIEU	MUNICIPAL CONSERVATION	N/A	DIRECT REUSE, MISSOURI CITY	163	197	223	250	277	307
	WATER LOSS REDUCTION	N/A	MUNICIPAL CONSERVATION	13	23	29	36	42	51
MONT BELVIEU	EXPANDED USE OF GROUNDWATER, CHAMBERS	N/A	WATER LOSS REDUCTION	2	4	5	6	6	7
	MUNICIPAL CONSERVATION	N/A	GULF COAST AQUIFER SYSTEM, CHAMBERS	0	0	1,280	1,280	3,055	3,055
		N/A	MUNICIPAL CONSERVATION	65	102	134	169	204	252

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
MONTGOMERY	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	286	286	286	286	286
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	37	54	69	81	95
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	0	219	0	0	0
	WATER LOSS REDUCTION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	480	751	1,181
MONTGOMERY COUNTY MUD 112	MUNICIPAL CONSERVATION	N/A	WATER LOSS REDUCTION	4	17	21	25	29	35
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	13	14	15	16
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	327	324	323	307	306
MONTGOMERY COUNTY MUD 115	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	13	15	16	18
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	252	312	308	282	280
MONTGOMERY COUNTY MUD 119	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	21	34	46	52	55	60
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	903	1,126	1,121	1,066	1,060
MONTGOMERY COUNTY MUD 15	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	29	35	46	60	86
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	17	92	91	57	11
MONTGOMERY COUNTY MUD 18	MUNICIPAL CONSERVATION	N/A	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	0	71	222	437
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	MUNICIPAL CONSERVATION	45	72	89	107	124	160
MONTGOMERY COUNTY MUD 19	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	129	413	1,110
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	MUNICIPAL CONSERVATION	9	10	11	11	12	13
MONTGOMERY COUNTY MUD 56	MUNICIPAL CONSERVATION	N/A	CONROE LAKE/RESERVOIR	0	358	349	347	337	339
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	MUNICIPAL CONSERVATION	5	8	10	12	13	15
MONTGOMERY COUNTY MUD 8	MUNICIPAL CONSERVATION	N/A	CONROE LAKE/RESERVOIR	0	32	84	0	0	0
	MONTGOMERY COUNTY MUDS 8 AND 9 GRP	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	141	140	137
MONTGOMERY COUNTY MUD 8	MUNICIPAL CONSERVATION	N/A	INDIRECT REUSE, HUNTSVILLE	539	541	506	474	467	450
	MUNICIPAL CONSERVATION	N/A	INDIRECT REUSE, MONTGOMERY COUNTY MUDS 8 AND 9	247	250	273	297	302	319
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	27	33	41	48	63

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 83	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	16	18	20	22	25
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	124	132	142	154	163
MONTGOMERY COUNTY MUD 84	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	23	26	29	31	35
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	10	15	15	15	15
MONTGOMERY COUNTY MUD 88	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	0	4	5	6	7	7
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	100	123	120	110	110
MONTGOMERY COUNTY MUD 89	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	2	4	5	5	5
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	24	27	32	38	47
MONTGOMERY COUNTY MUD 9	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	399	403	433	446	453
	MONTGOMERY COUNTY MUDS 8 AND 9 GRP	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY INDIRECT REUSE, HUNTSVILLE MONTGOMERY COUNTY MUDS 8 AND 9	682	682	682	682	682	682
MONTGOMERY COUNTY MUD 95	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	34	55	66	83	92	105
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	162	198	195	195	194
MONTGOMERY COUNTY MUD 98	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	13	17	21	23	28
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	7	13	17	21	25
MONTGOMERY COUNTY MUD 99	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	9	12	14	16	19
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	73	121	119	107	102
MONTGOMERY COUNTY UD 2	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	13	15	18	21	26
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	24	42	48	54	59	66
MONTGOMERY COUNTY UD 3	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	39	62	82	100	117
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	13	39	62	82	100	117

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)						
				2020	2030	2040	2050	2060	2070	
MONTGOMERY COUNTY UD 4	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	0	0	0	0	0	73
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	31	36	44	58	83	
MONTGOMERY COUNTY WCID 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	20	25	30	39	
	SJIRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	56	69	95	94	122	
MORGANS POINT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	6	7	8	8	9	
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	235	0	0	0	0	0
MOUNT HOUSTON ROAD MUD	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	643	693	729	750	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	19	31	39	47	54	66	
MSEC ENTERPRISES	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	120	264	334	412	505	610	
	SJIRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	3,682	3,887	4,226	4,393	4,699	
NASSAU BAY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	27	40	45	49	51	54	
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	6	18	28	28	28	29	
NEEDVILLE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	18	21	24	29	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	58	70	79	84	92	
NEW CANEY MUD	SJIRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	34	108	216	350	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	11	13	14	15	15	
NEW WAVERLY	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	3	3	3	3	3	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	52	58	67	73	88	
NEWPORT MUD	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	6	17	20	20	20	21	
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	7	9	10	11	12	
NORMANGEE	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	121	0	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	374	380	390	399	
NORTH BELT UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	21	24	26	28	30	
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	8	8	8	8	9	

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
NORTH CHANNEL WATER AUTHORITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	300	490	556	660	748	922
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	61	175	233	236	241	246
NORTH FOREST MUD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	37	0	0	0	0
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	126	117	111	103
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	9	10	11	11	13
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	4	13	20	26	32	38
NORTH FORT BEND WATER AUTHORITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	1,693	3,124	4,415	5,861	6,643	7,974
			LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	48,238	47,667	39,106	37,750	35,840
	NFBWA GRP	HOUSTON	0	0	0	5,809	7,160	10,432	
	NFBWA MEMBER DISTRICT REUSE	N/A	SAN JACINTO REGIONAL RETURN FLOWS	0	10,621	13,836	16,632	16,665	15,361
			DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	3,816	3,816	3,816	3,816	3,816	3,816
	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	0	937	1,672	2,099	2,325	2,441
GULF COAST AQUIFER SYSTEM, HARRIS			0	123	0	0	0	0	
NORTH GREEN MUD	CITY OF HOUSTON GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	363	362	366	368
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	13	14	15	16	18
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	3,512	5,827	6,979	8,620	9,487	11,403
			HOUSTON LAKE/RESERVOIR	0	27,446	21,004	18,677	14,324	6,782
	NHCRWA GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	90,202	90,813	75,596	75,448	75,818
			SAN JACINTO COH REUSE RETURN FLOWS	0	0	0	11,268	15,558	22,752
	NHCRWA MEMBER DISTRICT REUSE	N/A	DIRECT REUSE, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	300	300	300	300	300	300
			WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	0	439	798	1,103	1,372	1,618
NORTH ZULCH MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	11	12	14	16	20
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	4	8	10	12	12

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
NORTHWEST HARRIS COUNTY MUD 16	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	140	238	232	230	225
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	23	24	26	28	32
OAK HOLLOW UTILITY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	13	16	22	27	37
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	28	34	38	39	39
OAK RIDGE NORTH	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	156	179	192	159	161
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	27	36	46	55	70
ONALASKA WSC	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	9	16	22	23	25
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	16	19	23	26	33
ONE FIVE O WSC	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	8	14	20	25	31
	DOW RESERVOIR AND PUMP STATION EXPANSION	BRAZOSPORT WATER AUTHORITY	DOW HARRIS RESERVOIR EXPANSION	0	11	11	11	11	11
OYSTER CREEK	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	13	14	15	17
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	13	15	18	20	25
P B & S C WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	0	138	138	138	138	138
	MISSOURI CITY GRP	MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	83	143	204	218	218
PALMER PLANTATION MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	21	23	25	26	28
	MISSOURI CITY GRP	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	68	68	68	68	68
PALMER PLANTATION MUD 2	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	15	16	18	19	22
	MISSOURI CITY GRP	MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	41	70	100	106	106
PANORAMA VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	48	48	48	48	48
	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	16	23	25	30	35	43
PARKWAY MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	0	0	6	0	0	0
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	45	104	183
PASADENA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	20	34	38	43	47	57
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	609	951	1,084	1,247	1,434	1,645

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
PATTISON WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	13	16	21	26	32
	CITY OF PEARLAND REUSE	N/A	DIRECT REUSE, PEARLAND	314	1,154	1,154	1,154	1,154	1,154
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	560	949	1,153	1,443	1,790	2,204
PEARLAND	PEARLAND SWTP	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	2,357	2,361	2,365	2,369	2,374
		N/A	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	1,794	1,794	1,794	1,795	1,795
			N/A	BRAZOS RUN-OF-RIVER, FORT BEND	0	18,249	18,245	18,241	18,236
PECAN GROVE MUD 1	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	101	251	274	298	322	345
	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	402	403	403	404	406	407
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	66	93	100	109	115	126
PENNINGTON WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	7	8	9	10	12
PHELPS SUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	10	11	13	14	17
PINE VILLAGE PUD	CITY OF HOUSTON GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	69	69	69	69
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	12	14	17	19	24
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	1	1	1	1	1
PINEHURST DECKER PRAIRIE WSC	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	12	73	162	301	543
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	2	5	8	12	20
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	6	6	7	8	9
PINWOOD COMMUNITY	NHCRWA GRP	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	30	51	49	48	47
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	22	23	26	28	33
	SUGAR LAND IWRP	SUGAR LAND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	113	104	99	98	98
POINT AQUARIUS MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	18	21	24	29	36
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	20	55	105	172
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	316	735	1,083
PORTER SUD	PORTER SUD JOINT GRP	CONROE	INDIRECT REUSE, SJRA	1,680	2,240	2,240	2,240	2,240	2,240

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
PRAIRIE VIEW	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	21	35	48	64	82	104
PROVIDENCE WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	5	0	0	0	0
QUADVEST	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	162	290	400	580	832	1,176
	NFBWA GRP	NORTH FORT BEND WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	157	228	309	406	506
	NHCRWA GRP	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	73	163	213	278	342
	ROSENBERG GRP	ROSENBERG	GULF COAST AQUIFER SYSTEM, FORT BEND	0	176	254	347	461	584
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	2,041	2,806	4,694	6,981	6,981
			GULF COAST WATER AUTHORITY	0	0	0	0	0	2,401
QUAIL VALLEY UD	MISSOURI CITY GRP ⁶	MISSOURI CITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	74	74	74	74	74
			DIRECT REUSE, QUAIL VALLEY UD	286	478	486	486	486	486
RANCH UTILITIES	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	67	112	156	193	222	255
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	9	10	12	13	15
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	36	32	30	30	30
RAYFORD ROAD MIUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	42	61	69	83	96	116
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	351	429	523	535	554
RICHMOND	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	57	86	100	110	126	174
	RICHMOND GRP	BRAZOS RIVER AUTHORITY	ALLENS CREEK LAKE/RESERVOIR	0	0	0	0	0	7
RICHWOOD	DOW RESERVOIR AND PUMP STATION EXPANSION	BRAZOSPORT WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	607	665	765	804	822
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	21	23	27	31	38
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	8	13	17	19	20

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
RIVER PLANTATION MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	17	24	31	39	48	56
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	148	354	422
	RIVER PLANTATION AND EAST PLANTATION JOINT GRP	N/A	DIRECT REUSE, RIVER PLANTATION MUD	0	5	51	51	51	51
ROLLING FORK PUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	13	17	19	20	21	23
	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	64	148	145	143	141
ROMAN FOREST CONSOLIDATED MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	12	14	17	20	26
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	21	54	98	155
ROSENBERG	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	140	247	294	353	408	514
	ROSENBERG GRP	N/A	BRAZOS RUN-OF-RIVER, BRAZORIA	0	2,697	2,617	2,620	2,620	2,620
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	25	30	33	35	38
ROYAL VALLEY UTILITIES	NFBWA GRP	NORTH FORT BEND WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	97	122	121	120	118
	SUGAR LAND IWRP	SUGAR LAND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	174	218	217	217	217
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	23	37	43	51	60	74
SAN JACINTO SUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	20	24	28	35
SAN LEON MUD	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	420	421	422	423	424
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	52	78	87	97	104	115
SEABROOK	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	37	63	79	92	105	117
SEALY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	12	15	18	22
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	4	7	10	11	13
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	43	80	77	77	75
SEQUOIA IMPROVEMENT DISTRICT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	9	10	10	12
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	3	6	7	7	7
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	62	83	94	99	99
SHENANDOAH	NEW / EXPANDED CONTRACT WITH SJRA ¹²	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	112	463	597	0	0	0
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	691	810	969

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
SHEPHERD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	20	24	28	34
SHOREACRES	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	13	14	16	17	20
SIENNA PLANTATION	MISSOURI CITY GRP ⁶	GULF COAST WATER AUTHORITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	3,607	3,607	3,607	3,607	3,607
		MISSOURI CITY	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	0	0	26	334
			DIRECT REUSE, SIENNA PLANTATION	1,956	2,489	3,383	4,278	5,173	5,420
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	146	257	369	540	753	1,018
SODA WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	12	15	17	21
SOUTH CLEVELAND WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	8	14	17	21	25	31
SOUTH HOUSTON	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	53	100	123	136	146	164
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	22	61	98	132	167	202
SOUTHEAST WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	18	21	26	30	38
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	9	15	21	28	35
SOUTHERN MONTGOMERY COUNTY MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	44	48	53	57	66
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	21	60	95	128	158	188
SOUTHERN WATER	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	128	214	207	203	198
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	22	25	28	30	35
SOUTHSIDE PLACE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	12	13	14	15	18
SOUTHWEST HARRIS COUNTY MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	3	0	0	0
SPLENDORA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	26	45	56	76	99	151
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	43	178	359	596	898
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	9	26	49	77	115	165
SPRING CREEK UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	33	56	65	79	101	164
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	916	950	1,028	1,030	1,002
SPRING MEADOWS MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	11	20	22	25	27	29
SPRING VALLEY	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	28	40	46	53	60	69

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
STANLEY LAKE MUD	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	0	0	139	169	169
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	19	31	43	59	79	108
	NEW / EXPANDED CONTRACT WITH SJRA	SAN JACINTO RIVER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	306	741
STEAM ELECTRIC POWER, CHAMBERS	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ²	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,387	1,387	1,387	1,387	1,387	1,387
	NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON ²	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	3,581	3,581	3,581	3,581	3,581	3,581
SUBURBAN UTILITY	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	71	130	124	121	116
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	20	21	24	26	31
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	2	5	5	5	5	5
SUGAR LAND	ADDITIONAL SUPPLY FROM GCWA ⁷	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	3,410	3,419	3,429	3,438	3,447	3,456
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	889	2,688	2,932	3,085	3,340	3,628
	SUGAR LAND IWRP	N/A	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	2,518	6,956	6,956	6,956	6,956
SUNBELT FWSD	WATER LOSS REDUCTION	N/A	DIRECT REUSE, SUGAR LAND	0	1,232	1,680	1,680	1,680	1,680
	CITY OF HOUSTON GRP	HOUSTON	WATER LOSS REDUCTION	38	40	43	45	46	47
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	94	167	196	241	283	365
SURFIDE BEACH	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	19	55	87	112	118	125
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	8	8	9	9	10
	SURFIDE BEACH SUPPLY ENHANCEMENT ³	FREEPORT	BRAZOS RUN-OF-RIVER, BRAZORIA	323	323	323	323	323	323
T & W WATER SERVICE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	26	29	31	32	34
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	51	81	104	137	186	308
TARKINGTON SUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	0	587	725	1,207	1,797	2,448
				14	25	32	40	48	62

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
TDCI JESTER UNITS	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	31	36	37	39	40	43
	SUGAR LAND IWRP	SUGAR LAND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	398	396	394	394	394
TDCI RAMSEY AREA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	34	36	36	37	38	39
TEMPE WSC 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	14	17	19	23
TEXAS CITY	GCWA GALVESTON COUNTY TREATED WATER EXPANSION	GULF COAST WATER AUTHORITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	12,455	12,460	12,465	12,470	12,475
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	221	381	453	548	634	793
THE COMMONS WATER SUPPLY	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	80	242	404	564	725	883
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	112	204	211	214	215
THE WOODLANDS	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	12	18	20	22	25	29
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	174	474	592	789	1,037	1,363
THUNDERBIRD UD	NHCRWA GRP	HOUSTON	HOUSTON LAKE/RESERVOIR	0	0	2,367	2,561	2,700	2,795
	SJRA GRP ¹⁴	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	1,260	0	0	0	0
TOMBALL	MISSOURI CITY GRP	MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	196	334	478	509	509
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	34	56	64	69	72	77
TRAIL OF THE LAKES MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	81	129	157	164	173	214
	WHCRWA GRP	HOUSTON	HOUSTON LAKE/RESERVOIR	0	846	1,546	1,594	1,666	1,710
TRINITY	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	23	68	112	155	169	174
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	32	48	53	59	64	75
TRINITY	WATER LOSS REDUCTION	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	269	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	0	0	1,003	999	999	994
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	25	27	30	33	41

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
TRINITY BAY CONSERVATION DISTRICT	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	68	122	164	245	331	433
	NEW / EXPANDED CONTRACT WITH LNVA ³	LOWER NECHES VALLEY AUTHORITY	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	342	631	955	1,286	1,658	2,041
TRINITY RURAL WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	23	26	29	31	38
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	3	10	16	19	19	20
VALLEY RANCH MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	17	20	22	26
VARNER CREEK UD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	7	12	13	14	14	17
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	2	2	2	2	2
WALKER COUNTY RURAL SUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	31	47	53	61	68	80
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	14	39	63	87	109	131
WALLER	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	15	29	37	42	46	50
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	5	13	22	32	42	54
WALLIS	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	9	10	12	14	18
	WATER LOSS REDUCTION	N/A	WATER LOSS REDUCTION	1	4	6	9	11	13
WATERWOOD MUD 1	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	3	4	5	5	6	7
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	81	112	149	165	173	171
WEBSTER	SOUTHEAST TRANSMISSION LINE EXPANSION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	90	90	90	90	90
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	16	26	29	33	36	43
WEST COLUMBIA	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	12	14	17	22
	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	109	192	199	205	208
WEST HARRIS COUNTY MUD 6	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	9	12	13	13	14	16
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	2,061	3,383	4,104	5,048	5,634	6,881
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WASTEWATER RECLAMATION FOR MUNICIPAL IRRIGATION	N/A	DIRECT REUSE, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	245	600	962	1,087	1,197
	WHCRWA GRP	HOUSTON	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	72,001	71,223	58,389	56,339	53,438
			SAN JACINTO COH REUSE	0	0	0	8,977	11,027	15,713
			SAN JACINTO REGIONAL RETURN FLOWS	0	15,844	21,065	24,922	24,922	23,137
		N/A	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	78	80	71	67

Water User Group	Water Management Strategy ¹	Seller	Supply Source	Allocated Supply Volume (ac ft)					
				2020	2030	2040	2050	2060	2070
WEST UNIVERSITY PLACE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	91	149	176	219	274	343
WESTWOOD NORTH WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	14	20	24	29	33	39
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	CONROE LAKE/RESERVOIR	0	419	464	511	525	587
WESTWOOD SHORES MUD	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	6	10	11	12	14	17
	WESTWOOD SHORES MUD REUSE	N/A	DIRECT REUSE, WESTWOOD SHORES MUD	150	150	150	150	150	150
WHITE OAK UTILITIES	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	5	11	13	15	16	19
WHITE OAK WSC	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	3	5	6	7	7	8
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	9	6	5	4	4
WILLIS	BRACKISH GROUNDWATER SUPPLIES	N/A	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	9	62	148	276	458
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	26	38	43	52	61	81
WOOD BRANCH VILLAGE	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	4	5	0	0	0	0
	SJRA GRP	SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	0	17	46	83
WOODCREEK MUD	CITY OF HOUSTON GRP	HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	96	0	0	0	0
	MUNICIPAL CONSERVATION	N/A	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	285	282	281	282
WOODCREEK WATER OF LIBERTY	EXPANDED USE OF GROUNDWATER, LIBERTY	N/A	MUNICIPAL CONSERVATION	11	16	17	19	21	24
	MUNICIPAL CONSERVATION	N/A	GULF COAST AQUIFER SYSTEM, LIBERTY	0	100	100	100	100	100
	MUNICIPAL CONSERVATION	N/A	MUNICIPAL CONSERVATION	10	17	20	25	29	37

1. The strategies shown in the RWP as providing supply in 2020 are intended to reflect planned or recommended WMS and project development, including provision of water supply, by January 5, 2023.

2. Basis for 2020 timestep supply allocation: Supply allocations in the 2020 timestep for the New / Expanded Contract with GCWA WMS are associated with transfers to meet projected needs for customers in the GCWA service area utilizing existing GCWA treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.

3. Basis for 2020 timestep supply allocation: Supply allocations in the 2020 timestep for the New / Expanded Contract with LNVA WMS are associated recommended reallocation of WUG surplus to meet projected needs for customers in the LNVA service area utilizing existing LNVA treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.

4. *Basis for 2020 timestep supply allocation: Supply allocations in the 2020 timestep for the New / Expanded Contract With City of Houston WMS are associated with transfers to meet projected needs for customers in the City of Houston service area utilizing existing City of Houston treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.*
5. *Basis for 2020 timestep supply allocation: Groundwater supply allocations for the SJRA GRP WMS are associated with continued reduction of groundwater production by some SJRA Joint Groundwater Reduction Plan participants to facilitate growing groundwater production by participants not receiving to SJRA treated surface water. The WMS shows future portions of an established and ongoing groundwater reduction program.*
6. *Basis for 2020 timestep supply allocation: Supply allocations in the 2020 timestep for the Missouri City GRP WMS are associated with transfers to meet projected needs for City of Missouri City Joint Groundwater Reduction Plan participants utilizing existing Missouri City treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.*
7. *Basis for 2020 timestep supply allocation: The Additional Supply from GCWA WMS uses existing infrastructure and source availability and is not associated with any projects. The WMS reflects increased supply from GCWA to customers to address canal loss volumes.*
8. *Basis for 2020 timestep supply allocation: The small supply allocation in the 2020 timestep for the Fort Bend WCID 2 GRP is associated with a transfer to meet projected need for a Fort Bend WCID 2 Groundwater Reduction Plan participant utilizing existing WCID 2 treatment and transmission infrastructure and existing source availability. If necessary, a modified contract could be developed for the 2020 timestep.*
9. *Basis for 2020 timestep supply allocation: The Other BRA System Operation Supplies WMS uses existing infrastructure and source availability and is not associated with any projects. The WMS reflects contracts from BRA to several entities in Region H and supplied by water associated with BRA's System Operation permit. At the time of the IPP, these contracts were recently executed but not yet utilized by the WUGs, and thus not shown as part of existing supply.*
10. *Basis for 2020 timestep supply allocation: For the Industrial Supply Reallocation WMS, supply allocations for this are associated with recommended reallocation of WUG surplus to meet projected needs for industrial customers in western Brazoria County. Due to the location of the projected need, this was the only source of suitable magnitude and location which was available for WMS recommendation. It should be noted that actual performance under historical conditions suggests that the industrial need in this area under drought conditions may be lower than projected in the RWP.*
11. *Basis for 2020 timestep supply allocation: For the GCWA Galveston County Raw Water Expansion WMS, the Gulf Coast Water Authority is already actively pursuing the pipeline infrastructure associated with this WMS, including preliminary engineering.*
12. *Basis for 2020 timestep supply allocation: Supply allocations in the 2020 timestep for the New / Expanded Contract with SJRA WMS are associated with transfers to meet projected needs for customers in the San Jacinto River Authority service area utilizing existing San Jacinto River Authority treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.*
13. *Basis for 2020 timestep supply allocation: Due to water quality considerations associated with existing supply, the Village of Surfside Beach intends to develop this water management strategy in the near future. The associated infrastructure is at a relatively small volumetric scale that could be developed relatively quickly, and the Village of Surfside Beach has entered into a contract with the City of Freeport for the source water to supply the strategy.*
14. *Basis for 2020 timestep supply allocation: Surface water supply allocations in the 2020 timestep for the SJRA GRP WMS are associated with transfers to meet projected needs for SJRA Joint Groundwater Reduction Plan participants utilizing existing SJRA treatment and transmission infrastructure and existing source availability. Where applicable, new or modified contracts could be developed for the 2020 timestep.*

Table 5-A9 – Source Water Balance After WMS Allocation

Source	Reg	County	Basin	Total Existing and WMS Allocations from Source (ac ft) *							Unallocated Source Balance (ac ft)				
				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ALLENS CREEK LAKE/RESERVOIR	H	RESERVOIR	BRAZOS	0	0	48,315	51,679	91,842	99,650	0	0	51,335	47,971	7,808	0
BRAZOS RIVER ALLUVIUM AQUIFER	H	AUSTIN	BRAZOS	0	0	0	0	0	0	7,944	7,944	7,944	7,944	7,944	
BRAZOS RIVER ALLUVIUM AQUIFER	H	WALLER	BRAZOS	0	0	0	0	0	0	12,027	12,027	12,027	12,027	12,027	
BRAZOS RUN-OF-RIVER	H	BRAZORIA	BRAZOS	166,632	166,270	175,907	175,545	175,182	174,820	0	0	0	0	0	0
BRAZOS RUN-OF-RIVER	H	FORT BEND	BRAZOS	286,743	286,649	286,553	286,458	286,362	286,267	0	0	0	0	0	0
BRAZOS RUN-OF-RIVER	H	WALLER	BRAZOS	43	43	43	43	43	43	0	0	0	0	0	0
BRAZOS-COLORADO RUN-OF-RIVER	H	BRAZORIA	BRAZOS-COLORADO	11,729	11,729	11,729	11,729	11,729	11,729	0	0	0	0	0	0
CARRIZO-WILCOX AQUIFER	H	LEON	BRAZOS	1,965	2,071	1,977	1,832	1,687	1,600	1,647	1,333	1,348	1,519	1,669	1,756
CARRIZO-WILCOX AQUIFER	H	LEON	TRINITY	6,464	6,840	6,699	6,462	6,225	6,122	4,212	4,217	4,690	5,188	5,443	5,546
CARRIZO-WILCOX AQUIFER	H	MADISON	BRAZOS	227	327	327	327	327	327	154	44	25	8	7	7
CARRIZO-WILCOX AQUIFER	H	MADISON	TRINITY	1,291	1,595	1,599	1,545	1,336	1,212	1,190	804	705	674	874	998
CARRIZO-WILCOX AQUIFER	H	TRINITY	TRINITY	0	0	0	0	0	0	99	99	99	99	99	99
CARRIZO-WILCOX AQUIFER	H	WALKER	TRINITY	0	0	0	0	0	0	2,099	2,099	2,099	2,099	2,099	2,099
CONROE LAKE/RESERVOIR	H	RESERVOIR	SAN JACINTO	79,500	78,700	77,900	77,100	76,400	75,600	0	0	0	0	0	0
DIRECT REUSE, ALVIN	H	BRAZORIA	SAN JACINTO-BRAZOS	81	81	81	81	81	81	0	0	0	0	0	0
DIRECT REUSE, BACLIFF MUD	H	GALVESTON	SAN JACINTO-BRAZOS	68	68	68	68	68	68	0	0	0	0	0	0
DIRECT REUSE, BLUE RIDGE WEST MUD	H	FORT BEND	SAN JACINTO	9	9	9	9	9	9	0	0	0	0	0	0
DIRECT REUSE, BRAZORIA COUNTY MUD 3	H	BRAZORIA	SAN JACINTO-BRAZOS	9	9	9	9	9	9	0	0	0	0	0	0
DIRECT REUSE, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	H	HARRIS	SAN JACINTO	0	47	79	110	138	168	0	0	0	0	0	0
DIRECT REUSE, CHIMNEY HILL MUD	H	HARRIS	SAN JACINTO	50	50	50	50	50	50	0	0	0	0	0	0
DIRECT REUSE, CLEAR LAKE CITY WATER AUTHORITY	H	HARRIS	SAN JACINTO-BRAZOS	436	436	436	436	436	436	0	0	0	0	0	0
DIRECT REUSE, CORINTHIAN POINT MUD 2	H	MONTGOMERY	SAN JACINTO	6	6	6	6	6	6	0	0	0	0	0	0

Source	Reg	County	Basin	Total Existing and WMS Allocations from Source (ac ft) *							Unallocated Source Balance (ac ft)				
				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
DIRECT REUSE, COUNTY-OTHER, MONTGOMERY	H	MONTGOMERY	SAN JACINTO	10	935	2,167	3,738	5,728	8,178	0	0	0	0	0	0
DIRECT REUSE, FOREST HILLS MUD	H	HARRIS	SAN JACINTO	23	23	23	23	23	23	0	0	0	0	0	0
DIRECT REUSE, FORT BEND COUNTY MUD #25	H	FORT BEND	SAN JACINTO-BRAZOS	521	589	589	589	589	589	0	0	0	0	0	0
DIRECT REUSE, FREEPORT	H	BRAZORIA	SAN JACINTO-BRAZOS	17	17	17	17	17	17	0	0	0	0	0	0
DIRECT REUSE, GALVESTON COUNTY INDUSTRIES	H	GALVESTON	SAN JACINTO-BRAZOS	0	22,400	22,400	22,400	22,400	22,400	0	0	0	0	0	0
DIRECT REUSE, GALVESTON COUNTY WCID 1	H	GALVESTON	SAN JACINTO-BRAZOS	383	383	383	383	383	383	0	0	0	0	0	0
DIRECT REUSE, GALVESTON COUNTY WCID 8	H	GALVESTON	SAN JACINTO-BRAZOS	161	161	161	161	161	161	0	0	0	0	0	0
DIRECT REUSE, HARRIS COUNTY MUD 11	H	HARRIS	SAN JACINTO	32	32	32	32	32	32	0	0	0	0	0	0
DIRECT REUSE, HARRIS COUNTY MUD 119	H	HARRIS	SAN JACINTO	48	48	48	48	48	48	0	0	0	0	0	0
DIRECT REUSE, HARRIS COUNTY MUD 278	H	HARRIS	SAN JACINTO	9	9	9	9	9	9	0	0	0	0	0	0
DIRECT REUSE, HARRIS COUNTY WCID 89	H	HARRIS	SAN JACINTO-BRAZOS	9	9	9	9	9	9	0	0	0	0	0	0
DIRECT REUSE, HOUSTON	H	HARRIS	SAN JACINTO	83	83	83	83	83	83	0	0	0	0	0	0
DIRECT REUSE, LA PORTE	H	HARRIS	SAN JACINTO-BRAZOS	773	773	773	773	773	773	0	0	0	0	0	0
DIRECT REUSE, LAKE JACKSON	H	BRAZORIA	SAN JACINTO-BRAZOS	3,300	3,300	3,300	3,300	3,300	3,300	0	0	0	0	0	0
DIRECT REUSE, LEAGUE CITY	H	GALVESTON	SAN JACINTO-BRAZOS	645	645	645	645	645	645	0	0	0	0	0	0
DIRECT REUSE, MANUFACTURING, HARRIS	H	HARRIS	SAN JACINTO	6,844	6,844	6,844	6,844	6,844	6,844	0	0	0	0	0	0
DIRECT REUSE, MANUFACTURING, HARRIS	H	HARRIS	SAN JACINTO-BRAZOS	303	303	303	303	303	303	0	0	0	0	0	0
DIRECT REUSE, MANUFACTURING, LEON	H	LEON	TRINITY	58	58	58	58	58	58	0	0	0	0	0	0
DIRECT REUSE, MANUFACTURING, WALLER	H	WALLER	SAN JACINTO	16	16	16	16	16	16	0	0	0	0	0	0
DIRECT REUSE, MASTER PLANNED COMMUNITIES, BRAZORIA	H	BRAZORIA	BRAZOS	0	9	23	36	51	64	0	0	0	0	0	0
DIRECT REUSE, MASTER PLANNED COMMUNITIES, BRAZORIA	H	BRAZORIA	BRAZOS-COLORADO	0	47	89	130	170	213	0	0	0	0	0	0
DIRECT REUSE, MASTER PLANNED COMMUNITIES, BRAZORIA	H	BRAZORIA	SAN JACINTO-BRAZOS	0	258	503	789	1,107	1,463	0	0	0	0	0	0

Source	Reg	County	Basin	Total Existing and WMS Allocations from Source (ac ft)*							Unallocated Source Balance (ac ft)				
				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
DIRECT REUSE, MASTER PLANNED COMMUNITIES, FORT BEND	H	FORT BEND	BRAZOS	0	519	581	930	1,457	2,120	0	0	0	0	0	
DIRECT REUSE, MASTER PLANNED COMMUNITIES, FORT BEND	H	FORT BEND	BRAZOS-COLORADO	0	62	173	337	575	925	0	0	0	0	0	
DIRECT REUSE, MASTER PLANNED COMMUNITIES, FORT BEND	H	FORT BEND	SAN JACINTO-BRAZOS	0	0	0	141	290	403	0	0	0	0	0	
DIRECT REUSE, MASTER PLANNED COMMUNITIES, HARRIS	H	HARRIS	SAN JACINTO	0	269	356	395	631	853	0	0	0	0	0	
DIRECT REUSE, MASTER PLANNED COMMUNITIES, HARRIS	H	HARRIS	SAN JACINTO-BRAZOS	0	10	9	0	0	11	0	0	0	0	0	
DIRECT REUSE, MASTER PLANNED COMMUNITIES, HARRIS	H	HARRIS	TRINITY-SAN JACINTO	0	25	55	83	107	132	0	0	0	0	0	
DIRECT REUSE, MEADOWS PLACE	H	FORT BEND	SAN JACINTO	26	26	26	26	26	26	0	0	0	0	0	
DIRECT REUSE, MISSOURI CITY	H	FORT BEND	SAN JACINTO-BRAZOS	163	197	223	250	277	307	0	0	0	0	0	
DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	H	FORT BEND	BRAZOS	0	34	62	77	85	89	0	0	0	0	0	
DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	H	FORT BEND	SAN JACINTO	5,830	6,327	6,717	6,945	7,065	7,126	0	0	0	0	0	
DIRECT REUSE, NORTH FORT BEND WATER AUTHORITY	H	FORT BEND	SAN JACINTO-BRAZOS	0	406	723	907	1,005	1,056	0	0	0	0	0	
DIRECT REUSE, NORTH GREEN MUD	H	HARRIS	SAN JACINTO	8	8	8	8	8	8	0	0	0	0	0	
DIRECT REUSE, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	H	HARRIS	SAN JACINTO	1,072	1,511	1,870	2,175	2,444	2,690	0	0	0	0	0	
DIRECT REUSE, PANORAMA VILLAGE	H	MONTGOMERY	SAN JACINTO	43	43	43	43	43	43	0	0	0	0	0	
DIRECT REUSE, PEARLAND	H	BRAZORIA	SAN JACINTO-BRAZOS	314	1,154	1,154	1,154	1,154	1,154	0	0	0	0	0	
DIRECT REUSE, PLANTATION MUD	H	FORT BEND	BRAZOS	6	6	6	6	6	6	0	0	0	0	0	
DIRECT REUSE, QUAIL VALLEY UD	H	FORT BEND	SAN JACINTO-BRAZOS	920	1,112	1,120	1,120	1,120	1,120	0	0	0	0	0	
DIRECT REUSE, RICHMOND	H	FORT BEND	BRAZOS	553	553	553	553	553	553	0	0	0	0	0	
DIRECT REUSE, RIVER PLANTATION MUD	H	MONTGOMERY	SAN JACINTO	256	261	307	307	307	307	0	0	0	0	0	
DIRECT REUSE, ROSENBERG	H	FORT BEND	BRAZOS	426	426	426	426	426	426	0	0	0	0	0	

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				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
DIRECT REUSE, SIENNA PLANTATION	H	FORT BEND	SAN JACINTO-BRAZOS	1,968	2,501	3,395	4,290	5,185	5,432	0	0	0	0	0	0	
DIRECT REUSE, SOUTH HOUSTON	H	HARRIS	SAN JACINTO	54	54	54	54	54	54	0	0	0	0	0	0	
DIRECT REUSE, SOUTHERN MONTGOMERY COUNTY MUD	H	MONTGOMERY	SAN JACINTO	144	144	144	144	144	144	0	0	0	0	0	0	
DIRECT REUSE, SUGAR LAND	H	FORT BEND	BRAZOS	0	1,232	1,680	1,680	1,680	1,680	0	0	0	0	0	0	
DIRECT REUSE, SUGAR LAND	H	FORT BEND	SAN JACINTO-BRAZOS	420	420	420	420	420	420	0	0	0	0	0	0	
DIRECT REUSE, TRAIL OF THE LAKES MUD	H	HARRIS	SAN JACINTO	9	9	9	9	9	9	0	0	0	0	0	0	
DIRECT REUSE, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	H	HARRIS	SAN JACINTO	734	979	1,334	1,696	1,821	1,931	0	0	0	0	0	0	
DIRECT REUSE, WEST UNIVERSITY PLACE	H	HARRIS	SAN JACINTO	9	9	9	9	9	9	0	0	0	0	0	0	
DIRECT REUSE, WESTWOOD SHORES MUD	H	TRINITY	TRINITY	150	150	150	150	150	150	0	0	0	0	0	0	
DOW HARRIS RESERVOIR EXPANSION	H	RESERVOIR	BRAZOS	0	80,000	80,000	80,000	80,000	80,000	0	0	0	0	0	0	
GULF COAST AQUIFER ASR	H	MONTGOMERY	SAN JACINTO	0	0	0	0	0	9,426	0	0	0	0	0	0	
GULF COAST AQUIFER SYSTEM	H	AUSTIN	BRAZOS	4,799	5,161	5,357	5,607	5,897	6,193	3,354	2,992	2,796	2,546	2,256	1,960	
GULF COAST AQUIFER SYSTEM	H	AUSTIN	BRAZOS-COLORADO	7,831	8,612	8,862	9,690	10,038	10,648	11,498	10,717	10,467	9,639	9,291	8,681	
GULF COAST AQUIFER SYSTEM	H	AUSTIN	COLORADO	68	73	79	87	95	101	82	77	71	63	55	49	
GULF COAST AQUIFER SYSTEM	H	BRAZORIA	BRAZOS	2,844	3,058	3,249	4,118	4,036	3,974	1,696	1,248	966	0	0	0	
GULF COAST AQUIFER SYSTEM	H	BRAZORIA	BRAZOS-COLORADO	11,448	11,848	12,308	11,940	11,578	11,253	1,420	732	0	0	0	0	
GULF COAST AQUIFER SYSTEM	H	BRAZORIA	SAN JACINTO-BRAZOS	42,354	48,894	51,674	53,875	55,766	56,223	11,260	5,414	3,061	1,385	0	0	
GULF COAST AQUIFER SYSTEM	H	CHAMBERS	NECHES-TRINITY	4,213	5,959	7,661	7,885	9,987	10,316	6,585	4,839	3,137	2,913	811	482	
GULF COAST AQUIFER SYSTEM	H	CHAMBERS	TRINITY	10,078	10,015	10,041	10,092	10,069	10,063	26	89	63	12	35	41	
GULF COAST AQUIFER SYSTEM	H	CHAMBERS	TRINITY-SAN JACINTO	1,828	1,861	1,896	1,934	1,977	2,023	221	188	153	115	72	26	
GULF COAST AQUIFER SYSTEM	H	FORT BEND	BRAZOS	45,907	36,430	38,688	43,570	50,407	58,892	16	16	16	16	16	16	
GULF COAST AQUIFER SYSTEM	H	FORT BEND	BRAZOS-COLORADO	12,474	13,453	15,002	17,381	20,867	25,857	0	0	174	308	508	906	
GULF COAST AQUIFER SYSTEM	H	FORT BEND	SAN JACINTO	32,644	24,900	28,912	31,281	32,618	33,388	0	0	0	0	0	0	

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				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070		
GULF COAST AQUIFER SYSTEM	H	FORT BEND	SAN JACINTO-BRAZOS	54,767	38,001	43,787	48,141	51,327	53,794	367	216	268	322	375	438		
GULF COAST AQUIFER SYSTEM	H	GALVESTON	NECHES-TRINITY	72	72	73	74	75	76	20	23	28	33	39	46		
GULF COAST AQUIFER SYSTEM	H	GALVESTON	SAN JACINTO-BRAZOS	5,999	6,365	6,665	6,969	7,241	7,509	5,697	6,634	6,644	6,653	6,663	6,672		
GULF COAST AQUIFER SYSTEM	H	HARRIS	SAN JACINTO	405,050	283,480	194,936	203,236	212,347	221,870	107	60	29	29	29	29		
GULF COAST AQUIFER SYSTEM	H	HARRIS	SAN JACINTO-BRAZOS	15,007	16,636	17,125	17,596	18,134	18,693	0	0	0	0	0	0		
GULF COAST AQUIFER SYSTEM	H	HARRIS	TRINITY-SAN JACINTO	10,766	12,074	12,035	12,113	12,200	12,289	0	0	0	0	0	0		
GULF COAST AQUIFER SYSTEM	H	LIBERTY	NECHES	4,660	4,814	4,836	4,862	4,888	4,914	411	257	235	209	183	157		
GULF COAST AQUIFER SYSTEM	H	LIBERTY	NECHES-TRINITY	193	294	295	295	296	297	171	70	69	69	68	67		
GULF COAST AQUIFER SYSTEM	H	LIBERTY	SAN JACINTO	4,568	4,793	4,917	5,075	5,258	5,437	1,509	1,286	1,160	1,004	821	642		
GULF COAST AQUIFER SYSTEM	H	LIBERTY	TRINITY	9,634	10,932	11,997	13,148	14,344	15,522	13,233	11,935	10,870	9,719	8,523	7,345		
GULF COAST AQUIFER SYSTEM	H	LIBERTY	TRINITY-SAN JACINTO	954	1,071	1,087	1,108	1,131	1,153	7,896	7,779	7,763	7,742	7,719	7,697		
GULF COAST AQUIFER SYSTEM	H	MONTGOMERY	SAN JACINTO	82,059	82,059	82,059	82,059	82,059	82,059	0	0	0	0	0	0		
GULF COAST AQUIFER SYSTEM	H	POLK	TRINITY	4,151	4,403	4,597	4,775	4,945	5,092	17,659	17,407	17,213	17,035	16,865	16,718		
GULF COAST AQUIFER SYSTEM	H	SAN JACINTO	SAN JACINTO	1,588	1,672	1,736	1,823	1,897	1,964	8,792	8,708	8,644	8,557	8,483	8,416		
GULF COAST AQUIFER SYSTEM	H	SAN JACINTO	TRINITY	2,384	2,533	2,656	2,813	2,957	3,087	8,219	8,070	7,947	7,790	7,646	7,516		
GULF COAST AQUIFER SYSTEM	H	TRINITY	TRINITY	69	73	75	76	84	83	31	245	247	263	255	256		
GULF COAST AQUIFER SYSTEM	H	WALKER	SAN JACINTO	2,783	2,805	2,815	2,834	2,855	2,872	7,668	7,646	7,636	7,617	7,596	7,579		
GULF COAST AQUIFER SYSTEM	H	WALKER	TRINITY	4,563	4,639	4,670	4,710	4,751	4,789	5,612	5,536	5,505	5,465	5,424	5,386		
GULF COAST AQUIFER SYSTEM	H	WALLER	BRAZOS	11,952	12,275	13,189	13,595	14,334	14,849	9,636	9,313	8,399	7,993	7,254	6,739		
GULF COAST AQUIFER SYSTEM	H	WALLER	SAN JACINTO	19,052	19,655	20,863	21,569	23,604	24,213	19,545	18,942	17,734	17,028	14,993	14,384		
GULF COAST AQUIFER SYSTEM (CATAOULA FORMATION, MONTGOMERY)	H	MONTGOMERY	SAN JACINTO	9,733	10,314	13,015	21,776	22,387	23,239	0	0	0	0	0	0		
GULF OF MEXICO SALINE	H	GULF OF MEXICO	GULF OF MEXICO	0	0	11,200	11,200	11,200	11,200	0	0	0	0	0	0		
HOUSTON LAKE/RESERVOIR	H	RESERVOIR	SAN JACINTO	176,800	173,600	170,600	167,500	163,600	156,400	0	0	0	0	0	0		

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				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	
INDIRECT REUSE, HOUSTON	H	HARRIS	SAN JACINTO	4,839	4,862	4,937	5,027	5,147	5,147	5,147	0	0	0	0	0	0
INDIRECT REUSE, HUNTSVILLE	H	WALKER	SAN JACINTO	2,240	2,240	2,240	2,240	2,240	2,240	2,240	0	0	0	0	0	0
INDIRECT REUSE, MONTGOMERY COUNTY MUDDS 8 AND 9	H	MONTGOMERY	SAN JACINTO	528	531	589	647	660	697	697	0	0	0	0	0	0
INDIRECT REUSE, SJRA	H	HARRIS	SAN JACINTO	8,786	9,142	9,580	10,111	10,935	11,939	11,939	0	0	0	0	0	0
INDIRECT REUSE, SJRA AND CONROE	H	MONTGOMERY	SAN JACINTO	4,989	5,790	6,548	7,248	8,016	8,834	8,834	0	0	0	0	0	0
INDIRECT REUSE, THE WOODLANDS	H	MONTGOMERY	SAN JACINTO	438	438	438	438	438	438	438	0	0	0	0	0	0
IRRIGATION CONSERVATION	H	CONSERVATION	CONSERVATION	93,562	93,562	93,562	93,562	93,562	93,562	93,562	0	0	0	0	0	0
LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	H	RESERVOIR	TRINITY	1,326,000	1,320,500	1,327,100	1,276,300	1,276,900	1,275,900	1,275,900	0	0	0	0	0	0
MANVEL MUSTANG BAYOU RESERVOIR	H	RESERVOIR	SAN JACINTO-BRAZOS	0	902	902	902	902	902	902	0	0	0	0	0	0
MUNICIPAL CONSERVATION	H	CONSERVATION	CONSERVATION	34,537	58,626	71,262	87,726	101,515	124,573	124,573	0	0	0	0	0	0
NECHES RUN-OF-RIVER	H	LIBERTY	NECHES	0	0	0	0	0	0	0	176	176	176	176	176	176
NECHES-TRINITY RUN-OF-RIVER	H	CHAMBERS	NECHES-TRINITY	37,474	37,474	37,474	37,474	37,474	37,474	37,474	7	7	7	7	7	7
QUEEN CITY AQUIFER	H	LEON	BRAZOS	176	175	177	183	190	197	197	69	70	68	62	55	48
QUEEN CITY AQUIFER	H	LEON	TRINITY	338	336	334	333	331	330	330	11	13	15	16	18	19
QUEEN CITY AQUIFER	H	MADISON	BRAZOS	0	0	0	0	0	0	0	1	1	1	1	1	1
QUEEN CITY AQUIFER	H	MADISON	TRINITY	39	40	42	45	47	49	49	340	339	337	334	332	330
QUEEN CITY AQUIFER	H	WALKER	TRINITY	101	101	101	101	101	101	101	128	128	128	128	128	128
SAN BERNARD RIVER ALLUVIUM AQUIFER	H	AUSTIN	BRAZOS-COLORADO	0	0	0	0	0	0	0	520	520	520	520	520	520
SAN JACINTO COH REUSE	H	HARRIS	SAN JACINTO	0	0	195,085	209,992	225,850	242,554	242,554	0	0	0	0	0	0
SAN JACINTO REGIONAL RETURN FLOWS	H	HARRIS	SAN JACINTO	4,655	64,767	81,982	94,738	93,485	119,673	56,233	56,233	0	3,584	0	13,073	0
SAN JACINTO RIVER ALLUVIUM AQUIFER	H	WALKER	SAN JACINTO	0	0	0	0	0	0	0	1,450	1,450	1,450	1,450	1,450	1,450
SAN JACINTO RUN-OF-RIVER	H	HARRIS	SAN JACINTO	12,477	12,477	12,477	12,477	12,477	12,477	12,477	0	0	0	0	0	0
SAN JACINTO RUN-OF-RIVER	H	LIBERTY	SAN JACINTO	0	0	0	0	0	0	0	9	9	9	9	9	9

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				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
SAN JACINTO RUN-OF-RIVER	H	MONTGOMERY	SAN JACINTO	141	141	141	141	141	141	141	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	H	BRAZORIA	SAN JACINTO-BRAZOS	32,600	32,600	32,600	32,600	32,600	32,600	32,600	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	H	FORT BEND	SAN JACINTO-BRAZOS	5,803	5,803	5,803	5,803	5,803	5,803	5,803	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	H	GALVESTON	SAN JACINTO-BRAZOS	36	36	36	36	36	36	36	0	0	0	0	0
SAN JACINTO-BRAZOS RUN-OF-RIVER	H	HARRIS	SAN JACINTO-BRAZOS	388	388	388	388	388	388	388	0	0	0	0	0
SPARTA AQUIFER	H	LEON	TRINITY	19	18	17	17	16	15	15	2	3	4	4	5
SPARTA AQUIFER	H	MADISON	BRAZOS	6	6	6	7	7	7	7	2	2	5	4	4
SPARTA AQUIFER	H	MADISON	TRINITY	2,817	2,925	3,028	3,169	3,317	3,469	3,469	1,073	965	862	721	573
SPARTA AQUIFER	H	TRINITY	TRINITY	0	0	0	0	0	0	0	29	29	29	29	29
SPARTA AQUIFER	H	WALKER	SAN JACINTO	0	0	0	0	0	0	0	266	266	266	266	266
SPARTA AQUIFER	H	WALKER	TRINITY	0	0	0	0	0	0	0	2,084	2,084	2,084	2,084	2,084
TRINITY RIVER ALLUVIUM AQUIFER	H	WALKER	TRINITY	0	0	0	0	0	0	0	3,913	3,913	3,913	3,913	3,913
TRINITY RUN-OF-RIVER	H	CHAMBERS	TRINITY	60,837	60,837	60,837	60,837	60,837	60,837	60,837	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	LEON	TRINITY	158	158	158	158	158	158	158	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	LIBERTY	TRINITY	49,083	49,083	49,083	49,083	49,083	49,083	49,083	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	MADISON	TRINITY	169	169	169	169	169	169	169	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	POLK	TRINITY	26,510	26,510	26,510	26,510	26,510	26,510	26,510	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	TRINITY	TRINITY	34	34	34	34	34	34	34	0	0	0	0	0
TRINITY RUN-OF-RIVER	H	WALKER	TRINITY	459	459	459	459	459	459	459	1	1	1	1	1
TRINITY-SAN JACINTO RUN-OF-RIVER	H	CHAMBERS	TRINITY-SAN JACINTO	1,213	1,213	1,213	1,213	1,213	1,213	1,213	0	0	0	0	0
TRINITY-SAN JACINTO RUN-OF-RIVER	H	HARRIS	TRINITY-SAN JACINTO	2,420	2,420	2,420	2,420	2,420	2,420	2,420	0	0	0	0	0
TRINITY-SAN JACINTO RUN-OF-RIVER	H	LIBERTY	TRINITY-SAN JACINTO	1,904	1,904	1,904	1,904	1,904	1,904	1,904	0	0	0	0	0
TRINITY-SAN JACINTO RUN-OF-RIVER (SALINE)	H	CHAMBERS	TRINITY-SAN JACINTO	0	22,400	22,400	22,400	22,400	22,400	22,400	0	0	0	0	0
WATER LOSS REDUCTION	H	CONSERVATION	CONSERVATION	5,892	17,612	28,916	39,904	51,149	62,601	62,601	0	0	0	0	0

Source	Reg	County	Basin	Total Existing and WMS Allocations from Source (ac ft)*							Unallocated Source Balance (ac ft)						
				2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070		
YEGUA-JACKSON AQUIFER	H	MADISON	BRAZOS	0	0	0	0	0	0	0	8	8	8	8	8	8	
YEGUA-JACKSON AQUIFER	H	MADISON	TRINITY	329	333	336	340	345	350	473	469	466	462	457	452		
YEGUA-JACKSON AQUIFER	H	TRINITY	TRINITY	1,091	1,116	1,108	1,085	1,105	1,130	1,100	1,075	1,083	1,106	1,086	1,061		
YEGUA-JACKSON AQUIFER	H	WALKER	SAN JACINTO	0	0	0	0	0	0	351	351	351	351	351	351		
YEGUA-JACKSON AQUIFER	H	WALKER	TRINITY	1,217	1,278	1,309	1,342	1,370	1,394	2,606	2,545	2,514	2,481	2,453	2,429		

*For this table, calculation of existing allocations includes allocations to WUG demand as well as allocations from sources to WWPBs. Some allocations of existing supply to WWPBs may be retained at the WWP level and not allocated to WUG demands.

Table 5-A10 – Project Cost Summary (Sponsor-Level Data)

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/Year)					
				2020	2030	2040	2050	2060	2070
ALLENS CREEK RESERVOIR	WMS	BRAZOS RIVER AUTHORITY	\$109,633,890	\$0	\$0	\$6,310,933	\$6,310,933	\$6,310,933	\$6,310,933
		HOUSTON	\$255,812,411	\$0	\$0	\$14,725,511	\$14,725,511	\$14,725,511	\$14,725,511
BRAZOS SALT/WATER BARRIER	WMS	DOW INC	\$67,552,043	\$0	\$0	\$5,172,634	\$5,172,634	\$419,600	\$419,600
BWA BRACKISH GROUNDWATER DEVELOPMENT	WMS	BRAZOSPORT WATER AUTHORITY	\$33,246,167	\$0	\$6,484,170	\$6,484,170	\$4,144,934	\$4,144,934	\$4,144,934
BWA CONVENTIONAL TREATMENT EXPANSION	WMS	BRAZOSPORT WATER AUTHORITY	\$19,085,165	\$0	\$2,944,245	\$2,944,245	\$1,601,392	\$1,601,392	\$1,601,392
BWA TRANSMISSION EXPANSION	WMS	BRAZOSPORT WATER AUTHORITY	\$77,755,692	\$0	\$6,489,567	\$6,489,567	\$1,018,593	\$1,018,593	\$1,018,593
CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	WMS	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$17,202,167	\$0	\$1,299,563	\$1,299,563	\$89,200	\$89,200	\$89,200
CITY OF HOUSTON AREA 2 GROUNDWATER INFRASTRUCTURE	WMS	HOUSTON	\$122,751,076	\$0	\$20,321,150	\$20,321,150	\$11,684,252	\$11,684,252	\$11,684,252
CITY OF HOUSTON GRP TRANSMISSION	WMS	HOUSTON	\$31,986,905	\$0	\$2,472,510	\$2,472,510	\$221,877	\$221,877	\$221,877
CITY OF HOUSTON REUSE INFRASTRUCTURE	WMS	HOUSTON	\$555,093,731	\$0	\$0	\$72,719,016	\$72,719,016	\$33,662,024	\$33,662,024
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 1	WMS	HOUSTON	\$768,820,060	\$0	\$0	\$73,311,681	\$73,311,681	\$19,216,674	\$19,216,674
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 2	WMS	HOUSTON	\$190,437,474	\$0	\$0	\$0	\$0	\$22,819,168	\$22,819,168
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WMS	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$26,588,846	\$0	\$3,359,739	\$3,359,739	\$1,488,919	\$1,488,919	\$1,488,919
		HOUSTON	\$278,964,939	\$0	\$35,249,717	\$35,249,717	\$15,621,444	\$15,621,444	\$15,621,444
		NORTH FORT BEND WATER AUTHORITY	\$373,220,218	\$0	\$47,159,715	\$47,159,715	\$20,899,539	\$20,899,539	\$20,899,539
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$615,693,056	\$0	\$77,798,328	\$77,798,328	\$34,477,501	\$34,477,501	\$34,477,501
		WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$449,063,811	\$0	\$56,743,232	\$56,743,232	\$25,146,619	\$25,146,619	\$25,146,619
		HOUSTON	\$435,882,718	\$0	\$0	\$55,077,683	\$55,077,683	\$24,408,505	\$24,408,505
COH, NHCERWA, AND CHCRWA SHARED TRANSMISSION	WMS	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$12,962,627	\$0	\$997,242	\$997,242	\$85,178	\$85,178	\$85,178
		HOUSTON	\$231,771,408	\$0	\$17,834,860	\$17,834,860	\$1,527,174	\$1,527,174	\$1,527,174
		NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$300,595,751	\$0	\$23,125,468	\$23,125,468	\$1,975,227	\$1,975,227	\$1,975,227
CWA TRANSMISSION EXPANSION	WMS	HOUSTON	\$119,336,981	\$0	\$0	\$14,913,686	\$14,913,686	\$6,517,007	\$6,517,007

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
DOW RESERVOIR AND PUMP STATION EXPANSION	WMS	BRAZOSPORT WATER AUTHORITY	\$350,000,000	\$0	\$29,876,377	\$29,876,377	\$5,250,000	\$5,250,000	\$5,250,000
		DOW INC	\$0	\$0	\$0	\$0	\$0	\$0	
EAST TEXAS TRANSFER	WMS	HOUSTON	\$458,840,377	\$0	\$0	\$0	\$36,553,468	\$36,553,468	\$4,268,965
		LOWER NECHES VALLEY AUTHORITY	\$0	\$0	\$0	\$0	\$0	\$0	
		SABINE RIVER AUTHORITY	\$0	\$0	\$0	\$0	\$0	\$0	
		FORT BEND MUD 25 GRP INFRASTRUCTURE	\$26,718,250	\$2,845,442	\$2,845,442	\$965,517	\$965,517	\$965,517	
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 1	WMS	FORT BEND COUNTY WCID 2	\$31,767,983	\$0	\$3,714,803	\$3,714,803	\$1,479,574	\$1,479,574	
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 2	WMS	FORT BEND COUNTY WCID 2	\$31,767,983	\$0	\$0	\$3,714,803	\$3,714,803	\$1,479,574	
FREEPORT SEAWATER DESALINATION	WMS	DOW INC	\$155,877,822	\$0	\$0	\$25,452,781	\$25,452,781	\$14,485,050	
GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	WMS	GULF COAST WATER AUTHORITY	\$90,746,960	\$0	\$12,631,630	\$12,631,630	\$6,246,577	\$6,246,577	
GCWA BACKUP WELL DEVELOPMENT	WMS	GULF COAST WATER AUTHORITY	\$1,346,492	\$0	\$0	\$188,849	\$188,849	\$0	
GCWA INDUSTRIAL RAW WATER LINE	WMS	GULF COAST WATER AUTHORITY	\$45,110,104	\$3,490,917	\$3,490,917	\$316,921	\$316,921	\$316,921	
GCWA SHANNON PUMP STATION EXPANSION	WMS	GULF COAST WATER AUTHORITY	\$65,801,381	\$0	\$5,732,960	\$5,732,960	\$1,103,104	\$1,103,104	
GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	WMS	GULF COAST WATER AUTHORITY	\$167,919,105	\$0	\$20,026,650	\$20,026,650	\$8,211,681	\$8,211,681	
GROVETON WELL DEVELOPMENT	WMS	GROVETON	\$2,211,952	\$169,182	\$169,182	\$13,547	\$13,547	\$13,547	
IRRIGATION CONSERVATION, AUSTIN COUNTY	WUG	IRRIGATION, AUSTIN	\$43,758	\$399,558	\$399,558	\$396,480	\$396,480	\$396,480	
IRRIGATION CONSERVATION, BRAZORIA COUNTY	WUG	IRRIGATION, BRAZORIA	\$358,717	\$2,841,889	\$2,841,889	\$2,816,649	\$2,816,649	\$2,816,649	
IRRIGATION CONSERVATION, CHAMBERS COUNTY	WUG	IRRIGATION, CHAMBERS	\$457,755	\$3,976,181	\$3,976,181	\$3,943,972	\$3,943,972	\$3,943,972	
IRRIGATION CONSERVATION, FORT BEND COUNTY	WUG	IRRIGATION, FORT BEND	\$92,166	\$761,425	\$761,425	\$754,940	\$754,940	\$754,940	
IRRIGATION CONSERVATION, GALVESTON COUNTY	WUG	IRRIGATION, GALVESTON	\$30,154	\$275,303	\$275,303	\$273,182	\$273,182	\$273,182	
IRRIGATION CONSERVATION, HARRIS COUNTY	WUG	IRRIGATION, HARRIS	\$570	\$5,213	\$5,213	\$5,173	\$5,173	\$5,173	
IRRIGATION CONSERVATION, LIBERTY COUNTY	WUG	IRRIGATION, LIBERTY	\$352,849	\$3,064,003	\$3,064,003	\$3,039,177	\$3,039,177	\$3,039,177	
IRRIGATION CONSERVATION, WALLER COUNTY	WUG	IRRIGATION, WALLER	\$153,186	\$1,083,199	\$1,083,199	\$1,072,421	\$1,072,421	\$1,072,421	
LAKE LIVINGSTON TO SJRA TRANSFER	WMS	SAN JACINTO RIVER AUTHORITY	\$245,492,975	\$0	\$0	\$0	\$21,855,114	\$21,855,114	
LNVA NECHES-TRINITY BASIN INTERCONNECT	WMS	LOWER NECHES VALLEY AUTHORITY	\$103,316,000	\$0	\$0	\$9,066,000	\$9,066,000	\$1,797,000	
MANVEL SUPPLY EXPANSION - GROUNDWATER DEVELOPMENT	WMS	MANVEL	\$1,559,906	\$157,751	\$157,751	\$0	\$0	\$0	

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MANVEL SUPPLY EXPANSION - MUSTANG BAYOU RIGHT AND STORAGE	WMS	MANVEL	\$5,785,521	\$0	\$737,486	\$737,486	\$330,410	\$330,410	\$330,410
MANVEL SUPPLY EXPANSION - TREATMENT AND TRANSMISSION EXPANSION	WMS	MANVEL	\$261,707,181	\$0	\$22,935,751	\$22,935,751	\$4,521,752	\$4,521,752	\$4,521,752
MISSOURI CITY GRP INFRASTRUCTURE	WMS	MISSOURI CITY	\$87,837,323	\$0	\$10,425,393	\$10,425,393	\$4,245,065	\$4,245,065	\$4,245,065
MONTGOMERY COUNTY MUDS 8 AND 9 GRP INFRASTRUCTURE	WMS	MONTGOMERY COUNTY MUD 8	\$15,255,188	\$2,099,949	\$2,099,949	\$1,026,578	\$1,026,578	\$1,026,578	\$1,026,578
		MONTGOMERY COUNTY MUD 9	\$15,255,187	\$2,099,949	\$2,099,949	\$1,026,577	\$1,026,577	\$1,026,577	\$1,026,577
MUNICIPAL CONSERVATION, ALVIN	WUG	ALVIN	\$9,158,458	\$119,425	\$129,273	\$163,809	\$201,605	\$271,105	\$306,288
MUNICIPAL CONSERVATION, ANAHUAC	WUG	ANAHUAC	\$551,746	\$8,633	\$9,021	\$10,697	\$11,135	\$14,215	\$14,736
MUNICIPAL CONSERVATION, ANGLETON	WUG	ANGLETON	\$5,502,411	\$83,953	\$86,086	\$104,748	\$113,226	\$147,171	\$150,571
MUNICIPAL CONSERVATION, AUSTIN COUNTY WSC	WUG	AUSTIN COUNTY WSC	\$922,575	\$10,713	\$12,799	\$17,028	\$20,107	\$28,378	\$32,325
MUNICIPAL CONSERVATION, BACLIFF MUD	WUG	BACLIFF MUD	\$443,750	\$30,459	\$13,916	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, BAKER ROAD MUD	WUG	BAKER ROAD MUD	\$263,767	\$4,185	\$4,630	\$5,224	\$5,323	\$6,377	\$6,377
MUNICIPAL CONSERVATION, BAYBROOK MUD 1	WUG	BAYBROOK MUD 1	\$324,275	\$4,822	\$5,169	\$6,456	\$6,995	\$8,122	\$8,635
MUNICIPAL CONSERVATION, BAYTOWN	WUG	BAYTOWN	\$20,436,770	\$303,100	\$315,851	\$387,184	\$423,456	\$556,136	\$579,500
MUNICIPAL CONSERVATION, BAYVIEW MUD	WUG	BAYVIEW MUD	\$482,092	\$6,562	\$7,447	\$9,325	\$10,146	\$13,314	\$14,152
MUNICIPAL CONSERVATION, BELLAIRE	WUG	BELLAIRE	\$7,076,965	\$85,535	\$94,981	\$124,789	\$159,535	\$219,026	\$238,305
MUNICIPAL CONSERVATION, BELLVILLE	WUG	BELLVILLE	\$1,808,810	\$26,877	\$29,574	\$35,489	\$38,565	\$45,444	\$49,320
MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY	WUG	BLUE BELL MANOR UTILITY	\$665,137	\$9,837	\$10,477	\$12,705	\$13,768	\$17,858	\$18,687
MUNICIPAL CONSERVATION, BLUE RIDGE WEST MUD	WUG	BLUE RIDGE WEST MUD	\$1,539,531	\$25,973	\$25,414	\$29,723	\$30,583	\$38,340	\$39,201
MUNICIPAL CONSERVATION, BRAZORIA	WUG	BRAZORIA	\$880,091	\$13,469	\$14,308	\$17,115	\$17,903	\$22,849	\$23,651
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 2	WUG	BRAZORIA COUNTY MUD 2	\$823,243	\$13,791	\$14,202	\$16,247	\$16,558	\$19,568	\$19,583
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 21	WUG	BRAZORIA COUNTY MUD 21	\$1,211,090	\$17,218	\$18,510	\$23,108	\$25,409	\$33,387	\$34,770
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 25	WUG	BRAZORIA COUNTY MUD 25	\$859,056	\$10,598	\$12,437	\$16,110	\$18,456	\$25,418	\$28,866
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 29	WUG	BRAZORIA COUNTY MUD 29	\$1,665,603	\$13,995	\$23,640	\$37,357	\$38,452	\$48,188	\$49,283
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 3	WUG	BRAZORIA COUNTY MUD 3	\$908,127	\$14,356	\$14,875	\$17,590	\$18,374	\$23,246	\$23,717
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 31	WUG	BRAZORIA COUNTY MUD 31	\$1,044,855	\$12,166	\$14,338	\$19,710	\$23,058	\$31,832	\$33,815
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 6	WUG	BRAZORIA COUNTY MUD 6	\$1,094,213	\$18,453	\$18,825	\$21,414	\$21,865	\$26,229	\$26,353

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, BROOKSHIRE MWD	WUG	BROOKSHIRE MWD	\$1,374,269	\$14,115	\$17,808	\$25,038	\$30,404	\$44,770	\$52,919
MUNICIPAL CONSERVATION, BUFFALO	WUG	BUFFALO	\$624,950	\$10,439	\$10,774	\$12,321	\$12,719	\$14,737	\$15,050
MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	WUG	BUNKER HILL VILLAGE	\$1,055,808	\$14,390	\$16,047	\$20,086	\$22,258	\$29,604	\$31,958
MUNICIPAL CONSERVATION, CAPE ROYALE UD	WUG	CAPE ROYALE UD	\$550,180	\$7,516	\$8,553	\$10,603	\$11,679	\$15,086	\$15,810
MUNICIPAL CONSERVATION, CENTERVILLE	WUG	CENTERVILLE	\$593,213	\$9,086	\$9,804	\$11,569	\$12,452	\$14,847	\$15,633
MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$13,212,771	\$173,709	\$194,280	\$248,642	\$281,622	\$382,437	\$405,871
MUNICIPAL CONSERVATION, CHAMBERS COUNTY MUD 1	WUG	CHAMBERS COUNTY MUD 1	\$875,945	\$9,779	\$12,132	\$16,622	\$19,801	\$26,714	\$25,465
MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	WUG	CHATEAU WOODS MUD	\$685,178	\$8,855	\$11,847	\$13,855	\$14,261	\$17,872	\$18,278
MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	WUG	CHIMNEY HILL MUD	\$1,131,187	\$17,599	\$18,495	\$21,924	\$22,895	\$29,171	\$30,347
MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	WUG	CLEAR BROOK CITY MUD	\$5,251,696	\$67,703	\$71,086	\$97,657	\$113,948	\$157,934	\$168,416
MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	WUG	CLEAR LAKE CITY WATER AUTHORITY	\$19,115,857	\$257,835	\$270,785	\$346,434	\$422,465	\$555,720	\$583,467
MUNICIPAL CONSERVATION, CLEVELAND	WUG	CLEVELAND	\$1,888,402	\$32,256	\$32,941	\$37,379	\$38,161	\$43,666	\$44,372
MUNICIPAL CONSERVATION, CLUTE	WUG	CLUTE	\$2,459,986	\$37,619	\$39,850	\$47,402	\$50,168	\$64,180	\$67,796
MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	WUG	CONCORD-ROBBINS WSC	\$291,400	\$14,252	\$12,461	\$2,427	\$0	\$0	\$0
MUNICIPAL CONSERVATION, CONROE	WUG	CONROE	\$24,823,603	\$268,220	\$325,567	\$444,890	\$573,080	\$783,624	\$869,793
MUNICIPAL CONSERVATION, CORINTHIAN POINT MUD 2	WUG	CORINTHIAN POINT MUD 2	\$312,033	\$3,481	\$4,643	\$6,753	\$6,929	\$8,543	\$8,543
MUNICIPAL CONSERVATION, COUNTRY TERRACE WATER	WUG	COUNTRY TERRACE WATER	\$412,853	\$5,739	\$6,385	\$7,938	\$8,628	\$11,374	\$12,213
MUNICIPAL CONSERVATION, COUNTY-OTHER, AUSTIN	WUG	COUNTY-OTHER, AUSTIN	\$6,096,913	\$64,331	\$80,028	\$110,580	\$134,449	\$196,922	\$233,813
MUNICIPAL CONSERVATION, COUNTY-OTHER, BRAZORIA	WUG	COUNTY-OTHER, BRAZORIA	\$41,728,911	\$366,463	\$512,881	\$749,876	\$946,019	\$1,424,774	\$1,728,781
MUNICIPAL CONSERVATION, COUNTY-OTHER, CHAMBERS	WUG	COUNTY-OTHER, CHAMBERS	\$2,974,809	\$32,182	\$40,014	\$54,889	\$65,461	\$94,028	\$109,069
MUNICIPAL CONSERVATION, COUNTY-OTHER, FORT BEND	WUG	COUNTY-OTHER, FORT BEND	\$52,235,580	\$381,527	\$542,054	\$798,049	\$1,176,715	\$2,044,416	\$2,807,970
MUNICIPAL CONSERVATION, COUNTY-OTHER, GALVESTON	WUG	COUNTY-OTHER, GALVESTON	\$2,393,819	\$45,597	\$43,317	\$47,745	\$45,558	\$52,337	\$48,279
MUNICIPAL CONSERVATION, COUNTY-OTHER, HARRIS	WUG	COUNTY-OTHER, HARRIS	\$33,280,639	\$379,308	\$505,580	\$641,193	\$679,800	\$1,004,720	\$1,174,629
MUNICIPAL CONSERVATION, COUNTY-OTHER, LEON	WUG	COUNTY-OTHER, LEON	\$602,069	\$11,140	\$11,015	\$11,751	\$11,610	\$13,436	\$12,549
MUNICIPAL CONSERVATION, COUNTY-OTHER, LIBERTY	WUG	COUNTY-OTHER, LIBERTY	\$9,389,886	\$127,181	\$143,247	\$180,025	\$197,965	\$262,419	\$281,516

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, COUNTY-OTHER, MADISON	WUG	COUNTY-OTHER, MADISON	\$3,004,737	\$41,651	\$46,248	\$57,400	\$62,916	\$83,290	\$89,687
MUNICIPAL CONSERVATION, COUNTY-OTHER, MONTGOMERY	WUG	COUNTY-OTHER, MONTGOMERY	\$102,431,548	\$582,913	\$947,177	\$1,643,069	\$2,393,690	\$4,115,005	\$5,613,008
MUNICIPAL CONSERVATION, COUNTY-OTHER, POLK	WUG	COUNTY-OTHER, POLK	\$3,754,828	\$54,632	\$60,910	\$74,247	\$78,018	\$97,836	\$98,398
MUNICIPAL CONSERVATION, COUNTY-OTHER, SAN JACINTO	WUG	COUNTY-OTHER, SAN JACINTO	\$3,586,962	\$48,586	\$55,256	\$68,852	\$75,786	\$99,641	\$105,752
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALKER	WUG	COUNTY-OTHER, WALKER	\$3,386,395	\$52,892	\$55,779	\$66,005	\$68,577	\$86,499	\$88,875
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALLER	WUG	COUNTY-OTHER, WALLER	\$7,575,420	\$79,733	\$99,505	\$138,435	\$167,280	\$243,848	\$287,410
MUNICIPAL CONSERVATION, CROSBY MUD	WUG	CROSBY MUD	\$696,747	\$10,411	\$11,398	\$13,590	\$14,187	\$18,199	\$18,897
MUNICIPAL CONSERVATION, CUT AND SHOOT	WUG	CUT & SHOOT	\$1,304,038	\$14,850	\$16,635	\$22,811	\$27,998	\$42,723	\$53,868
MUNICIPAL CONSERVATION, DAISSETTA	WUG	DAISSETTA	\$325,959	\$4,111	\$4,782	\$6,191	\$6,976	\$9,494	\$10,419
MUNICIPAL CONSERVATION, DANBURY	WUG	DANBURY	\$417,428	\$6,716	\$6,953	\$8,132	\$8,374	\$10,494	\$10,738
MUNICIPAL CONSERVATION, DAYTON	WUG	DAYTON	\$4,833,472	\$39,126	\$51,511	\$87,662	\$118,911	\$167,363	\$187,742
MUNICIPAL CONSERVATION, DEER PARK	WUG	DEER PARK	\$11,227,591	\$155,649	\$167,979	\$211,456	\$237,271	\$317,230	\$331,741
MUNICIPAL CONSERVATION, DEVERS	WUG	DEVERS	\$222,301	\$2,814	\$3,280	\$4,230	\$4,770	\$6,444	\$6,921
MUNICIPAL CONSERVATION, DOBBIN PLANTERSVILLE WSC	WUG	DOBBIN PLANTERSVILLE WSC	\$4,024,611	\$27,691	\$38,707	\$76,947	\$98,707	\$144,847	\$155,621
MUNICIPAL CONSERVATION, DODGE OAKHURST WSC	WUG	DODGE OAKHURST WSC	\$433,549	\$6,058	\$6,756	\$8,348	\$9,066	\$11,870	\$12,569
MUNICIPAL CONSERVATION, DOMESTIC WATER	WUG	DOMESTIC WATER	\$553,116	\$6,062	\$8,111	\$11,920	\$12,270	\$15,376	\$15,726
MUNICIPAL CONSERVATION, DOUGLAS UTILITY	WUG	DOUGLAS UTILITY	\$267,845	\$4,562	\$4,662	\$5,220	\$5,328	\$6,364	\$6,485
MUNICIPAL CONSERVATION, EAST PLANTATION UD	WUG	EAST PLANTATION UD	\$501,373	\$6,297	\$6,697	\$9,164	\$10,836	\$15,536	\$16,073
MUNICIPAL CONSERVATION, EL DORADO UD	WUG	EL DORADO UD	\$719,479	\$10,881	\$11,667	\$13,986	\$14,900	\$18,618	\$18,959
MUNICIPAL CONSERVATION, FAR HILLS UD	WUG	FAR HILLS UD	\$506,584	\$5,615	\$7,495	\$10,948	\$11,251	\$13,954	\$13,954
MUNICIPAL CONSERVATION, FIRST COLONY MUD 9	WUG	FIRST COLONY MUD 9	\$1,841,255	\$28,748	\$31,529	\$36,419	\$37,286	\$45,585	\$45,585
MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	WUG	FLO COMMUNITY WSC	\$767,401	\$8,610	\$10,572	\$14,345	\$16,825	\$23,696	\$26,921
MUNICIPAL CONSERVATION, FOREST HILLS MUD	WUG	FOREST HILLS MUD	\$524,989	\$7,625	\$8,484	\$10,545	\$10,852	\$13,602	\$13,909
MUNICIPAL CONSERVATION, FORT BEND COUNTY FWSD 2	WUG	FORT BEND COUNTY FWSD 2	\$727,898	\$8,006	\$10,248	\$13,766	\$15,947	\$22,302	\$25,208
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	WUG	FORT BEND COUNTY MUD 115	\$372,829	\$5,781	\$6,603	\$7,513	\$7,630	\$8,869	\$8,869
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 116	WUG	FORT BEND COUNTY MUD 116	\$1,316,313	\$15,933	\$18,594	\$25,175	\$28,774	\$38,899	\$42,563

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 121	WUG	FORT BEND COUNTY MUD 121	\$667,197	\$10,738	\$11,118	\$13,001	\$13,381	\$16,767	\$17,147
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	WUG	FORT BEND COUNTY MUD 128	\$780,546	\$12,713	\$13,126	\$15,239	\$15,652	\$19,386	\$19,386
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	WUG	FORT BEND COUNTY MUD 129	\$854,414	\$13,852	\$14,322	\$16,664	\$17,136	\$21,334	\$21,334
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 140	WUG	FORT BEND COUNTY MUD 140	\$461,403	\$7,554	\$7,785	\$9,019	\$9,250	\$11,393	\$11,393
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	WUG	FORT BEND COUNTY MUD 149	\$1,015,781	\$12,296	\$15,825	\$21,284	\$21,910	\$27,455	\$28,081
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 152	WUG	FORT BEND COUNTY MUD 152	\$501,262	\$6,123	\$7,863	\$10,517	\$10,815	\$13,462	\$13,462
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 155	WUG	FORT BEND COUNTY MUD 155	\$1,141,173	\$13,954	\$17,911	\$23,954	\$24,624	\$30,613	\$30,613
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	WUG	FORT BEND COUNTY MUD 158	\$654,285	\$7,992	\$10,261	\$13,727	\$14,116	\$17,575	\$17,575
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	WUG	FORT BEND COUNTY MUD 162	\$869,534	\$10,535	\$13,546	\$18,218	\$18,752	\$23,499	\$24,034
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 187	WUG	FORT BEND COUNTY MUD 187	\$613,870	\$9,877	\$10,228	\$11,962	\$12,312	\$15,430	\$15,780
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 23	WUG	FORT BEND COUNTY MUD 23	\$3,045,122	\$44,241	\$48,829	\$59,033	\$62,743	\$81,117	\$85,492
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 24	WUG	FORT BEND COUNTY MUD 24	\$643,907	\$7,801	\$10,033	\$13,490	\$13,886	\$17,401	\$17,797
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 25	WUG	FORT BEND COUNTY MUD 25	\$2,692,798	\$42,310	\$44,098	\$52,088	\$54,454	\$69,142	\$71,878
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 26	WUG	FORT BEND COUNTY MUD 26	\$1,341,630	\$16,161	\$20,473	\$28,266	\$29,075	\$36,461	\$37,270
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 42	WUG	FORT BEND COUNTY MUD 42	\$1,160,139	\$16,126	\$20,299	\$23,409	\$23,962	\$29,289	\$29,289
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 46	WUG	FORT BEND COUNTY MUD 46	\$757,086	\$9,462	\$11,948	\$16,170	\$16,496	\$19,666	\$19,666
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 47	WUG	FORT BEND COUNTY MUD 47	\$484,464	\$5,840	\$7,394	\$10,207	\$10,494	\$13,166	\$13,454
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 48	WUG	FORT BEND COUNTY MUD 48	\$722,151	\$11,652	\$12,055	\$14,073	\$14,476	\$18,108	\$18,511
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 49	WUG	FORT BEND COUNTY MUD 49	\$286,729	\$3,959	\$4,991	\$5,779	\$5,926	\$7,289	\$7,289
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 5	WUG	FORT BEND COUNTY MUD 5	\$813,007	\$11,013	\$13,971	\$16,339	\$16,816	\$21,076	\$20,857
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 81	WUG	FORT BEND COUNTY MUD 81	\$881,584	\$12,154	\$13,377	\$16,806	\$18,575	\$24,622	\$26,244
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 2	WUG	FORT BEND COUNTY WCID 2	\$12,603,207	\$138,113	\$172,559	\$230,482	\$288,337	\$387,848	\$429,817
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 3	WUG	FORT BEND COUNTY WCID 3	\$173,630	\$2,339	\$3,004	\$3,496	\$3,596	\$4,480	\$4,480
MUNICIPAL CONSERVATION, FREEPORT	WUG	FREEPORT	\$3,395,490	\$41,466	\$45,184	\$55,154	\$80,693	\$105,888	\$111,640

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, FRIENDSWOOD	WUG	FRIENDSWOOD	\$14,598,439	\$178,604	\$200,784	\$260,448	\$328,409	\$443,769	\$478,299
MUNICIPAL CONSERVATION, FULSHEAR	WUG	FULSHEAR	\$6,645,648	\$68,422	\$105,512	\$134,776	\$145,898	\$190,597	\$193,598
MUNICIPAL CONSERVATION, G & W WSC	WUG	G & W WSC	\$1,500,104	\$12,708	\$17,744	\$26,724	\$34,236	\$52,222	\$63,764
MUNICIPAL CONSERVATION, GALENA PARK	WUG	GALENA PARK	\$778,850	\$30,616	\$32,171	\$15,098	\$0	\$0	\$0
MUNICIPAL CONSERVATION, GALVESTON	WUG	GALVESTON	\$2,845,085	\$309,067	\$338,090	\$431,376	\$534,602	\$698,128	\$732,455
MUNICIPAL CONSERVATION, GALVESTON COUNTY FWSD 6	WUG	GALVESTON COUNTY FWSD 6	\$660,142	\$10,626	\$11,035	\$12,894	\$13,323	\$16,481	\$16,552
MUNICIPAL CONSERVATION, GALVESTON COUNTY MUD 12	WUG	GALVESTON COUNTY MUD 12	\$843,197	\$13,515	\$14,023	\$16,429	\$16,930	\$21,248	\$21,747
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 1	WUG	GALVESTON COUNTY WCID 1	\$8,749,682	\$102,072	\$118,229	\$160,537	\$191,442	\$272,597	\$300,912
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 12	WUG	GALVESTON COUNTY WCID 12	\$1,940,157	\$27,162	\$34,200	\$39,494	\$40,728	\$47,601	\$48,307
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 8	WUG	GALVESTON COUNTY WCID 8	\$1,351,775	\$20,225	\$21,501	\$26,036	\$27,677	\$35,945	\$37,935
MUNICIPAL CONSERVATION, GLENDALE WSC	WUG	GLENDALE WSC	\$310,753	\$4,792	\$5,358	\$6,086	\$6,092	\$7,902	\$8,453
MUNICIPAL CONSERVATION, GREEN TRAILS MUD	WUG	GREEN TRAILS MUD	\$531,758	\$8,807	\$9,089	\$10,449	\$10,724	\$12,820	\$12,868
MUNICIPAL CONSERVATION, GREENWOOD UD	WUG	GREENWOOD UD	\$1,033,036	\$22,305	\$26,488	\$21,079	\$15,394	\$16,708	\$13,296
MUNICIPAL CONSERVATION, GROVETON	WUG	GROVETON	\$221,313	\$3,532	\$3,787	\$4,365	\$4,305	\$5,551	\$5,913
MUNICIPAL CONSERVATION, GULF UTILITY	WUG	GULF UTILITY	\$1,062,643	\$17,249	\$17,829	\$20,732	\$21,312	\$26,493	\$26,493
MUNICIPAL CONSERVATION, HARDIN WSC	WUG	HARDIN WSC	\$1,848,734	\$19,096	\$24,762	\$34,513	\$41,257	\$58,582	\$66,634
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 1-A	WUG	HARRIS COUNTY FWSD 1-A	\$502,670	\$6,988	\$7,775	\$9,661	\$10,502	\$13,854	\$14,870
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 27	WUG	HARRIS COUNTY FWSD 27	\$423,459	\$5,901	\$6,550	\$8,142	\$8,832	\$11,670	\$12,509
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 58	WUG	HARRIS COUNTY FWSD 58	\$459,976	\$6,445	\$7,160	\$8,854	\$9,617	\$12,599	\$13,226
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 106	WUG	HARRIS COUNTY MUD 106	\$834,843	\$12,839	\$13,470	\$16,250	\$17,142	\$21,593	\$21,903
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 11	WUG	HARRIS COUNTY MUD 11	\$794,241	\$11,839	\$12,595	\$15,258	\$16,281	\$21,198	\$22,531
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 119	WUG	HARRIS COUNTY MUD 119	\$1,337,662	\$20,448	\$21,692	\$25,854	\$27,473	\$34,688	\$36,112
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 122	WUG	HARRIS COUNTY MUD 122	\$363,203	\$4,373	\$5,543	\$7,651	\$7,875	\$9,869	\$10,093
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 132	WUG	HARRIS COUNTY MUD 132	\$1,411,667	\$23,427	\$24,234	\$27,746	\$28,386	\$33,965	\$34,087
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 148	WUG	HARRIS COUNTY MUD 148	\$724,913	\$15,049	\$16,420	\$16,144	\$11,499	\$12,314	\$10,653

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 151	WUG	HARRIS COUNTY MUD 151	\$1,414,243	\$22,547	\$23,541	\$27,597	\$28,540	\$35,625	\$35,743
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 152	WUG	HARRIS COUNTY MUD 152	\$1,605,807	\$25,317	\$25,540	\$30,937	\$32,687	\$41,768	\$43,317
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 153	WUG	HARRIS COUNTY MUD 153	\$1,659,589	\$27,031	\$27,890	\$32,403	\$33,320	\$41,191	\$41,239
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 154	WUG	HARRIS COUNTY MUD 154	\$1,615,878	\$25,038	\$26,135	\$31,135	\$32,845	\$42,017	\$44,178
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 158	WUG	HARRIS COUNTY MUD 158	\$1,329,396	\$21,411	\$22,158	\$25,905	\$26,652	\$33,399	\$34,146
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 180	WUG	HARRIS COUNTY MUD 180	\$1,033,945	\$14,862	\$16,691	\$20,677	\$21,485	\$26,926	\$27,535
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 189	WUG	HARRIS COUNTY MUD 189	\$414,976	\$6,698	\$7,138	\$8,066	\$8,413	\$10,126	\$10,566
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 216	WUG	HARRIS COUNTY MUD 216	\$296,293	\$4,648	\$5,117	\$5,882	\$6,004	\$7,253	\$7,253
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 221	WUG	HARRIS COUNTY MUD 221	\$956,227	\$13,802	\$15,482	\$18,609	\$19,752	\$25,314	\$26,637
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 23	WUG	HARRIS COUNTY MUD 23	\$711,142	\$12,117	\$13,478	\$15,763	\$13,624	\$14,858	\$12,742
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 278	WUG	HARRIS COUNTY MUD 278	\$3,073,353	\$30,296	\$50,502	\$61,852	\$67,261	\$88,438	\$89,863
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 290	WUG	HARRIS COUNTY MUD 290	\$1,859,607	\$27,332	\$29,575	\$36,172	\$38,452	\$49,301	\$51,287
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 321	WUG	HARRIS COUNTY MUD 321	\$519,460	\$6,472	\$8,693	\$10,623	\$11,517	\$13,310	\$13,310
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 342	WUG	HARRIS COUNTY MUD 342	\$725,230	\$10,825	\$11,983	\$14,685	\$14,999	\$18,210	\$18,210
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 344	WUG	HARRIS COUNTY MUD 344	\$939,967	\$13,491	\$16,297	\$18,796	\$19,280	\$23,757	\$23,757
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 345	WUG	HARRIS COUNTY MUD 345	\$881,421	\$14,572	\$14,968	\$17,266	\$17,663	\$21,521	\$21,521
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 36	WUG	HARRIS COUNTY MUD 36	\$270,358	\$4,669	\$5,010	\$5,479	\$5,445	\$5,848	\$5,848
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 361	WUG	HARRIS COUNTY MUD 361	\$860,548	\$13,372	\$14,432	\$16,878	\$17,374	\$21,772	\$22,268
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 372	WUG	HARRIS COUNTY MUD 372	\$877,602	\$14,256	\$14,741	\$17,131	\$17,606	\$21,842	\$21,842
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 400	WUG	HARRIS COUNTY MUD 400	\$1,345,326	\$20,072	\$22,016	\$26,492	\$28,177	\$34,308	\$34,676
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 412	WUG	HARRIS COUNTY MUD 412	\$867,134	\$12,164	\$13,511	\$16,695	\$18,133	\$23,720	\$24,904
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 420	WUG	HARRIS COUNTY MUD 420	\$357,369	\$5,192	\$5,775	\$7,177	\$7,388	\$9,258	\$9,469
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 46	WUG	HARRIS COUNTY MUD 46	\$760,176	\$12,449	\$12,846	\$14,870	\$15,248	\$18,731	\$18,736
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 49	WUG	HARRIS COUNTY MUD 49	\$1,495,295	\$22,931	\$24,567	\$29,159	\$30,544	\$38,364	\$39,645

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 5	WUG	HARRIS COUNTY MUD 5	\$1,291,089	\$18,603	\$20,238	\$25,190	\$27,600	\$34,394	\$30,839
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 50	WUG	HARRIS COUNTY MUD 50	\$849,066	\$13,278	\$13,872	\$16,554	\$17,268	\$21,708	\$22,266
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 55	WUG	HARRIS COUNTY MUD 55	\$4,204,948	\$47,962	\$53,029	\$80,651	\$93,253	\$131,013	\$145,868
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 58	WUG	HARRIS COUNTY MUD 58	\$261,523	\$4,068	\$4,440	\$5,273	\$5,348	\$6,378	\$6,453
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 6	WUG	HARRIS COUNTY MUD 6	\$846,222	\$12,823	\$14,258	\$16,675	\$17,157	\$21,510	\$21,992
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 8	WUG	HARRIS COUNTY MUD 8	\$544,419	\$9,249	\$9,428	\$10,625	\$10,804	\$13,016	\$13,199
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 96	WUG	HARRIS COUNTY MUD 96	\$1,591,503	\$22,495	\$24,151	\$30,108	\$33,254	\$44,396	\$47,463
MUNICIPAL CONSERVATION, HARRIS COUNTY UD 15	WUG	HARRIS COUNTY UD 15	\$765,332	\$11,010	\$12,308	\$15,703	\$16,049	\$19,512	\$19,512
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 1	WUG	HARRIS COUNTY WCID 1	\$1,532,752	\$23,140	\$24,539	\$29,562	\$31,351	\$40,429	\$42,542
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 133	WUG	HARRIS COUNTY WCID 133	\$995,379	\$14,541	\$15,175	\$18,510	\$20,525	\$27,731	\$30,559
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 156	WUG	HARRIS COUNTY WCID 156	\$293,775	\$4,115	\$4,599	\$5,655	\$6,182	\$7,988	\$8,385
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 50	WUG	HARRIS COUNTY WCID 50	\$918,862	\$14,421	\$15,183	\$17,834	\$18,616	\$23,426	\$24,062
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 70	WUG	HARRIS COUNTY WCID 70	\$460,540	\$7,039	\$7,816	\$9,087	\$9,341	\$11,610	\$11,610
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 74	WUG	HARRIS COUNTY WCID 74	\$747,914	\$12,055	\$12,464	\$14,574	\$14,983	\$18,795	\$19,204
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 89	WUG	HARRIS COUNTY WCID 89	\$1,806,032	\$28,234	\$29,787	\$35,004	\$36,706	\$46,131	\$47,412
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 96	WUG	HARRIS COUNTY WCID 96	\$1,474,603	\$24,398	\$25,077	\$28,808	\$29,486	\$36,083	\$36,083
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	HARRIS COUNTY WCID-FONDREN ROAD	\$854,344	\$10,355	\$13,096	\$18,010	\$18,502	\$23,111	\$23,604
MUNICIPAL CONSERVATION, HARRIS-MONTGOMERY COUNTIES MUD 386	WUG	HARRIS-MONTGOMERY COUNTIES MUD 386	\$439,183	\$7,234	\$7,483	\$8,461	\$8,710	\$10,914	\$11,163
MUNICIPAL CONSERVATION, HEMPSTEAD	WUG	HEMPSTEAD	\$1,915,369	\$23,246	\$27,508	\$36,159	\$42,076	\$56,169	\$63,789
MUNICIPAL CONSERVATION, HILLCREST VILLAGE	WUG	HILLCREST VILLAGE	\$174,463	\$2,819	\$2,918	\$3,402	\$3,503	\$4,367	\$4,373
MUNICIPAL CONSERVATION, HILLTOP LAKES WSC	WUG	HILLTOP LAKES WSC	\$500,706	\$7,172	\$7,893	\$9,589	\$10,503	\$13,493	\$14,206
MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	WUG	HILSHIRE VILLAGE	\$270,831	\$3,845	\$4,174	\$5,131	\$5,773	\$7,349	\$8,111
MUNICIPAL CONSERVATION, HITCHCOCK	WUG	HITCHCOCK	\$2,113,980	\$26,499	\$32,401	\$41,341	\$45,401	\$59,450	\$63,060
MUNICIPAL CONSERVATION, HMW SUD	WUG	HMW SUD	\$4,907,597	\$45,385	\$56,372	\$78,045	\$127,496	\$166,545	\$169,167
MUNICIPAL CONSERVATION, HOUSTON	WUG	HOUSTON	\$616,098,371	\$7,406,065	\$8,612,825	\$12,313,671	\$13,255,877	\$18,095,897	\$19,255,021

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, HUMBLE	WUG	HUMBLE	\$7,106,206	\$86,523	\$104,752	\$136,108	\$161,763	\$200,598	\$208,766
MUNICIPAL CONSERVATION, HUNTSVILLE	WUG	HUNTSVILLE	\$10,124,011	\$145,320	\$153,667	\$187,999	\$221,473	\$275,862	\$280,801
MUNICIPAL CONSERVATION, JACINTO CITY	WUG	JACINTO CITY	\$387,170	\$28,976	\$9,741	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, JAMAICA BEACH	WUG	JAMAICA BEACH	\$317,328	\$5,026	\$5,247	\$6,162	\$6,401	\$8,078	\$8,188
MUNICIPAL CONSERVATION, JERSEY VILLAGE	WUG	JERSEY VILLAGE	\$2,508,448	\$41,704	\$42,673	\$49,048	\$50,669	\$60,554	\$61,968
MUNICIPAL CONSERVATION, JEWETT	WUG	JEWETT	\$505,991	\$6,213	\$7,487	\$9,574	\$11,199	\$14,525	\$16,011
MUNICIPAL CONSERVATION, JOHNSTON WATER UTILITY	WUG	JOHNSTON WATER UTILITY	\$909,187	\$8,198	\$10,950	\$15,982	\$20,431	\$31,471	\$38,867
MUNICIPAL CONSERVATION, KATY	WUG	KATY	\$9,786,615	\$104,073	\$154,425	\$188,943	\$222,888	\$279,600	\$287,325
MUNICIPAL CONSERVATION, KENDLETON	WUG	KENDLETON	\$308,272	\$3,506	\$4,484	\$5,916	\$6,823	\$9,091	\$10,072
MUNICIPAL CONSERVATION, KINGS MANOR MUD	WUG	KINGS MANOR MUD	\$781,873	\$12,735	\$13,143	\$15,241	\$15,648	\$19,436	\$19,843
MUNICIPAL CONSERVATION, KIRK MOUNT MUD	WUG	KIRK MOUNT MUD	\$622,350	\$8,201	\$9,382	\$11,797	\$13,230	\$17,711	\$19,140
MUNICIPAL CONSERVATION, LA MARQUE	WUG	LA MARQUE	\$5,040,112	\$65,835	\$73,982	\$92,195	\$111,738	\$145,531	\$147,302
MUNICIPAL CONSERVATION, LA PORTE	WUG	LA PORTE	\$11,421,772	\$177,588	\$184,019	\$213,311	\$233,150	\$302,986	\$311,232
MUNICIPAL CONSERVATION, LAKE BONANZA WSC	WUG	LAKE BONANZA WSC	\$869,771	\$7,738	\$10,354	\$15,217	\$19,484	\$30,351	\$38,331
MUNICIPAL CONSERVATION, LAKE CONROE HILLS MUD	WUG	LAKE CONROE HILLS MUD	\$761,566	\$6,777	\$9,066	\$13,323	\$17,059	\$26,576	\$33,556
MUNICIPAL CONSERVATION, LAKE JACKSON	WUG	LAKE JACKSON	\$9,206,747	\$130,979	\$137,034	\$168,242	\$200,059	\$257,689	\$266,717
MUNICIPAL CONSERVATION, LAKE LIVINGSTON WSC	WUG	LAKE LIVINGSTON WSC	\$123,980	\$12,398	\$0	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, LAKE MUD	WUG	LAKE MUD	\$1,338,515	\$20,277	\$22,551	\$26,375	\$27,148	\$34,021	\$34,795
MUNICIPAL CONSERVATION, LAZY RIVER IMPROVEMENT DISTRICT	WUG	LAZY RIVER IMPROVEMENT DISTRICT	\$224,097	\$2,487	\$3,321	\$4,843	\$4,975	\$6,167	\$6,167
MUNICIPAL CONSERVATION, LEAGUE CITY	WUG	LEAGUE CITY	\$33,336,181	\$415,092	\$478,277	\$631,873	\$726,937	\$979,624	\$1,018,151
MUNICIPAL CONSERVATION, LEGGETT WSC	WUG	LEGGETT WSC	\$432,296	\$6,034	\$6,871	\$8,494	\$9,195	\$11,447	\$11,886
MUNICIPAL CONSERVATION, LIBERTY	WUG	LIBERTY	\$2,562,430	\$38,700	\$42,004	\$50,398	\$53,969	\$64,390	\$67,820
MUNICIPAL CONSERVATION, LIBERTY COUNTY FWSD I HULL	WUG	LIBERTY COUNTY FWSD I HULL	\$286,690	\$3,635	\$4,229	\$5,449	\$6,153	\$8,310	\$8,930
MUNICIPAL CONSERVATION, LIVINGSTON	WUG	LIVINGSTON	\$2,240,443	\$33,503	\$38,179	\$45,520	\$48,350	\$52,991	\$55,013
MUNICIPAL CONSERVATION, LONGHORN TOWN UD	WUG	LONGHORN TOWN UD	\$328,108	\$5,589	\$5,684	\$6,471	\$6,566	\$7,728	\$7,728
MUNICIPAL CONSERVATION, LUCE BAYOU PUD	WUG	LUCE BAYOU PUD	\$182,005	\$2,697	\$2,985	\$3,669	\$3,762	\$4,625	\$4,625

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, MADISON COUNTY WSC	WUG	MADISON COUNTY WSC	\$332,849	\$4,642	\$5,158	\$6,366	\$6,973	\$9,180	\$9,659
MUNICIPAL CONSERVATION, MADISONVILLE	WUG	MADISONVILLE	\$1,392,349	\$20,879	\$22,641	\$27,153	\$29,197	\$35,617	\$37,479
MUNICIPAL CONSERVATION, MAGNOLIA	WUG	MAGNOLIA	\$2,218,685	\$22,924	\$27,698	\$37,876	\$48,102	\$70,996	\$142,725
MUNICIPAL CONSERVATION, MANVEL	WUG	MANVEL	\$802,914	\$6,012	\$9,831	\$14,824	\$19,203	\$27,017	\$34,044
MUNICIPAL CONSERVATION, MASON CREEK UD	WUG	MASON CREEK UD	\$1,540,569	\$25,344	\$26,084	\$30,116	\$30,857	\$37,869	\$37,869
MUNICIPAL CONSERVATION, MEADOWCREEK MUD	WUG	MEADOWCREEK MUD	\$696,029	\$9,909	\$11,879	\$13,871	\$14,265	\$17,854	\$18,249
MUNICIPAL CONSERVATION, MEADOWS PLACE	WUG	MEADOWS PLACE	\$1,100,139	\$17,258	\$18,128	\$21,371	\$22,349	\$28,047	\$28,609
MUNICIPAL CONSERVATION, MEMORIAL POINT UD	WUG	MEMORIAL POINT UD	\$283,930	\$3,862	\$4,437	\$5,527	\$6,024	\$7,739	\$8,040
MUNICIPAL CONSERVATION, MEMORIAL VILLAGES WATER AUTHORITY	WUG	MEMORIAL VILLAGES WATER AUTHORITY	\$2,857,112	\$38,528	\$43,025	\$53,490	\$59,246	\$77,081	\$123,412
MUNICIPAL CONSERVATION, MERCY WSC	WUG	MERCY WSC	\$597,261	\$7,987	\$9,112	\$11,426	\$12,646	\$16,758	\$17,971
MUNICIPAL CONSERVATION, MISSOURI CITY	WUG	MISSOURI CITY	\$979,307	\$11,019	\$14,062	\$18,669	\$21,580	\$29,348	\$32,527
MUNICIPAL CONSERVATION, MONT BELVIEU	WUG	MONT BELVIEU	\$2,755,384	\$27,747	\$36,481	\$50,804	\$61,783	\$84,236	\$144,874
MUNICIPAL CONSERVATION, MONTGOMERY	WUG	MONTGOMERY	\$1,149,207	\$9,036	\$16,757	\$22,994	\$27,374	\$34,550	\$42,297
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 112	WUG	MONTGOMERY COUNTY MUD 112	\$310,974	\$4,121	\$5,462	\$6,316	\$6,471	\$7,934	\$7,934
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 115	WUG	MONTGOMERY COUNTY MUD 115	\$367,564	\$4,073	\$5,438	\$7,939	\$8,159	\$10,134	\$10,134
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 119	WUG	MONTGOMERY COUNTY MUD 119	\$1,257,993	\$14,406	\$19,101	\$27,362	\$27,923	\$33,643	\$33,643
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 15	WUG	MONTGOMERY COUNTY MUD 15	\$1,566,179	\$18,272	\$20,363	\$27,467	\$33,226	\$50,775	\$65,149
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 18	WUG	MONTGOMERY COUNTY MUD 18	\$2,211,274	\$23,981	\$32,016	\$42,199	\$48,528	\$66,223	\$81,804
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 19	WUG	MONTGOMERY COUNTY MUD 19	\$384,612	\$6,331	\$6,414	\$7,105	\$7,204	\$8,541	\$8,662
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 56	WUG	MONTGOMERY COUNTY MUD 56	\$318,577	\$3,491	\$4,672	\$6,866	\$7,067	\$8,856	\$9,057
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 8	WUG	MONTGOMERY COUNTY MUD 8	\$1,357,116	\$17,552	\$19,443	\$25,390	\$28,954	\$39,615	\$47,576
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 83	WUG	MONTGOMERY COUNTY MUD 83	\$524,623	\$7,897	\$8,440	\$10,142	\$10,762	\$13,811	\$14,103
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 84	WUG	MONTGOMERY COUNTY MUD 84	\$820,714	\$10,694	\$14,284	\$16,617	\$17,086	\$21,264	\$21,264
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 88	WUG	MONTGOMERY COUNTY MUD 88	\$127,869	\$0	\$2,136	\$3,112	\$3,195	\$3,949	\$3,949
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 89	WUG	MONTGOMERY COUNTY MUD 89	\$1,082,397	\$15,816	\$16,727	\$19,867	\$22,055	\$30,551	\$32,237

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 9	WUG	MONTGOMERY COUNTY MUD 9	\$2,572,872	\$34,901	\$37,547	\$49,674	\$57,239	\$70,842	\$70,842
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 95	WUG	MONTGOMERY COUNTY MUD 95	\$456,755	\$5,016	\$6,700	\$9,843	\$10,122	\$12,697	\$12,975
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 98	WUG	MONTGOMERY COUNTY MUD 98	\$714,737	\$7,835	\$10,484	\$15,403	\$15,852	\$19,868	\$20,317
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 99	WUG	MONTGOMERY COUNTY MUD 99	\$329,878	\$3,651	\$4,874	\$7,122	\$7,322	\$9,108	\$9,108
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 2	WUG	MONTGOMERY COUNTY UD 2	\$629,048	\$9,113	\$9,628	\$11,792	\$12,928	\$17,476	\$19,678
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 3	WUG	MONTGOMERY COUNTY UD 3	\$1,911,354	\$29,498	\$32,632	\$37,790	\$38,752	\$47,694	\$47,694
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 4	WUG	MONTGOMERY COUNTY UD 4	\$1,439,300	\$15,706	\$21,196	\$24,873	\$29,368	\$46,780	\$60,070
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	WUG	MONTGOMERY COUNTY WCID 1	\$870,925	\$11,195	\$12,712	\$16,328	\$18,473	\$25,491	\$28,935
MUNICIPAL CONSERVATION, MORGANS POINT	WUG	MORGANS POINT	\$138,847	\$2,106	\$2,341	\$2,770	\$2,953	\$3,362	\$3,527
MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	WUG	MOUNT HOUSTON ROAD MUD	\$1,320,375	\$15,256	\$19,452	\$25,826	\$28,933	\$38,471	\$40,995
MUNICIPAL CONSERVATION, MSEC ENTERPRISES	WUG	MSEC ENTERPRISES	\$9,772,149	\$77,653	\$139,557	\$180,590	\$229,459	\$316,866	\$330,899
MUNICIPAL CONSERVATION, NASSAU BAY	WUG	NASSAU BAY	\$1,286,760	\$21,374	\$22,369	\$25,343	\$26,199	\$30,320	\$30,710
MUNICIPAL CONSERVATION, NEEDVILLE	WUG	NEEDVILLE	\$754,487	\$11,631	\$12,168	\$14,466	\$15,229	\$19,825	\$21,297
MUNICIPAL CONSERVATION, NEW CANEY MUD	WUG	NEW CANEY MUD	\$3,053,206	\$42,419	\$48,481	\$62,530	\$64,135	\$78,163	\$95,926
MUNICIPAL CONSERVATION, NEW WAVERLY	WUG	NEW WAVERLY	\$374,114	\$6,084	\$6,397	\$7,417	\$7,678	\$8,928	\$9,074
MUNICIPAL CONSERVATION, NEWPORT MUD	WUG	NEWPORT MUD	\$2,179,239	\$33,014	\$35,298	\$42,218	\$44,491	\$56,945	\$59,579
MUNICIPAL CONSERVATION, NORMANGEE	WUG	NORMANGEE	\$276,676	\$4,210	\$4,543	\$5,389	\$5,811	\$6,980	\$7,346
MUNICIPAL CONSERVATION, NORTH BELT UD	WUG	NORTH BELT UD	\$631,892	\$10,345	\$10,574	\$12,333	\$12,846	\$15,495	\$15,962
MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	WUG	NORTH CHANNEL WATER AUTHORITY	\$19,645,665	\$283,508	\$298,482	\$370,924	\$409,785	\$545,418	\$564,495
MUNICIPAL CONSERVATION, NORTH FOREST MUD	WUG	NORTH FOREST MUD	\$319,256	\$5,065	\$5,334	\$6,239	\$6,417	\$8,048	\$8,226
MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	WUG	NORTH FORT BEND WATER AUTHORITY	\$133,636,662	\$1,096,995	\$1,672,125	\$2,769,073	\$3,093,329	\$4,292,578	\$4,395,662
MUNICIPAL CONSERVATION, NORTH GREEN MUD	WUG	NORTH GREEN MUD	\$449,339	\$7,578	\$7,775	\$8,743	\$8,966	\$10,771	\$11,009
MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$228,700,267	\$2,808,588	\$3,258,600	\$4,622,453	\$4,876,463	\$6,621,032	\$6,828,907
MUNICIPAL CONSERVATION, NORTH ZULCH MUD	WUG	NORTH ZULCH MUD	\$457,404	\$6,665	\$6,980	\$8,666	\$9,493	\$12,583	\$13,534
MUNICIPAL CONSERVATION, NORTHWEST HARRIS COUNTY MUD 16	WUG	NORTHWEST HARRIS COUNTY MUD 16	\$753,948	\$11,742	\$13,036	\$14,667	\$15,096	\$18,919	\$19,348

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, OAK HOLLOW UTILITY	WUG	OAK HOLLOW UTILITY	\$703,466	\$7,381	\$9,230	\$12,851	\$15,539	\$22,672	\$26,736
MUNICIPAL CONSERVATION, OAK RIDGE NORTH	WUG	OAK RIDGE NORTH	\$907,882	\$14,546	\$15,276	\$18,259	\$18,984	\$21,558	\$21,652
MUNICIPAL CONSERVATION, ONALASKA WSC	WUG	ONALASKA WSC	\$1,579,923	\$16,984	\$22,306	\$30,427	\$35,134	\$47,919	\$52,223
MUNICIPAL CONSERVATION, ONE FIVE O WSC	WUG	ONE FIVE O WSC	\$752,118	\$10,057	\$11,476	\$14,392	\$15,923	\$21,101	\$22,628
MUNICIPAL CONSERVATION, OYSTER CREEK	WUG	OYSTER CREEK	\$365,511	\$5,930	\$6,135	\$7,131	\$7,435	\$8,985	\$9,351
MUNICIPAL CONSERVATION, P B & S C WSC	WUG	P B & S C WSC	\$547,377	\$7,316	\$8,350	\$10,476	\$11,589	\$15,359	\$16,477
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 1	WUG	PALMER PLANTATION MUD 1	\$543,153	\$7,516	\$9,470	\$10,954	\$11,225	\$13,773	\$13,773
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 2	WUG	PALMER PLANTATION MUD 2	\$504,897	\$8,126	\$8,412	\$9,838	\$10,125	\$12,691	\$12,977
MUNICIPAL CONSERVATION, PANORAMA VILLAGE	WUG	PANORAMA VILLAGE	\$806,829	\$11,474	\$12,072	\$14,978	\$16,678	\$22,907	\$25,739
MUNICIPAL CONSERVATION, PARKWAY MUD	WUG	PARKWAY MUD	\$1,571,910	\$24,037	\$26,167	\$30,774	\$31,889	\$40,186	\$41,380
MUNICIPAL CONSERVATION, PASADENA	WUG	PASADENA	\$31,699,272	\$451,302	\$472,386	\$580,433	\$692,857	\$882,366	\$905,832
MUNICIPAL CONSERVATION, PATTISON WSC	WUG	PATTISON WSC	\$545,423	\$5,890	\$7,314	\$10,057	\$12,095	\$17,203	\$19,833
MUNICIPAL CONSERVATION, PEARLAND	WUG	PEARLAND	\$40,507,644	\$487,787	\$541,145	\$717,839	\$918,280	\$1,251,517	\$1,341,964
MUNICIPAL CONSERVATION, PECAN GROVE MUD 1	WUG	PECAN GROVE MUD 1	\$2,976,508	\$48,964	\$50,391	\$58,227	\$59,750	\$73,000	\$73,188
MUNICIPAL CONSERVATION, PENNINGTON WSC	WUG	PENNINGTON WSC	\$326,752	\$4,950	\$5,505	\$6,471	\$6,464	\$8,388	\$8,972
MUNICIPAL CONSERVATION, PHELPS SUD	WUG	PHELPS SUD	\$404,755	\$6,152	\$6,580	\$7,866	\$8,265	\$10,523	\$10,895
MUNICIPAL CONSERVATION, PINE VILLAGE PUD	WUG	PINE VILLAGE PUD	\$577,735	\$8,106	\$8,989	\$11,115	\$12,055	\$15,813	\$16,955
MUNICIPAL CONSERVATION, PINEWOOD COMMUNITY	WUG	PINEWOOD COMMUNITY	\$233,849	\$3,542	\$3,940	\$4,608	\$4,743	\$5,944	\$6,079
MUNICIPAL CONSERVATION, PLANTATION MUD	WUG	PLANTATION MUD	\$867,407	\$13,957	\$14,452	\$16,902	\$17,397	\$21,803	\$22,297
MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	WUG	POINT AQUARIUS MUD	\$698,344	\$10,005	\$10,388	\$12,913	\$14,436	\$19,851	\$22,414
MUNICIPAL CONSERVATION, PRAIRIE VIEW	WUG	PRAIRIE VIEW	\$1,310,026	\$11,401	\$15,870	\$23,622	\$30,103	\$44,673	\$53,336
MUNICIPAL CONSERVATION, PROVIDENCE WSC	WUG	PROVIDENCE WSC	\$108,220	\$7,092	\$3,730	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, QUADVEST	WUG	QUADVEST	\$15,976,834	\$119,433	\$161,537	\$252,914	\$379,792	\$609,897	\$741,104
MUNICIPAL CONSERVATION, QUAIL VALLEY UD	WUG	QUAIL VALLEY UD	\$4,954,886	\$47,802	\$70,500	\$99,917	\$116,355	\$146,286	\$146,286
MUNICIPAL CONSERVATION, RANCH UTILITIES	WUG	RANCH UTILITIES	\$367,586	\$4,751	\$6,355	\$7,433	\$7,651	\$9,588	\$9,806
MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	WUG	RAYFORD ROAD MUD	\$2,476,870	\$35,818	\$36,652	\$46,310	\$51,623	\$69,940	\$73,440
MUNICIPAL CONSERVATION, RICHMOND	WUG	RICHMOND	\$2,839,509	\$38,826	\$40,820	\$48,349	\$51,959	\$94,062	\$99,349

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, RICHWOOD	WUG	RICHWOOD	\$1,059,533	\$15,961	\$17,071	\$20,392	\$21,712	\$27,858	\$29,593
MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	WUG	RIVER PLANTATION MUD	\$859,909	\$10,103	\$11,083	\$15,675	\$18,983	\$27,270	\$28,769
MUNICIPAL CONSERVATION, ROLLING FORK PUD	WUG	ROLLING FORK PUD	\$493,788	\$8,116	\$8,353	\$9,660	\$9,898	\$12,138	\$12,138
MUNICIPAL CONSERVATION, ROMAN FOREST CONSOLIDATED MUD	WUG	ROMAN FOREST CONSOLIDATED MUD	\$498,998	\$6,721	\$7,000	\$9,044	\$10,518	\$14,880	\$17,368
MUNICIPAL CONSERVATION, ROSENBERG	WUG	ROSENBERG	\$10,696,240	\$148,523	\$158,772	\$200,303	\$224,806	\$304,273	\$329,470
MUNICIPAL CONSERVATION, ROYAL VALLEY UTILITIES	WUG	ROYAL VALLEY UTILITIES	\$645,179	\$7,890	\$10,127	\$13,540	\$13,921	\$17,309	\$17,309
MUNICIPAL CONSERVATION, SAGEMEADOW UD	WUG	SAGEMEADOW UD	\$1,686,926	\$22,664	\$25,339	\$31,996	\$35,719	\$47,768	\$52,066
MUNICIPAL CONSERVATION, SAN JACINTO SUD	WUG	SAN JACINTO SUD	\$857,236	\$11,459	\$13,076	\$16,407	\$18,151	\$24,051	\$25,796
MUNICIPAL CONSERVATION, SEABROOK	WUG	SEABROOK	\$3,075,442	\$49,680	\$51,969	\$59,841	\$62,544	\$75,795	\$77,152
MUNICIPAL CONSERVATION, SEALY	WUG	SEALY	\$2,201,136	\$30,268	\$34,068	\$42,285	\$47,589	\$59,266	\$66,376
MUNICIPAL CONSERVATION, SEDONA LAKES MUD 1	WUG	SEDONA LAKES MUD 1	\$458,106	\$5,525	\$6,531	\$8,580	\$9,880	\$13,759	\$15,356
MUNICIPAL CONSERVATION, SEQUOIA IMPROVEMENT DISTRICT	WUG	SEQUOIA IMPROVEMENT DISTRICT	\$273,422	\$4,037	\$4,471	\$5,511	\$5,654	\$6,972	\$6,972
MUNICIPAL CONSERVATION, SHENANDOAH	WUG	SHENANDOAH	\$1,764,103	\$23,327	\$30,898	\$36,943	\$38,828	\$41,902	\$45,123
MUNICIPAL CONSERVATION, SHEPHERD	WUG	SHEPHERD	\$796,830	\$10,663	\$12,155	\$15,247	\$16,861	\$22,361	\$23,960
MUNICIPAL CONSERVATION, SHOREACRES	WUG	SHOREACRES	\$434,121	\$6,745	\$7,105	\$8,391	\$8,848	\$11,188	\$11,351
MUNICIPAL CONSERVATION, SIENNA PLANTATION	WUG	SIENNA PLANTATION	\$14,108,377	\$106,226	\$139,321	\$230,007	\$343,765	\$530,038	\$614,807
MUNICIPAL CONSERVATION, SODA WSC	WUG	SODA WSC	\$515,365	\$6,814	\$7,886	\$9,979	\$10,938	\$14,391	\$15,285
MUNICIPAL CONSERVATION, SOUTH CLEVELAND WSC	WUG	SOUTH CLEVELAND WSC	\$719,210	\$9,045	\$10,552	\$13,656	\$15,416	\$20,950	\$23,020
MUNICIPAL CONSERVATION, SOUTH HOUSTON	WUG	SOUTH HOUSTON	\$3,528,418	\$55,882	\$57,091	\$68,173	\$72,294	\$89,999	\$94,028
MUNICIPAL CONSERVATION, SOUTHEAST WSC	WUG	SOUTHEAST WSC	\$940,549	\$13,052	\$14,492	\$17,872	\$19,706	\$26,120	\$28,129
MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	SOUTHERN MONTGOMERY COUNTY MUD	\$1,761,929	\$28,080	\$29,640	\$34,402	\$35,607	\$43,945	\$45,189
MUNICIPAL CONSERVATION, SOUTHERN WATER	WUG	SOUTHERN WATER	\$859,821	\$13,034	\$14,487	\$16,943	\$17,429	\$21,855	\$22,341
MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	WUG	SOUTHSIDE PLACE	\$350,505	\$5,617	\$5,810	\$6,762	\$6,955	\$8,944	\$9,625
MUNICIPAL CONSERVATION, SOUTHWEST HARRIS COUNTY MUD 1	WUG	SOUTHWEST HARRIS COUNTY MUD 1	\$142,770	\$5,641	\$6,355	\$2,281	\$0	\$0	\$0
MUNICIPAL CONSERVATION, SPLENDORA	WUG	SPLENDORA	\$2,671,520	\$29,037	\$32,788	\$45,902	\$57,037	\$87,180	\$152,080
MUNICIPAL CONSERVATION, SPRING CREEK UD	WUG	SPRING CREEK UD	\$3,032,270	\$35,515	\$40,546	\$50,036	\$56,296	\$109,373	\$114,610

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, SPRING MEADOWS MUD	WUG	SPRING MEADOWS MUD	\$872,219	\$13,242	\$14,732	\$17,229	\$17,735	\$22,224	\$20,599
MUNICIPAL CONSERVATION, SPRING VALLEY	WUG	SPRING VALLEY	\$1,189,431	\$16,336	\$18,306	\$22,820	\$25,126	\$32,822	\$35,331
MUNICIPAL CONSERVATION, STANLEY LAKE MUD	WUG	STANLEY LAKE MUD	\$1,496,087	\$14,902	\$17,076	\$25,292	\$33,531	\$52,072	\$67,357
MUNICIPAL CONSERVATION, SUBURBAN UTILITY	WUG	SUBURBAN UTILITY	\$840,323	\$13,519	\$14,001	\$16,374	\$16,856	\$21,122	\$21,603
MUNICIPAL CONSERVATION, SUGAR LAND	WUG	SUGAR LAND	\$40,237,388	\$561,152	\$617,837	\$723,035	\$876,578	\$1,129,449	\$1,156,878
MUNICIPAL CONSERVATION, SUNBELT FWSD	WUG	SUNBELT FWSD	\$7,755,607	\$105,197	\$113,196	\$144,053	\$163,639	\$225,244	\$242,317
MUNICIPAL CONSERVATION, SURFSIDE BEACH	WUG	SURFSIDE BEACH	\$194,388	\$2,813	\$3,324	\$3,869	\$3,979	\$4,958	\$4,958
MUNICIPAL CONSERVATION, SWEENEY	WUG	SWEENEY	\$855,971	\$14,363	\$14,686	\$16,832	\$17,184	\$20,474	\$20,581
MUNICIPAL CONSERVATION, T & W WATER SERVICE	WUG	T & W WATER SERVICE	\$3,641,710	\$29,103	\$37,995	\$54,438	\$68,344	\$155,413	\$188,780
MUNICIPAL CONSERVATION, TARKINGTON SUD	WUG	TARKINGTON SUD	\$1,320,661	\$15,361	\$18,660	\$24,900	\$28,784	\$39,910	\$44,511
MUNICIPAL CONSERVATION, TDCJ JESTER UNITS	WUG	TDCJ JESTER UNITS	\$564,744	\$9,147	\$9,462	\$11,013	\$11,327	\$14,114	\$14,114
MUNICIPAL CONSERVATION, TDCJ RAMSEY AREA	WUG	TDCJ RAMSEY AREA	\$286,459	\$4,640	\$4,799	\$5,586	\$5,746	\$7,159	\$7,159
MUNICIPAL CONSERVATION, TEMPE WSC 1	WUG	TEMPE WSC 1	\$551,885	\$7,297	\$8,441	\$10,689	\$11,717	\$15,408	\$16,365
MUNICIPAL CONSERVATION, TEXAS CITY	WUG	TEXAS CITY	\$16,534,117	\$225,932	\$240,933	\$310,609	\$351,725	\$474,061	\$501,517
MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY	WUG	THE COMMONS WATER SUPPLY	\$637,110	\$9,338	\$10,196	\$12,418	\$13,163	\$16,847	\$17,490
MUNICIPAL CONSERVATION, THE WOODLANDS	WUG	THE WOODLANDS	\$26,830,227	\$306,629	\$336,955	\$462,668	\$607,181	\$874,702	\$948,877
MUNICIPAL CONSERVATION, THUNDERBIRD UD	WUG	THUNDERBIRD UD	\$1,637,267	\$23,023	\$28,863	\$33,156	\$33,830	\$40,777	\$40,777
MUNICIPAL CONSERVATION, TOMBALL	WUG	TOMBALL	\$3,413,919	\$50,976	\$54,899	\$60,426	\$62,543	\$102,034	\$105,139
MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	WUG	TRAIL OF THE LAKES MUD	\$1,838,937	\$28,243	\$30,475	\$35,990	\$37,363	\$46,995	\$48,277
MUNICIPAL CONSERVATION, TRINITY	WUG	TRINITY	\$1,051,962	\$15,802	\$17,697	\$20,859	\$20,867	\$27,074	\$28,972
MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	WUG	TRINITY BAY CONSERVATION DISTRICT	\$7,470,364	\$64,982	\$79,701	\$133,187	\$180,433	\$259,338	\$293,954
MUNICIPAL CONSERVATION, TRINITY RURAL WSC	WUG	TRINITY RURAL WSC	\$863,935	\$12,869	\$14,438	\$17,096	\$17,223	\$22,375	\$23,925
MUNICIPAL CONSERVATION, VALLEY RANCH MUD 1	WUG	VALLEY RANCH MUD 1	\$684,601	\$7,691	\$10,225	\$14,794	\$15,157	\$18,688	\$19,051
MUNICIPAL CONSERVATION, VARNER CREEK UD	WUG	VARNER CREEK UD	\$454,609	\$7,768	\$7,977	\$8,603	\$8,857	\$11,119	\$11,369
MUNICIPAL CONSERVATION, WALKER COUNTY RURAL SUD	WUG	WALKER COUNTY RURAL SUD	\$1,832,813	\$26,472	\$29,141	\$35,545	\$38,004	\$48,994	\$51,253
MUNICIPAL CONSERVATION, WALLER	WUG	WALLER	\$1,151,987	\$17,119	\$18,517	\$22,399	\$24,358	\$29,585	\$32,207

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, WALLIS	WUG	WALLIS	\$407,981	\$5,639	\$6,203	\$7,725	\$8,511	\$11,460	\$12,601
MUNICIPAL CONSERVATION, WATERWOOD MUD 1	WUG	WATERWOOD MUD 1	\$109,893	\$1,479	\$1,688	\$2,107	\$2,327	\$3,067	\$3,213
MUNICIPAL CONSERVATION, WEBSTER	WUG	WEBSTER	\$2,952,717	\$40,591	\$51,633	\$59,911	\$64,736	\$71,117	\$72,837
MUNICIPAL CONSERVATION, WEST COLUMBIA	WUG	WEST COLUMBIA	\$1,174,985	\$18,680	\$19,429	\$22,837	\$23,651	\$29,828	\$30,735
MUNICIPAL CONSERVATION, WEST END WSC	WUG	WEST END WSC	\$440,698	\$5,727	\$6,483	\$8,276	\$9,339	\$12,814	\$14,308
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	WUG	WEST HARRIS COUNTY MUD 6	\$379,276	\$6,239	\$6,253	\$7,336	\$7,689	\$9,439	\$9,716
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$141,796,335	\$1,810,438	\$2,085,061	\$2,817,826	\$3,049,929	\$4,002,981	\$4,133,985
MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	WUG	WEST UNIVERSITY PLACE	\$6,438,897	\$78,532	\$86,709	\$113,513	\$144,852	\$198,849	\$214,347
MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	WUG	WESTWOOD NORTH WSC	\$743,885	\$10,503	\$10,946	\$14,021	\$15,777	\$20,807	\$23,345
MUNICIPAL CONSERVATION, WESTWOOD SHORES MUD	WUG	WESTWOOD SHORES MUD	\$452,780	\$6,801	\$7,620	\$8,978	\$8,975	\$11,657	\$12,470
MUNICIPAL CONSERVATION, WHITE OAK UTILITIES	WUG	WHITE OAK UTILITIES	\$530,299	\$6,848	\$9,170	\$10,724	\$11,040	\$13,833	\$14,149
MUNICIPAL CONSERVATION, WHITE OAK WSC	WUG	WHITE OAK WSC	\$203,451	\$2,716	\$3,500	\$4,094	\$4,214	\$5,281	\$5,401
MUNICIPAL CONSERVATION, WILLIS	WUG	WILLIS	\$1,526,672	\$20,804	\$22,223	\$28,016	\$31,612	\$44,738	\$52,742
MUNICIPAL CONSERVATION, WOOD BRANCH VILLAGE	WUG	WOOD BRANCH VILLAGE	\$91,110	\$5,053	\$4,058	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, WOODCREEK MUD	WUG	WOODCREEK MUD	\$560,771	\$8,866	\$9,230	\$10,891	\$11,302	\$14,310	\$14,781
MUNICIPAL CONSERVATION, WOODCREEK WATER OF LIBERTY	WUG	WOODCREEK WATER OF LIBERTY	\$835,962	\$10,847	\$12,423	\$15,930	\$17,769	\$23,997	\$26,302
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	WUG	COUNTY-OTHER, BRAZORIA	\$15,708,984	\$0	\$410,682	\$846,892	\$1,062,092	\$1,305,270	\$1,558,906
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHRWA	WUG	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$1,185,366	\$0	\$119,255	\$274,669	\$442,713	\$481,231	\$427,785
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	WUG	COUNTY-OTHER, FORT BEND	\$19,636,871	\$0	\$995,358	\$1,590,465	\$2,161,822	\$2,676,947	\$3,169,950
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	WUG	COUNTY-OTHER, HARRIS	\$9,659,892	\$0	\$1,069,763	\$1,869,517	\$1,705,237	\$1,945,271	\$2,406,790
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	WUG	COUNTY-OTHER, MONTGOMERY	\$61,122,692	\$0	\$1,209,811	\$2,970,318	\$4,146,055	\$5,620,137	\$7,317,899
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	WUG	NORTH FORT BEND WATER AUTHORITY	\$40,939,835	\$0	\$973,194	\$1,738,594	\$1,737,822	\$1,888,912	\$2,084,280
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHRWA	WUG	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$21,061,144	\$0	\$88,199	\$221,302	\$359,981	\$394,111	\$346,950
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	WUG	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$11,713,653	\$0	\$93,308	\$258,481	\$443,203	\$458,917	\$405,214
NFBWA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	NORTH FORT BEND WATER AUTHORITY	\$46,640,088	\$6,469,709	\$6,469,709	\$3,188,062	\$3,188,062	\$3,188,062	\$3,188,062

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
NFBWA PHASE 2 DISTRIBUTION SEGMENTS	WMS	NORTH FORT BEND WATER AUTHORITY	\$83,859,522	\$0	\$6,490,509	\$6,490,509	\$590,062	\$590,062	\$590,062
NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$501,912,161	\$0	\$38,525,213	\$38,525,213	\$3,210,133	\$3,210,133	\$3,210,133
NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$404,769,674	\$0	\$0	\$31,551,981	\$31,551,981	\$3,071,951	\$3,071,951
NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$13,022,081	\$0	\$0	\$0	\$982,524	\$982,524	\$66,276
NHCRWA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$4,295,775	\$573,791	\$573,791	\$271,535	\$271,535	\$271,535	\$271,535
NHCRWA TRANSMISSION LINES	WMS	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$327,910,960	\$0	\$26,575,945	\$26,575,945	\$3,503,777	\$3,503,777	\$3,503,777
NRG CEDAR BAYOU DESALINATION	WMS	NRG	\$342,840,391	\$0	\$59,058,575	\$59,058,575	\$34,935,956	\$34,935,956	\$34,935,956
PEARLAND REUSE INFRASTRUCTURE	WMS	PEARLAND	\$12,648,000	\$268,278	\$1,053,666	\$827,717	\$163,739	\$163,739	\$163,739
PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	WMS	PEARLAND	\$232,787,093	\$0	\$21,797,311	\$21,797,311	\$5,418,161	\$5,418,161	\$5,418,161
PORTER SUD GRP INFRASTRUCTURE - PHASE 1	WMS	PORTER SUD	\$18,370,179	\$2,261,591	\$2,261,591	\$969,045	\$969,045	\$969,045	\$969,045
PORTER SUD GRP INFRASTRUCTURE - PHASE 2	WMS	PORTER SUD	\$8,492,353	\$0	\$1,193,394	\$1,193,394	\$595,863	\$595,863	\$595,863
RICHMOND GRP INFRASTRUCTURE	WMS	RICHMOND	\$64,737,991	\$0	\$7,086,792	\$7,086,792	\$2,531,757	\$2,531,757	\$2,531,757
RICHMOND REUSE INFRASTRUCTURE	WMS	RICHMOND	\$6,198,853	\$507,427	\$507,427	\$71,269	\$71,269	\$71,269	\$71,269
ROSENBERG GRP INFRASTRUCTURE	WMS	ROSENBERG	\$12,963,110	\$0	\$1,024,448	\$1,024,448	\$112,350	\$112,350	\$112,350
SEWPP ADDITIONAL MODULE	WMS	GULF COAST WATER AUTHORITY	\$97,597,266	\$0	\$11,141,614	\$11,141,614	\$4,274,565	\$4,274,565	\$4,274,565
SJRA AQUIFER STORAGE AND RECOVERY	WMS	SAN JACINTO RIVER AUTHORITY	\$222,907,186	\$0	\$0	\$0	\$0	\$0	\$24,041,287
SJRA CATAHOULA AQUIFER SUPPLIES	WMS	SAN JACINTO RIVER AUTHORITY	\$18,200,411	\$0	\$0	\$5,034,562	\$5,034,562	\$3,753,962	\$3,753,962
SJRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	WMS	SAN JACINTO RIVER AUTHORITY	\$87,842,787	\$0	\$7,012,715	\$7,012,715	\$832,002	\$832,002	\$832,002
SJRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	WMS	SAN JACINTO RIVER AUTHORITY	\$348,819,483	\$0	\$0	\$27,847,156	\$27,847,156	\$3,303,841	\$3,303,841
SJRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	WMS	SAN JACINTO RIVER AUTHORITY	\$213,429,097	\$0	\$0	\$0	\$17,038,593	\$17,038,593	\$2,021,492
SJRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	WMS	SAN JACINTO RIVER AUTHORITY	\$348,819,483	\$0	\$0	\$0	\$0	\$27,847,156	\$27,847,156

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	WMS	BAYBROOK MUD 1	\$7,625,345	\$0	\$584,724	\$584,724	\$48,197	\$48,197	\$48,197
		CLEAR LAKE CITY WATER AUTHORITY	\$9,531,151	\$0	\$730,865	\$730,865	\$60,243	\$60,243	\$60,243
		FRIENDSWOOD	\$12,644,220	\$0	\$969,580	\$969,580	\$79,919	\$79,919	\$79,919
		GULF COAST WATER AUTHORITY	\$53,117,789	\$0	\$4,073,162	\$4,073,162	\$335,737	\$335,737	\$335,737
		HARRIS COUNTY MUD 55	\$9,246,023	\$0	\$709,001	\$709,001	\$58,441	\$58,441	\$58,441
SUGAR LAND ADVANCED LOSS REDUCTION	WMS	HOUSTON	\$17,466,666	\$0	\$1,339,374	\$1,339,374	\$110,400	\$110,400	\$110,400
		PASADENA	\$47,383	\$0	\$3,633	\$3,633	\$299	\$299	\$299
SUGAR LAND AMI	WMS	WEBSTER	\$9,734,490	\$0	\$746,457	\$746,457	\$61,528	\$61,528	\$61,528
		SUGAR LAND	\$359,565	\$0	\$157,140	\$157,140	\$131,841	\$131,841	\$131,841
SUGAR LAND GROUNDWATER PLANT CONVERSION	WMS	SUGAR LAND	\$12,488,608	\$0	\$953,422	\$953,422	\$74,710	\$74,710	\$74,710
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	WMS	SUGAR LAND	\$21,466,745	\$0	\$1,597,428	\$1,597,428	\$87,004	\$87,004	\$87,004
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	WMS	SUGAR LAND	\$18,579,129	\$0	\$1,675,836	\$1,675,836	\$368,588	\$368,588	\$368,588
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	WMS	SUGAR LAND	\$10,302,830	\$0	\$927,143	\$927,143	\$202,225	\$202,225	\$202,225
SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	WMS	SUGAR LAND	\$52,730,261	\$0	\$6,301,027	\$6,301,027	\$2,590,869	\$2,590,869	\$2,590,869
SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	WMS	SUGAR LAND	\$17,206,901	\$0	\$0	\$3,804,562	\$2,593,866	\$2,593,866	\$2,593,866
SURFSIDE BEACH SUPPLY INFRASTRUCTURE	WMS	SURFSIDE BEACH	\$1,900,440	\$145,407	\$145,407	\$11,690	\$11,690	\$11,690	\$11,690
WATER LOSS REDUCTION, ANAHUAC	WUG	ANAHUAC	\$477,688	\$2,500	\$6,150	\$9,632	\$12,537	\$15,158	\$17,918
WATER LOSS REDUCTION, ANGLETON	WUG	ANGLETON	\$1,862,486	\$9,375	\$25,215	\$37,926	\$48,954	\$58,883	\$58,956
WATER LOSS REDUCTION, AUSTIN COUNTY WSC	WUG	AUSTIN COUNTY WSC	\$148,612	\$625	\$2,460	\$3,010	\$3,582	\$4,664	\$5,202
WATER LOSS REDUCTION, BAYBROOK MUD 1	WUG	BAYBROOK MUD 1	\$196,842	\$1,250	\$3,075	\$4,816	\$4,776	\$5,247	\$5,202
WATER LOSS REDUCTION, BAYTOWN	WUG	BAYTOWN	\$5,485,688	\$37,500	\$105,165	\$130,634	\$130,743	\$131,175	\$133,518
WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	WUG	BOLIVAR PENINSULA SUD	\$414,444	\$1,250	\$3,690	\$7,224	\$11,343	\$15,741	\$21,964
WATER LOSS REDUCTION, BRAZORIA COUNTY MUD 2	WUG	BRAZORIA COUNTY MUD 2	\$2,807,512	\$13,125	\$36,285	\$56,588	\$74,625	\$89,782	\$103,462
WATER LOSS REDUCTION, BROOKSHIRE MWD	WUG	BROOKSHIRE MWD	\$1,566,564	\$4,375	\$14,760	\$27,692	\$42,387	\$59,466	\$79,764
WATER LOSS REDUCTION, BUFFALO	WUG	BUFFALO	\$527,570	\$2,500	\$6,765	\$10,234	\$14,328	\$16,907	\$20,230
WATER LOSS REDUCTION, CAPE ROYALE UD	WUG	CAPE ROYALE UD	\$271,092	\$1,250	\$3,690	\$6,020	\$7,761	\$7,579	\$8,092

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	WUG	CLEAR LAKE CITY WATER AUTHORITY	\$8,789,400	\$50,000	\$142,680	\$213,108	\$222,084	\$227,370	\$236,980
WATER LOSS REDUCTION, CLEVELAND	WUG	CLEVELAND	\$1,861,664	\$8,750	\$23,985	\$36,722	\$49,551	\$60,049	\$71,094
WATER LOSS REDUCTION, COUNTY-OTHER, AUSTIN	WUG	COUNTY-OTHER, AUSTIN	\$4,035,700	\$11,875	\$38,745	\$70,434	\$109,251	\$152,746	\$205,190
WATER LOSS REDUCTION, COUNTY-OTHER, LEON	WUG	COUNTY-OTHER, LEON	\$332,846	\$1,875	\$4,920	\$7,224	\$8,955	\$9,328	\$9,826
WATER LOSS REDUCTION, COUNTY-OTHER, LIBERTY	WUG	COUNTY-OTHER, LIBERTY	\$8,518,966	\$33,750	\$101,475	\$164,948	\$228,054	\$288,585	\$350,846
WATER LOSS REDUCTION, COUNTY-OTHER, MADISON	WUG	COUNTY-OTHER, MADISON	\$2,419,194	\$10,000	\$28,290	\$46,354	\$65,073	\$82,203	\$99,994
WATER LOSS REDUCTION, COUNTY-OTHER, POLK	WUG	COUNTY-OTHER, POLK	\$1,006,838	\$6,250	\$17,220	\$25,284	\$25,074	\$24,486	\$23,698
WATER LOSS REDUCTION, COUNTY-OTHER, SAN JACINTO	WUG	COUNTY-OTHER, SAN JACINTO	\$1,169,018	\$5,625	\$17,220	\$28,294	\$31,044	\$31,482	\$32,368
WATER LOSS REDUCTION, COUNTY-OTHER, WALLER	WUG	COUNTY-OTHER, WALLER	\$1,069,898	\$9,375	\$19,065	\$21,672	\$25,074	\$28,567	\$32,368
WATER LOSS REDUCTION, CROSBY MUD	WUG	CROSBY MUD	\$483,816	\$1,875	\$6,150	\$9,632	\$13,134	\$15,741	\$18,496
WATER LOSS REDUCTION, DEER PARK	WUG	DEER PARK	\$7,383,436	\$31,875	\$92,250	\$145,082	\$197,010	\$243,111	\$290,156
WATER LOSS REDUCTION, EL DORADO UD	WUG	EL DORADO UD	\$363,044	\$1,875	\$4,920	\$7,826	\$10,149	\$10,494	\$10,404
WATER LOSS REDUCTION, FLO COMMUNITY WSC	WUG	FLO COMMUNITY WSC	\$1,024,682	\$3,125	\$10,455	\$18,662	\$28,059	\$37,312	\$48,552
WATER LOSS REDUCTION, FOREST HILLS MUD	WUG	FOREST HILLS MUD	\$369,452	\$1,875	\$4,920	\$7,826	\$10,149	\$11,077	\$10,982
WATER LOSS REDUCTION, FORT BEND COUNTY FWSD 1	WUG	FORT BEND COUNTY FWSD 1	\$255,490	\$625	\$2,460	\$4,816	\$7,164	\$9,328	\$11,560
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	WUG	FORT BEND COUNTY MUD 115	\$743,632	\$3,750	\$11,070	\$17,458	\$20,298	\$19,822	\$19,652
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 81	WUG	FORT BEND COUNTY MUD 81	\$1,040,860	\$5,625	\$17,220	\$24,682	\$26,268	\$27,401	\$28,900
WATER LOSS REDUCTION, FORT BEND COUNTY WCID 2	WUG	FORT BEND COUNTY WCID 2	\$5,695,680	\$31,875	\$109,470	\$124,012	\$137,907	\$149,831	\$164,730
WATER LOSS REDUCTION, FRIENDSWOOD	WUG	FRIENDSWOOD	\$9,832,174	\$37,500	\$113,160	\$187,222	\$265,665	\$341,638	\$380,324
WATER LOSS REDUCTION, G & W WSC	WUG	G & W WSC	\$669,858	\$1,875	\$6,765	\$13,846	\$19,104	\$22,737	\$26,588
WATER LOSS REDUCTION, GALVESTON	WUG	GALVESTON	\$49,732,012	\$200,000	\$589,170	\$960,792	\$1,338,474	\$1,680,789	\$2,039,762
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 1	WUG	GALVESTON COUNTY WCID 1	\$4,300,622	\$15,625	\$47,355	\$80,066	\$116,415	\$152,163	\$184,382
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 8	WUG	GALVESTON COUNTY WCID 8	\$2,130,160	\$9,375	\$26,445	\$42,140	\$56,715	\$69,960	\$83,810
WATER LOSS REDUCTION, GREENWOOD UD	WUG	GREENWOOD UD	\$1,699,188	\$6,875	\$22,140	\$34,314	\$45,372	\$54,802	\$64,158
WATER LOSS REDUCTION, GROVETON	WUG	GROVETON	\$124,064	\$625	\$1,845	\$2,408	\$2,985	\$4,081	\$4,624
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 1-A	WUG	HARRIS COUNTY FWSD 1-A	\$403,944	\$1,875	\$4,920	\$7,826	\$10,746	\$13,409	\$16,184

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 58	WUG	HARRIS COUNTY FWSD 58	\$79,994	\$1,250	\$1,230	\$1,806	\$1,791	\$1,749	\$1,734
WATER LOSS REDUCTION, HARRIS COUNTY MUD 106	WUG	HARRIS COUNTY MUD 106	\$1,632,142	\$6,875	\$20,295	\$32,508	\$44,178	\$53,636	\$57,222
WATER LOSS REDUCTION, HARRIS COUNTY MUD 11	WUG	HARRIS COUNTY MUD 11	\$30,798	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 180	WUG	HARRIS COUNTY MUD 180	\$656,498	\$3,125	\$8,610	\$13,244	\$17,313	\$20,988	\$23,698
WATER LOSS REDUCTION, HARRIS COUNTY MUD 216	WUG	HARRIS COUNTY MUD 216	\$229,162	\$1,250	\$3,075	\$4,816	\$5,970	\$6,996	\$8,092
WATER LOSS REDUCTION, HARRIS COUNTY MUD 412	WUG	HARRIS COUNTY MUD 412	\$642,432	\$2,500	\$7,380	\$12,642	\$17,313	\$22,154	\$22,542
WATER LOSS REDUCTION, HARRIS COUNTY MUD 5	WUG	HARRIS COUNTY MUD 5	\$480,908	\$2,500	\$6,150	\$9,632	\$13,731	\$14,575	\$15,028
WATER LOSS REDUCTION, HARRIS COUNTY MUD 50	WUG	HARRIS COUNTY MUD 50	\$781,538	\$3,750	\$9,840	\$15,652	\$20,895	\$25,069	\$29,478
WATER LOSS REDUCTION, HARRIS COUNTY MUD 55	WUG	HARRIS COUNTY MUD 55	\$739,672	\$5,000	\$14,760	\$16,856	\$17,313	\$18,073	\$19,652
WATER LOSS REDUCTION, HARRIS COUNTY UD 14	WUG	HARRIS COUNTY UD 14	\$450,426	\$1,875	\$4,920	\$8,428	\$11,940	\$15,741	\$21,386
WATER LOSS REDUCTION, HARRIS COUNTY WCID 1	WUG	HARRIS COUNTY WCID 1	\$1,161,412	\$5,000	\$14,760	\$22,876	\$31,044	\$37,895	\$45,662
WATER LOSS REDUCTION, HARRIS COUNTY WCID 70	WUG	HARRIS COUNTY WCID 70	\$359,774	\$1,875	\$4,920	\$7,224	\$9,552	\$11,077	\$13,294
WATER LOSS REDUCTION, HARRIS COUNTY WCID 89	WUG	HARRIS COUNTY WCID 89	\$644,648	\$3,125	\$8,610	\$12,642	\$17,313	\$20,405	\$23,698
WATER LOSS REDUCTION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	HARRIS COUNTY WCID-FONDREN ROAD	\$239,530	\$1,250	\$4,305	\$6,020	\$5,970	\$5,830	\$5,780
WATER LOSS REDUCTION, HILLCREST VILLAGE	WUG	HILLCREST VILLAGE	\$130,034	\$625	\$1,845	\$2,408	\$3,582	\$4,081	\$4,624
WATER LOSS REDUCTION, HOUSTON	WUG	HOUSTON	\$650,324,980	\$2,550,000	\$7,580,490	\$12,445,146	\$17,463,444	\$22,254,276	\$27,391,420
WATER LOSS REDUCTION, HUNTSVILLE	WUG	HUNTSVILLE	\$5,562,578	\$30,625	\$89,175	\$139,664	\$141,489	\$141,086	\$142,188
WATER LOSS REDUCTION, JACINTO CITY	WUG	JACINTO CITY	\$615,350	\$3,125	\$8,610	\$13,846	\$17,313	\$16,907	\$17,340
WATER LOSS REDUCTION, JERSEY VILLAGE	WUG	JERSEY VILLAGE	\$1,427,144	\$7,500	\$20,910	\$32,508	\$38,805	\$39,061	\$39,304
WATER LOSS REDUCTION, KENDLETON	WUG	KENDLETON	\$830,346	\$2,500	\$8,610	\$15,050	\$22,686	\$30,316	\$38,726
WATER LOSS REDUCTION, LA MARQUE	WUG	LA MARQUE	\$11,988,988	\$51,250	\$153,750	\$240,198	\$319,992	\$388,278	\$454,308
WATER LOSS REDUCTION, LA PORTE	WUG	LA PORTE	\$2,115,106	\$16,875	\$47,355	\$47,558	\$47,760	\$47,223	\$47,396
WATER LOSS REDUCTION, LAKE CONROE HILLS MUD	WUG	LAKE CONROE HILLS MUD	\$443,734	\$1,250	\$3,690	\$7,224	\$11,940	\$18,073	\$21,964
WATER LOSS REDUCTION, LAKE LIVINGSTON WSC	WUG	LAKE LIVINGSTON WSC	\$3,555,784	\$12,500	\$38,745	\$66,220	\$96,117	\$125,928	\$160,684
WATER LOSS REDUCTION, LAKE MUD	WUG	LAKE MUD	\$153,638	\$1,250	\$3,075	\$3,612	\$3,582	\$3,498	\$3,468
WATER LOSS REDUCTION, LEAGUE CITY	WUG	LEAGUE CITY	\$11,996,792	\$57,500	\$178,350	\$297,388	\$315,813	\$318,318	\$323,102
WATER LOSS REDUCTION, LEGGETT WSC	WUG	LEGGETT WSC	\$1,149,658	\$4,375	\$13,530	\$22,274	\$31,044	\$39,061	\$46,818

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, LIBERTY	WUG	LIBERTY	\$3,277,750	\$13,125	\$38,745	\$63,210	\$87,759	\$111,353	\$135,830
WATER LOSS REDUCTION, LIVINGSTON	WUG	LIVINGSTON	\$5,674,944	\$21,250	\$65,805	\$109,564	\$154,026	\$193,556	\$232,934
WATER LOSS REDUCTION, LONGHORN TOWN UD	WUG	LONGHORN TOWN UD	\$30,798	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LUCE BAYOU PUD	WUG	LUCE BAYOU PUD	\$191,766	\$625	\$2,460	\$3,612	\$5,373	\$6,413	\$6,936
WATER LOSS REDUCTION, MADISON COUNTY WSC	WUG	MADISON COUNTY WSC	\$37,206	\$625	\$615	\$602	\$597	\$1,166	\$1,156
WATER LOSS REDUCTION, MADISONVILLE	WUG	MADISONVILLE	\$1,380,364	\$5,625	\$16,605	\$26,488	\$37,014	\$46,640	\$56,644
WATER LOSS REDUCTION, MANVEL	WUG	MANVEL	\$567,794	\$1,250	\$4,305	\$9,030	\$15,522	\$23,320	\$33,524
WATER LOSS REDUCTION, MEMORIAL POINT UD	WUG	MEMORIAL POINT UD	\$590,716	\$2,500	\$6,765	\$11,438	\$16,119	\$19,822	\$24,276
WATER LOSS REDUCTION, MERCY WSC	WUG	MERCY WSC	\$460,284	\$1,875	\$5,535	\$9,030	\$11,940	\$15,741	\$19,074
WATER LOSS REDUCTION, MISSOURI CITY	WUG	MISSOURI CITY	\$142,046	\$1,250	\$2,460	\$3,010	\$3,582	\$3,498	\$4,046
WATER LOSS REDUCTION, MONTGOMERY	WUG	MONTGOMERY	\$594,520	\$2,500	\$10,455	\$12,642	\$14,925	\$16,907	\$20,230
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 84	WUG	MONTGOMERY COUNTY MUD 84	\$356,220	\$1,875	\$6,150	\$9,030	\$8,955	\$8,745	\$8,670
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 88	WUG	MONTGOMERY COUNTY MUD 88	\$104,520	\$625	\$1,230	\$2,408	\$2,985	\$2,915	\$2,890
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 99	WUG	MONTGOMERY COUNTY MUD 99	\$372,180	\$1,250	\$4,305	\$7,826	\$10,149	\$12,243	\$14,450
WATER LOSS REDUCTION, MONTGOMERY COUNTY UD 3	WUG	MONTGOMERY COUNTY UD 3	\$1,834,506	\$8,125	\$23,985	\$37,324	\$48,954	\$58,300	\$67,626
WATER LOSS REDUCTION, NASSAU BAY	WUG	NASSAU BAY	\$663,922	\$3,750	\$11,070	\$16,856	\$16,716	\$16,324	\$16,762
WATER LOSS REDUCTION, NEW WAVERLY	WUG	NEW WAVERLY	\$79,894	\$625	\$1,845	\$1,806	\$1,791	\$1,749	\$1,734
WATER LOSS REDUCTION, NEWPORT MUD	WUG	NEWPORT MUD	\$510,588	\$3,750	\$10,455	\$12,040	\$11,940	\$11,660	\$12,138
WATER LOSS REDUCTION, NORTH BELT UD	WUG	NORTH BELT UD	\$215,712	\$1,875	\$4,920	\$4,816	\$4,776	\$4,664	\$5,202
WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	WUG	NORTH CHANNEL WATER AUTHORITY	\$5,816,298	\$38,125	\$107,625	\$140,266	\$140,892	\$140,503	\$142,188
WATER LOSS REDUCTION, NORTH FOREST MUD	WUG	NORTH FOREST MUD	\$589,094	\$2,500	\$7,995	\$12,040	\$15,522	\$18,656	\$21,964
WATER LOSS REDUCTION, NORTH ZULCH MUD	WUG	NORTH ZULCH MUD	\$215,606	\$625	\$2,460	\$4,816	\$5,970	\$6,996	\$6,936
WATER LOSS REDUCTION, ONALASKA WSC	WUG	ONALASKA WSC	\$444,050	\$1,250	\$5,535	\$9,632	\$13,134	\$13,409	\$14,450
WATER LOSS REDUCTION, ONE FIVE O WSC	WUG	ONE FIVE O WSC	\$435,298	\$1,875	\$4,920	\$8,428	\$11,940	\$14,575	\$17,918
WATER LOSS REDUCTION, PEARLAND	WUG	PEARLAND	\$7,680,110	\$63,125	\$154,365	\$164,948	\$177,906	\$187,726	\$199,410
WATER LOSS REDUCTION, PINE VILLAGE PUD	WUG	PINE VILLAGE PUD	\$30,798	\$625	\$615	\$602	\$597	\$583	\$578

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, PINEHURST DECKER PRAIRIE WSC	WUG	PINEHURST DECKER PRAIRIE WSC	\$177,930	\$625	\$1,230	\$3,010	\$4,776	\$6,996	\$11,560
WATER LOSS REDUCTION, RICHWOOD	WUG	RICHWOOD	\$370,030	\$1,875	\$4,920	\$7,826	\$10,149	\$11,077	\$11,560
WATER LOSS REDUCTION, SEDONA LAKES MUD 1	WUG	SEDONA LAKES MUD 1	\$204,334	\$625	\$2,460	\$4,214	\$5,970	\$6,413	\$7,514
WATER LOSS REDUCTION, SEQUOIA IMPROVEMENT DISTRICT	WUG	SEQUOIA IMPROVEMENT DISTRICT	\$147,466	\$625	\$1,845	\$3,612	\$4,179	\$4,081	\$4,046
WATER LOSS REDUCTION, SOUTH HOUSTON	WUG	SOUTH HOUSTON	\$2,981,016	\$13,750	\$37,515	\$58,996	\$78,804	\$97,361	\$116,756
WATER LOSS REDUCTION, SOUTHEAST WSC	WUG	SOUTHEAST WSC	\$473,240	\$1,875	\$5,535	\$9,030	\$12,537	\$16,324	\$20,230
WATER LOSS REDUCTION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	SOUTHERN MONTGOMERY COUNTY MUD	\$2,866,114	\$13,125	\$36,900	\$57,190	\$76,416	\$92,114	\$108,664
WATER LOSS REDUCTION, SPLENDORA	WUG	SPLENDORA	\$1,736,640	\$5,625	\$15,990	\$29,498	\$45,969	\$67,045	\$95,370
WATER LOSS REDUCTION, SUBURBAN UTILITY	WUG	SUBURBAN UTILITY	\$135,240	\$1,250	\$3,075	\$3,010	\$2,985	\$2,915	\$2,890
WATER LOSS REDUCTION, SUGAR LAND	WUG	SUGAR LAND	\$1,306,356	\$23,750	\$24,600	\$25,886	\$26,865	\$26,818	\$27,166
WATER LOSS REDUCTION, SUNBELT FWSD	WUG	SUNBELT FWSD	\$2,409,570	\$11,875	\$33,825	\$52,374	\$66,864	\$68,794	\$72,250
WATER LOSS REDUCTION, TEXAS CITY	WUG	TEXAS CITY	\$12,524,584	\$50,000	\$148,830	\$243,208	\$336,708	\$422,675	\$510,374
WATER LOSS REDUCTION, TOMBALL	WUG	TOMBALL	\$3,247,382	\$14,375	\$41,820	\$67,424	\$92,535	\$98,527	\$100,572
WATER LOSS REDUCTION, TRINITY RURAL WSC	WUG	TRINITY RURAL WSC	\$412,330	\$1,875	\$6,150	\$9,632	\$11,343	\$11,077	\$11,560
WATER LOSS REDUCTION, VARNER CREEK UD	WUG	VARNER CREEK UD	\$55,346	\$625	\$1,230	\$1,204	\$1,194	\$1,166	\$1,156
WATER LOSS REDUCTION, WALKER COUNTY RURAL SUD	WUG	WALKER COUNTY RURAL SUD	\$1,937,188	\$8,750	\$23,985	\$37,926	\$51,939	\$63,547	\$75,718
WATER LOSS REDUCTION, WALLER	WUG	WALLER	\$710,752	\$3,125	\$7,995	\$13,244	\$19,104	\$24,486	\$31,212
WATER LOSS REDUCTION, WALLIS	WUG	WALLIS	\$192,344	\$625	\$2,460	\$3,612	\$5,373	\$6,413	\$7,514
WESTWOOD SHORES REUSE INFRASTRUCTURE	WMS	WESTWOOD SHORES MUD	\$2,031,251	\$288,134	\$288,134	\$145,213	\$145,213	\$145,213	\$145,213
WHRWA 2025 DISTRIBUTION EXPANSION	WMS	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$159,257,661	\$0	\$12,594,241	\$12,594,241	\$1,388,700	\$1,388,700	\$1,388,700
WHRWA 2035 DISTRIBUTION EXPANSION	WMS	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$117,720,162	\$0	\$0	\$9,309,417	\$9,309,417	\$1,026,500	\$1,026,500
WHRWA/NFBWA TRANSMISSION LINE	WMS	NORTH FORT BEND WATER AUTHORITY	\$589,815,855	\$0	\$46,629,606	\$46,629,606	\$5,129,527	\$5,129,527	\$5,129,527
WUG INFRASTRUCTURE EXPANSION - ANGLETON	WUG	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$720,886,046	\$0	\$56,991,741	\$56,991,741	\$6,269,423	\$6,269,423	\$6,269,423
WUG INFRASTRUCTURE EXPANSION - BACLIFF MUD	WUG	ANGLETON	\$14,616,551	\$0	\$1,237,019	\$1,237,019	\$208,582	\$208,582	\$208,582
WUG INFRASTRUCTURE EXPANSION - BAYVIEW MUD	WUG	BACLIFF MUD	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - BAYVIEW MUD	WUG	BAYVIEW MUD	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - BLUE RIDGE WEST MUD	WUG	BLUE RIDGE WEST MUD	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 25	WUG	BRAZORIA COUNTY MUD 25	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 29	WUG	BRAZORIA COUNTY MUD 29	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	WUG	CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$14,616,551	\$0	\$1,237,019	\$1,237,019	\$208,582	\$208,582	\$208,582
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 1	WUG	CONROE	\$14,616,551	\$0	\$1,237,019	\$1,237,019	\$208,582	\$208,582	\$208,582
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 2	WUG	CONROE	\$11,697,788	\$0	\$0	\$0	\$920,099	\$920,099	\$97,030
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B)	WUG	COUNTY-OTHER, BRAZORIA	\$10,088,460	\$0	\$0	\$0	\$0	\$0	\$742,799
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B-C)	WUG	COUNTY-OTHER, BRAZORIA	\$10,941,462	\$0	\$833,311	\$833,311	\$63,457	\$0	\$0
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (SIB)	WUG	COUNTY-OTHER, BRAZORIA	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	WUG	COUNTY-OTHER, BRAZORIA	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	WUG	COUNTY-OTHER, BRAZORIA	\$14,616,551	\$0	\$0	\$0	\$1,237,019	\$1,237,019	\$208,582
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (BRA CUSTOMERS)	WUG	COUNTY-OTHER, BRAZORIA	\$11,697,788	\$0	\$0	\$0	\$0	\$920,099	\$920,099
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (S1-B)	WUG	COUNTY-OTHER, BRAZORIA	\$12,931,975	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (B)	WUG	COUNTY-OTHER, FORT BEND	\$12,234,868	\$980,754	\$980,754	\$119,895	\$119,895	\$119,895	\$119,895
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (S1)	WUG	COUNTY-OTHER, FORT BEND	\$10,088,460	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 1	WUG	COUNTY-OTHER, FORT BEND	\$11,181,277	\$0	\$860,208	\$860,208	\$73,481	\$73,481	\$73,481
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 2	WUG	COUNTY-OTHER, FORT BEND	\$11,697,788	\$0	\$0	\$0	\$920,099	\$920,099	\$97,030
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON (S1-B)	WUG	COUNTY-OTHER, GALVESTON	\$22,350,770	\$2,394,316	\$2,394,316	\$821,692	\$821,692	\$821,692	\$821,692
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS (COH GRP PARTICIPANTS)	WUG	COUNTY-OTHER, HARRIS	\$10,707,918	\$0	\$0	\$0	\$806,964	\$806,964	\$53,544
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S1) - PHASE 1	WUG	COUNTY-OTHER, HARRIS	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S1) - PHASE 2	WUG	COUNTY-OTHER, HARRIS	\$12,234,868	\$0	\$0	\$0	\$0	\$980,754	\$980,754
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S1B)	WUG	COUNTY-OTHER, HARRIS	\$10,289,100	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391	\$40,391

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TJSJ) - PHASE 1	WUG	COUNTY-OTHER, HARRIS	\$10,707,918	\$806,964	\$806,964	\$53,544	\$53,544	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TJSJ) - PHASE 2	WUG	COUNTY-OTHER, HARRIS	\$10,707,918	\$0	\$0	\$806,964	\$806,964	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 1	WUG	COUNTY-OTHER, MONTGOMERY	\$135,200,904	\$0	\$0	\$15,379,721	\$15,379,721	\$5,866,840	\$5,866,840
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 2	WUG	COUNTY-OTHER, MONTGOMERY	\$182,942,688	\$0	\$0	\$0	\$20,872,926	\$20,872,926	\$8,000,882
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 3	WUG	COUNTY-OTHER, MONTGOMERY	\$226,672,248	\$0	\$0	\$0	\$0	\$25,816,184	\$25,816,184
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJ) - PHASE 4	WUG	COUNTY-OTHER, MONTGOMERY	\$195,769,996	\$0	\$0	\$0	\$0	\$0	\$22,199,785
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SIRA GRP PARTICIPANTS)	WUG	COUNTY-OTHER, MONTGOMERY	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - EL DORADO MUD 9	WUG	EL DORADO UD	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - FIRST COLONY MUD 9	WUG	FIRST COLONY MUD 9	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - FOREST HILLS MUD	WUG	FOREST HILLS MUD	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 115	WUG	FORT BEND COUNTY MUD 115	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	WUG	FORT BEND COUNTY MUD 121	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 128	WUG	FORT BEND COUNTY MUD 128	\$10,439,739	\$0	\$776,528	\$776,528	\$41,977	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 129	WUG	FORT BEND COUNTY MUD 129	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 140	WUG	FORT BEND COUNTY MUD 140	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 149	WUG	FORT BEND COUNTY MUD 149	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 152	WUG	FORT BEND COUNTY MUD 152	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 155	WUG	FORT BEND COUNTY MUD 155	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 158	WUG	FORT BEND COUNTY MUD 158	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 187	WUG	FORT BEND COUNTY MUD 187	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 23	WUG	FORT BEND COUNTY MUD 23	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 24	WUG	FORT BEND COUNTY MUD 24	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 26	WUG	FORT BEND COUNTY MUD 26	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 42	WUG	FORT BEND COUNTY MUD 42	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 46	WUG	FORT BEND COUNTY MUD 46	\$9,983,912	\$0	\$0	\$732,042	\$732,042	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 47	WUG	FORT BEND COUNTY MUD 47	\$9,983,912	\$0	\$0	\$732,042	\$732,042	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 48	WUG	FORT BEND COUNTY MUD 48	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 49	WUG	FORT BEND COUNTY MUD 49	\$10,088,460	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - FULSHEAR	WUG	FULSHEAR	\$10,707,918	\$0	\$806,964	\$806,964	\$53,544	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - GALVESTON	WUG	GALVESTON	\$27,394,984	\$0	\$2,266,666	\$2,266,666	\$339,126	\$339,126	\$339,126
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY FWSD 6	WUG	GALVESTON COUNTY FWSD 6	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY MUD 12	WUG	GALVESTON COUNTY MUD 12	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 1	WUG	GALVESTON COUNTY WCID 1	\$10,707,918	\$0	\$806,964	\$806,964	\$53,544	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 12	WUG	GALVESTON COUNTY WCID 12	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 8	WUG	GALVESTON COUNTY WCID 8	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 106	WUG	HARRIS COUNTY MUD 106	\$10,941,462	\$0	\$0	\$833,311	\$833,311	\$63,457	\$63,457
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 11	WUG	HARRIS COUNTY MUD 11	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 119	WUG	HARRIS COUNTY MUD 119	\$10,439,739	\$0	\$0	\$776,528	\$776,528	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 122	WUG	HARRIS COUNTY MUD 122	\$9,983,912	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 132	WUG	HARRIS COUNTY MUD 132	\$10,734,155	\$0	\$0	\$811,214	\$811,214	\$55,947	\$55,947
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 151	WUG	HARRIS COUNTY MUD 151	\$10,734,155	\$0	\$0	\$811,214	\$811,214	\$55,947	\$55,947
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 152	WUG	HARRIS COUNTY MUD 152	\$10,760,392	\$0	\$0	\$815,463	\$815,463	\$58,350	\$58,350
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 154	WUG	HARRIS COUNTY MUD 154	\$10,707,918	\$0	\$0	\$806,964	\$806,964	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 189	WUG	HARRIS COUNTY MUD 189	\$10,289,100	\$0	\$0	\$764,344	\$764,344	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 221	WUG	HARRIS COUNTY MUD 221	\$10,289,100	\$0	\$0	\$764,344	\$764,344	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 278	WUG	HARRIS COUNTY MUD 278	\$10,289,100	\$0	\$0	\$764,344	\$764,344	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 290	WUG	HARRIS COUNTY MUD 290	\$10,531,772	\$0	\$0	\$789,476	\$789,476	\$48,449	\$48,449
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 36	WUG	HARRIS COUNTY MUD 36	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 46	WUG	HARRIS COUNTY MUD 46	\$10,475,383	\$0	\$0	\$781,605	\$781,605	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 6	WUG	HARRIS COUNTY MUD 6	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 14	WUG	HARRIS COUNTY UD 14	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 15	WUG	HARRIS COUNTY UD 15	\$10,439,739	\$0	\$0	\$776,528	\$776,528	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 133	WUG	HARRIS COUNTY WCID 133	\$10,475,383	\$0	\$0	\$781,605	\$781,605	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 74	WUG	HARRIS COUNTY WCID 74	\$10,439,739	\$0	\$0	\$776,528	\$776,528	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - HITCHCOCK	WUG	HITCHCOCK	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - HMW SUD	WUG	HMW SUD	\$10,439,739	\$0	\$776,528	\$776,528	\$41,977	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - LA MARQUE	WUG	LA MARQUE	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - LAKE BONANZA WSC	WUG	LAKE BONANZA WSC	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	WUG	LAKE JACKSON	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - LEAGUE CITY	WUG	LEAGUE CITY	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - MAGNOLIA	WUG	MAGNOLIA	\$10,439,739	\$0	\$776,528	\$776,528	\$41,977	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	WUG	MANUFACTURING, BRAZORIA	\$274,414,032	\$31,309,389	\$31,309,389	\$12,001,323	\$12,001,323	\$12,001,323	\$12,001,323
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SIB)	WUG	MANUFACTURING, BRAZORIA	\$11,005,558	\$0	\$843,803	\$843,803	\$69,440	\$69,440	\$69,440
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (B)	WUG	MANUFACTURING, FORT BEND	\$22,350,770	\$2,394,316	\$2,394,316	\$821,692	\$821,692	\$821,692	\$821,692
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (SJ)	WUG	MANUFACTURING, FORT BEND	\$13,645,034	\$1,295,592	\$1,295,592	\$335,512	\$335,512	\$335,512	\$335,512
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, GALVESTON COUNTY	WUG	MANUFACTURING, GALVESTON	\$193,683,755	\$21,913,256	\$21,913,256	\$8,285,459	\$8,285,459	\$8,285,459	\$8,285,459
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	WUG	MANUFACTURING, MONTGOMERY	\$14,932,881	\$1,611,710	\$1,611,710	\$561,017	\$561,017	\$561,017	\$561,017
WUG INFRASTRUCTURE EXPANSION - MEADOWCREEK MUD	WUG	MEADOWCREEK MUD	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 1	WUG	MEMORIAL VILLAGES WATER AUTHORITY	\$11,697,788	\$920,099	\$920,099	\$97,030	\$97,030	\$97,030	\$97,030
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 2	WUG	MEMORIAL VILLAGES WATER AUTHORITY	\$11,181,277	\$0	\$0	\$0	\$860,208	\$860,208	\$73,481
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	WUG	MINING, BRAZORIA	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	WUG	MINING, BRAZORIA	\$11,762,914	\$0	\$1,181,463	\$1,181,463	\$353,812	\$353,812	\$353,812

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SJB)	WUG	MINING, BRAZORIA	\$20,032,621	\$0	\$2,136,031	\$2,136,031	\$726,514	\$726,514	\$726,514
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	WUG	MINING, GALVESTON	\$9,655,935	\$894,157	\$894,157	\$214,755	\$214,755	\$214,755	\$214,755
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SJB)	WUG	MINING, GALVESTON	\$12,827,308	\$1,326,859	\$1,326,859	\$424,315	\$424,315	\$424,315	\$424,315
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJ)	WUG	MINING, HARRIS	\$11,697,788	\$920,099	\$920,099	\$97,030	\$97,030	\$97,030	\$97,030
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJB)	WUG	MINING, HARRIS	\$10,088,460	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TS)	WUG	MINING, HARRIS	\$10,088,460	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 112	WUG	MONTGOMERY COUNTY MUD 112	\$20,205,629	\$0	\$0	\$2,251,654	\$2,251,654	\$829,964	\$829,964
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 115	WUG	MONTGOMERY COUNTY MUD 115	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 119	WUG	MONTGOMERY COUNTY MUD 119	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 15	WUG	MONTGOMERY COUNTY MUD 15	\$10,760,392	\$0	\$815,463	\$815,463	\$58,350	\$58,350	\$58,350
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 18	WUG	MONTGOMERY COUNTY MUD 18	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 19	WUG	MONTGOMERY COUNTY MUD 19	\$20,205,629	\$0	\$0	\$0	\$2,251,654	\$2,251,654	\$829,964
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 56	WUG	MONTGOMERY COUNTY MUD 56	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 88	WUG	MONTGOMERY COUNTY MUD 88	\$10,741,067	\$0	\$1,040,330	\$1,040,330	\$284,577	\$284,577	\$284,577
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 89	WUG	MONTGOMERY COUNTY MUD 89	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 99	WUG	MONTGOMERY COUNTY MUD 99	\$10,439,739	\$0	\$776,528	\$776,528	\$41,977	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY WCID 1	WUG	MONTGOMERY COUNTY WCID 1	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MOUNT HOUSTON ROAD MUD	WUG	MOUNT HOUSTON ROAD MUD	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - MSEC ENTERPRISES	WUG	MSEC ENTERPRISES	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	WUG	NORTH FORT BEND WATER AUTHORITY	\$108,287,800	\$0	\$9,282,551	\$9,282,551	\$1,663,310	\$1,663,310	\$1,663,310
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	WUG	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$225,394,742	\$0	\$19,520,973	\$19,520,973	\$3,661,967	\$3,661,967	\$3,661,967
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	WUG	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$11,181,277	\$0	\$0	\$860,208	\$860,208	\$73,481	\$73,481
WUG INFRASTRUCTURE EXPANSION - NORTH BELT UD	WUG	NORTH BELT UD	\$10,289,100	\$0	\$0	\$764,344	\$764,344	\$40,391	\$40,391

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - NORTH FOREST MUD	WUG	NORTH FOREST MUD	\$10,088,460	\$0	\$0	\$742,799	\$742,799	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - NORTH GREEN MUD	WUG	NORTH GREEN MUD	\$10,289,100	\$0	\$0	\$764,344	\$764,344	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - OAK RIDGE NORTH	WUG	OAK RIDGE NORTH	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 1	WUG	PALMER PLANTATION MUD 1	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 2	WUG	PALMER PLANTATION MUD 2	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	WUG	PANORAMA VILLAGE	\$10,741,067	\$0	\$0	\$1,040,330	\$1,040,330	\$284,577	\$284,577
WUG INFRASTRUCTURE EXPANSION - PINE VILLAGE PUD	WUG	PINE VILLAGE PUD	\$9,983,912	\$0	\$0	\$732,042	\$732,042	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - PORTER SUD	WUG	PORTER SUD	\$19,391,918	\$0	\$0	\$0	\$0	\$2,157,179	\$792,743
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 1	WUG	QUADVEST	\$12,931,975	\$0	\$1,055,474	\$1,055,474	\$145,567	\$145,567	\$145,567
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 2	WUG	QUADVEST	\$12,931,975	\$0	\$0	\$0	\$0	\$1,055,474	\$1,055,474
WUG INFRASTRUCTURE EXPANSION - QUAIL VALLEY UD	WUG	QUAIL VALLEY UD	\$9,983,912	\$0	\$732,042	\$732,042	\$29,563	\$29,563	\$29,563
WUG INFRASTRUCTURE EXPANSION - RAYFORD ROAD MUD	WUG	RAYFORD ROAD MUD	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - RICHWOOD	WUG	RICHWOOD	\$10,162,348	\$0	\$751,041	\$751,041	\$36,007	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	WUG	RIVER PLANTATION MUD	\$13,930,632	\$0	\$0	\$0	\$1,472,300	\$1,472,300	\$492,126
WUG INFRASTRUCTURE EXPANSION - ROLLING FORK PUD	WUG	ROLLING FORK PUD	\$10,088,460	\$0	\$742,799	\$742,799	\$32,964	\$32,964	\$32,964
WUG INFRASTRUCTURE EXPANSION - SAN LEON MUD	WUG	SAN LEON MUD	\$10,439,739	\$0	\$776,528	\$776,528	\$41,977	\$41,977	\$41,977
WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	WUG	SHENANDOAH	\$18,578,208	\$2,062,705	\$2,062,705	\$755,522	\$755,522	\$755,522	\$755,522
WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION	WUG	SIENNA PLANTATION	\$12,234,868	\$0	\$980,754	\$980,754	\$119,895	\$119,895	\$119,895
WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	WUG	SPRING CREEK UD	\$10,734,155	\$0	\$811,214	\$811,214	\$55,947	\$55,947	\$55,947
WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	WUG	STANLEY LAKE MUD	\$16,433,378	\$0	\$0	\$0	\$0	\$1,819,654	\$1,819,654
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, CHAMBERS COUNTY (TSJ)	WUG	NRG STEAM ELECTRIC POWER, CHAMBERS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SI)	WUG	NRG STEAM ELECTRIC POWER, HARRIS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
			\$12,234,868	\$980,754	\$980,754	\$119,895	\$119,895	\$119,895	\$119,895

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	WUG	NRG STEAM ELECTRIC POWER, HARRIS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WUG INFRASTRUCTURE EXPANSION - SUNBELT FWSD	WUG	SUNBELT FWSD	\$10,707,918	\$0	\$0	\$806,964	\$806,964	\$53,544	\$53,544
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 1	WUG	T & W WATER SERVICE	\$10,788,126	\$0	\$819,844	\$819,844	\$60,780	\$60,780	\$60,780
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 2	WUG	T & W WATER SERVICE	\$10,760,392	\$0	\$0	\$0	\$0	\$815,463	\$815,463
WUG INFRASTRUCTURE EXPANSION - TEXAS CITY	WUG	TEXAS CITY	\$27,911,495	\$0	\$2,326,557	\$2,326,557	\$362,675	\$362,675	\$362,675
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 1	WUG	THE WOODLANDS	\$14,616,551	\$1,237,019	\$1,237,019	\$208,582	\$208,582	\$208,582	\$208,582
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 2	WUG	THE WOODLANDS	\$14,616,551	\$0	\$0	\$1,237,019	\$1,237,019	\$208,582	\$208,582
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	WUG	THE WOODLANDS	\$11,697,788	\$0	\$0	\$920,099	\$920,099	\$97,030	\$97,030
WUG INFRASTRUCTURE EXPANSION - THUNDERBIRD UD	WUG	THUNDERBIRD UD	\$10,289,100	\$0	\$764,344	\$764,344	\$40,391	\$40,391	\$40,391
WUG INFRASTRUCTURE EXPANSION - TOMBALL	WUG	TOMBALL	\$11,181,277	\$0	\$860,208	\$860,208	\$73,481	\$73,481	\$73,481
WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	WUG	TRAIL OF THE LAKES MUD	\$10,734,155	\$0	\$0	\$811,214	\$811,214	\$55,947	\$55,947
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 1	WUG	TRINITY BAY CONSERVATION DISTRICT	\$16,433,378	\$1,819,654	\$1,819,654	\$663,384	\$663,384	\$663,384	\$663,384
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 2	WUG	TRINITY BAY CONSERVATION DISTRICT	\$14,932,881	\$0	\$0	\$1,611,710	\$1,611,710	\$561,017	\$561,017
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 3	WUG	TRINITY BAY CONSERVATION DISTRICT	\$16,433,378	\$0	\$0	\$0	\$0	\$1,819,654	\$1,819,654
WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	WUG	WESTWOOD NORTH WSC	\$10,475,383	\$0	\$781,605	\$781,605	\$44,545	\$44,545	\$44,545
WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	WUG	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	\$157,621,151	\$0	\$13,578,221	\$13,578,221	\$2,487,835	\$2,487,835	\$2,487,835
WUG INFRASTRUCTURE EXPANSION - WOODCREEK MUD	WUG	WOODCREEK MUD	\$10,162,348	\$0	\$0	\$751,041	\$751,041	\$36,007	\$36,007
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 1	WUG	DOBBIN PLANTERSVILLE WSC	\$10,531,344	\$1,755,925	\$1,755,925	\$1,014,928	\$1,014,928	\$1,014,928	\$1,014,928
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 2	WUG	DOBBIN PLANTERSVILLE WSC	\$16,729,502	\$0	\$0	\$0	\$0	\$2,734,410	\$1,557,304
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BAKER ROAD MUD	WUG	BAKER ROAD MUD	\$5,639,722	\$0	\$572,547	\$572,547	\$175,730	\$175,730	\$175,730
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY	WUG	BLUE BELL MANOR UTILITY	\$6,971,114	\$0	\$838,052	\$838,052	\$347,557	\$347,557	\$347,557
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE RIDGE WEST MUD	WUG	BLUE RIDGE WEST MUD	\$6,656,610	\$0	\$773,086	\$773,086	\$304,720	\$304,720	\$304,720

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CORINTHIAN POINT MUD 2	WUG	CORINTHIAN POINT MUD 2	\$5,639,722	\$0	\$572,547	\$572,547	\$175,730	\$175,730	\$175,730
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 1	WUG	COUNTY-OTHER, AUSTIN	\$3,441,360	\$0	\$570,391	\$570,391	\$328,253	\$328,253	\$328,253
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 2	WUG	COUNTY-OTHER, AUSTIN	\$4,258,013	\$0	\$0	\$0	\$772,141	\$772,141	\$472,543
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 3	WUG	COUNTY-OTHER, AUSTIN	\$3,611,806	\$0	\$0	\$0	\$0	\$0	\$609,228
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	WUG	COUNTY-OTHER, AUSTIN	\$2,438,190	\$0	\$0	\$339,374	\$339,374	\$167,820	\$167,820
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	WUG	COUNTY-OTHER, AUSTIN	\$2,619,463	\$0	\$0	\$0	\$0	\$379,038	\$379,038
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	COUNTY-OTHER, FORT BEND	\$2,438,190	\$0	\$339,374	\$339,374	\$167,820	\$167,820	\$167,820
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 1	WUG	COUNTY-OTHER, FORT BEND	\$3,736,107	\$0	\$644,055	\$644,055	\$381,179	\$381,179	\$381,179
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 2	WUG	COUNTY-OTHER, FORT BEND	\$3,249,858	\$0	\$0	\$517,131	\$517,131	\$288,468	\$288,468
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 1	WUG	COUNTY-OTHER, FORT BEND	\$10,797,073	\$0	\$0	\$2,112,693	\$2,112,693	\$1,353,000	\$1,353,000
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 2	WUG	COUNTY-OTHER, FORT BEND	\$21,793,514	\$0	\$0	\$0	\$0	\$4,170,744	\$4,170,744
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (SIB)	WUG	COUNTY-OTHER, FORT BEND	\$14,533,180	\$0	\$2,756,748	\$2,756,748	\$1,734,179	\$1,734,179	\$1,734,179
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	WUG	COUNTY-OTHER, HARRIS	\$10,797,073	\$0	\$2,112,693	\$2,112,693	\$1,353,000	\$1,353,000	\$1,353,000
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	WUG	COUNTY-OTHER, HARRIS	\$6,701,048	\$0	\$0	\$1,264,698	\$1,264,698	\$793,205	\$793,205
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY (SIRA GRP PARTICIPANTS)	WUG	COUNTY-OTHER, MONTGOMERY	\$43,587,028	\$8,341,488	\$8,341,488	\$5,274,658	\$5,274,658	\$5,274,658	\$5,274,658
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	WUG	COUNTY-OTHER, WALLER	\$3,611,806	\$609,228	\$609,228	\$355,098	\$355,098	\$355,098	\$355,098

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	WUG	COUNTY-OTHER, WALLER	\$3,922,350	\$0	\$0	\$696,907	\$696,907	\$420,926	\$420,926
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 3	WUG	COUNTY-OTHER, WALLER	\$4,258,013	\$0	\$0	\$0	\$0	\$772,141	\$772,141
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 1	WUG	COUNTY-OTHER, WALLER	\$3,922,350	\$696,907	\$696,907	\$420,926	\$420,926	\$420,926	\$420,926
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 2	WUG	COUNTY-OTHER, WALLER	\$3,736,107	\$0	\$0	\$644,055	\$644,055	\$381,179	\$381,179
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 3	WUG	COUNTY-OTHER, WALLER	\$4,126,156	\$0	\$0	\$0	\$0	\$749,185	\$749,185
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CUT AND SHOOT	WUG	CUT & SHOOT	\$6,971,114	\$0	\$838,052	\$838,052	\$347,557	\$347,557	\$347,557
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOMESTIC WATER	WUG	DOMESTIC WATER	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOUGLAS UTILITY	WUG	DOUGLAS UTILITY	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FAR HILLS UD	WUG	FAR HILLS UD	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FIRST COLONY MUD 9	WUG	FIRST COLONY MUD 9	\$7,710,267	\$0	\$1,015,614	\$1,015,614	\$473,112	\$473,112	\$473,112
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 1	WUG	FORT BEND COUNTY FWSD 1	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 2	WUG	FORT BEND COUNTY FWSD 2	\$5,867,909	\$0	\$617,283	\$617,283	\$204,411	\$204,411	\$204,411
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 1	WUG	FORT BEND COUNTY MUD 116	\$7,302,385	\$0	\$917,819	\$917,819	\$404,015	\$404,015	\$404,015
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 2	WUG	FORT BEND COUNTY MUD 116	\$5,867,909	\$0	\$0	\$0	\$617,283	\$617,283	\$204,411
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 162	WUG	FORT BEND COUNTY MUD 162	\$5,639,722	\$0	\$572,547	\$572,547	\$175,730	\$175,730	\$175,730
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 23	WUG	FORT BEND COUNTY MUD 23	\$7,710,267	\$0	\$1,015,614	\$1,015,614	\$473,112	\$473,112	\$473,112
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 24	WUG	FORT BEND COUNTY MUD 24	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 26	WUG	FORT BEND COUNTY MUD 26	\$6,656,610	\$0	\$773,086	\$773,086	\$304,720	\$304,720	\$304,720
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 42	WUG	FORT BEND COUNTY MUD 42	\$6,971,114	\$0	\$838,052	\$838,052	\$347,557	\$347,557	\$347,557
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 5	WUG	FORT BEND COUNTY MUD 5	\$5,514,472	\$0	\$549,314	\$549,314	\$161,310	\$161,310	\$161,310

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY WCID 3	WUG	FORT BEND COUNTY WCID 3	\$6,232,657	\$0	\$686,129	\$686,129	\$247,593	\$247,593	\$247,593
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - G & W WSC (S)	WUG	G & W WSC	\$6,656,610	\$0	\$0	\$0	\$0	\$773,086	\$773,086
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	WUG	GREEN TRAILS MUD	\$6,475,822	\$0	\$732,027	\$732,027	\$276,381	\$276,381	\$276,381
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY FWSD 58	WUG	HARRIS COUNTY FWSD 58	\$6,354,239	\$0	\$709,078	\$709,078	\$261,987	\$261,987	\$261,987
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 153	WUG	HARRIS COUNTY MUD 153	\$7,710,267	\$0	\$1,015,614	\$1,015,614	\$473,112	\$473,112	\$473,112
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 180	WUG	HARRIS COUNTY MUD 180	\$6,232,657	\$0	\$686,129	\$686,129	\$247,593	\$247,593	\$247,593
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 216	WUG	HARRIS COUNTY MUD 216	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 345	WUG	HARRIS COUNTY MUD 345	\$6,971,114	\$0	\$838,052	\$838,052	\$347,557	\$347,557	\$347,557
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 400	WUG	HARRIS COUNTY MUD 400	\$8,357,842	\$0	\$1,129,526	\$1,129,526	\$541,460	\$541,460	\$541,460
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 58	WUG	HARRIS COUNTY MUD 58	\$5,639,722	\$0	\$572,547	\$572,547	\$175,730	\$175,730	\$175,730
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID 70	WUG	HARRIS COUNTY WCID 70	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD (B)	WUG	HEMPSTEAD	\$5,639,722	\$0	\$0	\$0	\$0	\$0	\$572,547
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HMW SUD, HARRIS COUNTY	WUG	HMW SUD	\$6,656,610	\$0	\$773,086	\$773,086	\$304,720	\$304,720	\$304,720
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	IRRIGATION, FORT BEND	\$368,069	\$0	\$34,779	\$34,779	\$8,881	\$8,881	\$8,881
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	WUG	IRRIGATION, LIBERTY	\$5,719,027	\$688,156	\$688,156	\$285,759	\$285,759	\$285,759	\$285,759
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (S)	WUG	IRRIGATION, LIBERTY	\$1,019,057	\$123,973	\$123,973	\$52,271	\$52,271	\$52,271	\$52,271
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 1	WUG	JOHNSTON WATER UTILITY	\$8,357,842	\$0	\$1,129,526	\$1,129,526	\$541,460	\$541,460	\$541,460
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 2	WUG	JOHNSTON WATER UTILITY	\$8,357,842	\$0	\$0	\$0	\$0	\$1,129,526	\$1,129,526
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	WUG	KATY	\$2,492,006	\$0	\$3,553,384	\$3,553,384	\$1,799,494	\$1,799,494	\$1,799,494
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAKE CONROE HILLS MUD	WUG	LAKE CONROE HILLS MUD	\$7,136,749	\$0	\$877,935	\$877,935	\$375,786	\$375,786	\$375,786
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAZY RIVER IMPROVEMENT DISTRICT	WUG	LAZY RIVER IMPROVEMENT DISTRICT	\$5,514,472	\$0	\$549,314	\$549,314	\$161,310	\$161,310	\$161,310
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	WUG	LIVESTOCK, LIBERTY	\$368,069	\$34,779	\$34,779	\$8,881	\$8,881	\$8,881	\$8,881

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LIVESTOCK, LIBERTY COUNTY (NT)	WUG	LIVESTOCK, LIBERTY	\$368,069	\$34,779	\$34,779	\$8,881	\$8,881	\$8,881	\$8,881
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LIVESTOCK, LIBERTY COUNTY (SJ)	WUG	LIVESTOCK, LIBERTY	\$368,069	\$34,779	\$34,779	\$8,881	\$8,881	\$8,881	\$8,881
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LIVESTOCK, LIBERTY COUNTY (T)	WUG	LIVESTOCK, LIBERTY	\$623,739	\$68,292	\$68,292	\$24,405	\$24,405	\$24,405	\$24,405
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LIVESTOCK, LIBERTY COUNTY (TSJ)	WUG	LIVESTOCK, LIBERTY	\$368,069	\$34,779	\$34,779	\$8,881	\$8,881	\$8,881	\$8,881
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LONGHORN TOWN UD	WUG	LONGHORN TOWN UD	\$5,750,071	\$0	\$594,625	\$594,625	\$190,043	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – LUCE BAYOU PUD	WUG	LUCE BAYOU PUD	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MAGNOLIA - PHASE 1	WUG	MAGNOLIA	\$8,959,413	\$0	\$0	\$1,246,926	\$1,246,926	\$616,533	\$616,533
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MAGNOLIA - PHASE 2	WUG	MAGNOLIA	\$7,840,663	\$0	\$0	\$0	\$0	\$0	\$1,039,876
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MANUFACTURING, CHAMBERS COUNTY (T)	WUG	MANUFACTURING, CHAMBERS	\$10,797,073	\$2,112,693	\$2,112,693	\$1,353,000	\$1,353,000	\$1,353,000	\$1,353,000
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MANUFACTURING, LEON COUNTY (T)	WUG	MANUFACTURING, LEON	\$2,438,190	\$0	\$339,374	\$339,374	\$167,820	\$167,820	\$167,820
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MASON CREEK UD	WUG	MASON CREEK UD	\$7,840,663	\$0	\$1,039,876	\$1,039,876	\$488,199	\$488,199	\$488,199
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MEADOWCREEK MUD	WUG	MEADOWCREEK MUD	\$5,750,071	\$0	\$594,625	\$594,625	\$190,043	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MEADOWS PLACE	WUG	MEADOWS PLACE	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, AUSTIN COUNTY (B)	WUG	MINING, AUSTIN	\$2,438,190	\$0	\$339,374	\$339,374	\$167,820	\$167,820	\$167,820
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, AUSTIN COUNTY (BC)	WUG	MINING, AUSTIN	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, AUSTIN COUNTY (C)	WUG	MINING, AUSTIN	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LEON COUNTY (B)	WUG	MINING, LEON	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LEON COUNTY (T)	WUG	MINING, LEON	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LIBERTY COUNTY (N)	WUG	MINING, LIBERTY	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LIBERTY COUNTY (NT)	WUG	MINING, LIBERTY	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LIBERTY COUNTY (SJ)	WUG	MINING, LIBERTY	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LIBERTY COUNTY (T)	WUG	MINING, LIBERTY	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, LIBERTY COUNTY (TSJ)	WUG	MINING, LIBERTY	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, MADISON COUNTY (B)	WUG	MINING, MADISON	\$2,244,907	\$0	\$298,777	\$298,777	\$140,823	\$140,823	\$140,823
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MINING, MADISON COUNTY (T)	WUG	MINING, MADISON	\$3,110,612	\$0	\$480,727	\$480,727	\$261,861	\$261,861	\$261,861
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONT BELVIEU - PHASE 1	WUG	MONT BELVIEU	\$9,774,370	\$0	\$0	\$1,401,699	\$1,401,699	\$713,964	\$713,964
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONT BELVIEU - PHASE 2	WUG	MONT BELVIEU	\$12,463,503	\$0	\$0	\$0	\$0	\$1,776,692	\$1,776,692
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONTGOMERY	WUG	MONTGOMERY	\$6,475,822	\$0	\$732,027	\$732,027	\$276,381	\$276,381	\$276,381
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONTGOMERY COUNTY MUD 15	WUG	MONTGOMERY COUNTY MUD 15	\$7,136,749	\$0	\$0	\$0	\$877,935	\$877,935	\$375,786
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONTGOMERY COUNTY MUD 84	WUG	MONTGOMERY COUNTY MUD 84	\$5,750,071	\$0	\$594,625	\$594,625	\$190,043	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONTGOMERY COUNTY MUD 95	WUG	MONTGOMERY COUNTY MUD 95	\$5,867,909	\$0	\$617,283	\$617,283	\$204,411	\$204,411	\$204,411
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – MONTGOMERY COUNTY UD 4	WUG	MONTGOMERY COUNTY UD 4	\$5,389,221	\$0	\$0	\$0	\$0	\$0	\$526,081
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – NEW CANEY MUD	WUG	NEW CANEY MUD	\$6,656,610	\$0	\$0	\$773,086	\$773,086	\$304,720	\$304,720
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – NORTHWEST HARRIS COUNTY MUD 16	WUG	NORTHWEST HARRIS COUNTY MUD 16	\$6,232,657	\$0	\$686,129	\$686,129	\$247,593	\$247,593	\$247,593
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – PALMER PLANTATION MUD 1	WUG	PALMER PLANTATION MUD 1	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – PALMER PLANTATION MUD 2	WUG	PALMER PLANTATION MUD 2	\$5,514,472	\$0	\$549,314	\$549,314	\$161,310	\$161,310	\$161,310
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – PINEHURST DECKER PRAIRIE WSC	WUG	PINEHURST DECKER PRAIRIE WSC	\$7,550,838	\$0	\$977,644	\$977,644	\$446,359	\$446,359	\$446,359
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – PINEWOOD COMMUNITY	WUG	PINEWOOD COMMUNITY	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – PLANTATION MUD	WUG	PLANTATION MUD	\$5,514,472	\$0	\$549,314	\$549,314	\$161,310	\$161,310	\$161,310
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – POINT AQUARIUS MUD	WUG	POINT AQUARIUS MUD	\$5,750,071	\$0	\$0	\$594,625	\$594,625	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – QUADVEST (ROSENBERG GRP PARTICIPANT)	WUG	QUADVEST	\$7,710,267	\$0	\$1,015,614	\$1,015,614	\$473,112	\$473,112	\$473,112
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – QUADVEST, FORT BEND COUNTY - PHASE 1	WUG	QUADVEST	\$6,232,657	\$0	\$686,129	\$686,129	\$247,593	\$247,593	\$247,593
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – QUADVEST, FORT BEND COUNTY - PHASE 2	WUG	QUADVEST	\$6,354,239	\$0	\$0	\$0	\$709,078	\$709,078	\$261,987
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – QUADVEST, HARRIS COUNTY	WUG	QUADVEST	\$6,656,610	\$0	\$773,086	\$773,086	\$304,720	\$304,720	\$304,720
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) – QUAIL VALLEY UD	WUG	QUAIL VALLEY UD	\$5,867,909	\$0	\$0	\$617,283	\$617,283	\$204,411	\$204,411

Project Name	Proj. Level	Sponsor	Capital Cost (\$)	Annual Cost (\$/year)					
				2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - RANCH UTILITIES	WUG	RANCH UTILITIES	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST CONSOLIDATED MUD	WUG	ROMAN FOREST CONSOLIDATED MUD	\$5,750,071	\$0	\$0	\$594,625	\$594,625	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (NFBWA GRP PARTICIPANT)	WUG	ROYAL VALLEY UTILITIES	\$5,514,472	\$0	\$549,314	\$549,314	\$161,310	\$161,310	\$161,310
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (SUGAR LAND GRP PARTICIPANT)	WUG	ROYAL VALLEY UTILITIES	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SEQUOIA IMPROVEMENT DISTRICT	WUG	SEQUOIA IMPROVEMENT DISTRICT	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SOUTHERN WATER	WUG	SOUTHERN WATER	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPLENDORA	WUG	SPLENDORA	\$8,669,430	\$0	\$1,189,064	\$1,189,064	\$579,074	\$579,074	\$579,074
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STANLEY LAKE MUD	WUG	STANLEY LAKE MUD	\$5,750,071	\$0	\$0	\$0	\$594,625	\$594,625	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUBURBAN UTILITY	WUG	SUBURBAN UTILITY	\$5,639,722	\$0	\$572,547	\$572,547	\$175,730	\$175,730	\$175,730
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (B)	WUG	TDCJ JESTER UNITS	\$5,750,071	\$0	\$594,625	\$594,625	\$190,043	\$190,043	\$190,043
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (SJB)	WUG	TDCJ JESTER UNITS	\$6,232,657	\$0	\$686,129	\$686,129	\$247,593	\$247,593	\$247,593
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY	WUG	THE COMMONS WATER SUPPLY	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THUNDERBIRD UD	WUG	THUNDERBIRD UD	\$7,550,838	\$0	\$977,644	\$977,644	\$446,359	\$446,359	\$446,359
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD 6	WUG	WEST HARRIS COUNTY MUD 6	\$5,989,492	\$0	\$640,232	\$640,232	\$218,805	\$218,805	\$218,805
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	WUG	WILLIS	\$7,302,385	\$0	\$917,819	\$917,819	\$404,015	\$404,015	\$404,015
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOOD BRANCH VILLAGE	WUG	WOOD BRANCH VILLAGE	\$5,389,221	\$0	\$0	\$0	\$526,081	\$526,081	\$146,889
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK WATER OF LIBERTY	WUG	WOODCREEK WATER OF LIBERTY	\$5,389,221	\$0	\$526,081	\$526,081	\$146,889	\$146,889	\$146,889

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Table 5-A11 – Project Cost Summary (Unit Cost)

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
ALLENS CREEK RESERVOIR	WMS	\$0	\$0	\$211	\$211	\$211	\$211
BRAZOS SALTWATER BARRIER	WMS	\$0	\$0	\$517	\$517	\$42	\$42
BWA BRACKISH GROUNDWATER DEVELOPMENT	WMS	\$0	\$579	\$579	\$370	\$370	\$370
BWA CONVENTIONAL TREATMENT EXPANSION	WMS	\$0	\$351	\$351	\$191	\$191	\$191
BWA TRANSMISSION EXPANSION	WMS	\$0	\$248	\$248	\$39	\$39	\$39
CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	WMS	\$0	\$238	\$238	\$16	\$16	\$16
CITY OF HOUSTON AREA 2 GROUNDWATER INFRASTRUCTURE	WMS	\$0	\$403	\$403	\$232	\$232	\$232
CITY OF HOUSTON GRP TRANSMISSION	WMS	\$0	\$91	\$91	\$8	\$8	\$8
CITY OF HOUSTON REUSE INFRASTRUCTURE	WMS	\$0	\$0	\$373	\$346	\$149	\$139
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 1	WMS	\$0	\$0	\$1,418	\$1,418	\$372	\$372
CITY OF HOUSTON WEST WATER PURIFICATION PLANT - PHASE 2	WMS	\$0	\$0	\$0	\$0	\$441	\$441
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	WMS	\$0	\$615	\$615	\$272	\$272	\$272
COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASE 3	WMS	\$0	\$0	\$615	\$615	\$272	\$272
COH, NHRWA, AND CHRWA SHARED TRANSMISSION	WMS	\$0	\$282	\$282	\$24	\$24	\$24
CWA TRANSMISSION EXPANSION	WMS	\$0	\$0	\$43	\$43	\$19	\$19
DOW RESERVOIR AND PUMP STATION EXPANSION	WMS	\$0	\$373	\$373	\$66	\$66	\$66
EAST TEXAS TRANSFER	WMS	\$0	\$0	\$0	\$146	\$146	\$17
FORT BEND MUD 25 GRP INFRASTRUCTURE	WMS	\$0	\$2,541	\$2,541	\$862	\$862	\$862
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 1	WMS	\$0	\$1,106	\$1,106	\$440	\$440	\$440
FORT BEND WCID 2 GRP INFRASTRUCTURE - PHASE 2	WMS	\$0	\$0	\$1,106	\$1,106	\$440	\$440
FREPORT SEAWATER DESALINATION	WMS	\$0	\$0	\$2,273	\$2,273	\$1,293	\$1,293
GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	WMS	\$0	\$564	\$564	\$279	\$279	\$279
GCWA BACKUP WELL DEVELOPMENT	WMS	\$0	\$0	\$169	\$169	\$84	\$84
GCWA INDUSTRIAL RAW WATER LINE	WMS	\$104	\$104	\$9	\$9	\$9	\$9
GCWA SHANNON PUMP STATION EXPANSION	WMS	\$0	\$35	\$35	\$7	\$7	\$7

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	WMS	\$0	\$894	\$894	\$367	\$367	\$367
GROVETON WELL DEVELOPMENT	WMS	\$699	\$699	\$56	\$56	\$56	\$56
LAKE LIVINGSTON TO SJRA TRANSFER	WMS	\$0	\$0	\$0	\$437	\$437	\$92
LNVA NECHES-TRINITY BASIN INTERCONNECT	WMS	\$0	\$0	\$135	\$135	\$27	\$27
MANVEL SUPPLY EXPANSION - GROUNDWATER DEVELOPMENT	WMS	\$477	\$477	\$0	\$0	\$0	\$0
MANVEL SUPPLY EXPANSION - MUSTANG BAYOU RIGHT AND STORAGE	WMS	\$0	\$818	\$818	\$366	\$366	\$366
MANVEL SUPPLY EXPANSION - TREATMENT AND TRANSMISSION EXPANSION	WMS	\$0	\$1,463	\$1,463	\$288	\$288	\$288
MISSOURI CITY GRP INFRASTRUCTURE	WMS	\$0	\$405	\$405	\$165	\$165	\$165
MONTGOMERY COUNTY MUDS 8 AND 9 GRP INFRASTRUCTURE	WMS	\$1,875	\$1,875	\$917	\$917	\$917	\$917
NFBWA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	\$1,695	\$1,695	\$835	\$835	\$835	\$835
NFBWA PHASE 2 DISTRIBUTION SEGMENTS	WMS	\$0	\$104	\$104	\$9	\$9	\$9
NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	WMS	\$0	\$269	\$269	\$22	\$22	\$22
NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	WMS	\$0	\$0	\$220	\$220	\$21	\$21
NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	WMS	\$0	\$0	\$0	\$7	\$7	\$0
NHCRWA MEMBER DISTRICT REUSE INFRASTRUCTURE	WMS	\$1,913	\$1,913	\$905	\$905	\$905	\$905
NHCRWA TRANSMISSION LINES	WMS	\$0	\$185	\$185	\$24	\$24	\$24
NRG CEDAR BAYOU DESALINATION	WMS	\$0	\$2,637	\$2,637	\$1,560	\$1,560	\$1,560
PEARLAND REUSE INFRASTRUCTURE	WMS	\$854	\$913	\$717	\$142	\$142	\$142
PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	WMS	\$0	\$973	\$973	\$242	\$242	\$242
PORTER SUD GRP INFRASTRUCTURE - PHASE 1	WMS	\$1,346	\$1,346	\$577	\$577	\$577	\$577
PORTER SUD GRP INFRASTRUCTURE - PHASE 2	WMS	\$0	\$2,131	\$2,131	\$1,064	\$1,064	\$1,064
RICHMOND GRP INFRASTRUCTURE	WMS	\$0	\$1,055	\$1,055	\$377	\$377	\$377
RICHMOND REUSE INFRASTRUCTURE	WMS	\$1,108	\$1,108	\$156	\$156	\$156	\$156
ROSENBERG GRP INFRASTRUCTURE	WMS	\$0	\$261	\$261	\$29	\$29	\$29
SEWPP ADDITIONAL MODULE	WMS	\$0	\$497	\$497	\$191	\$191	\$191
SJRA AQUIFER STORAGE AND RECOVERY	WMS	\$0	\$0	\$0	\$0	\$0	\$2,551
SJRA CATAHOULA AQUIFER SUPPLIES	WMS	\$0	\$0	\$479	\$479	\$358	\$358

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
SIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	WMS	\$0	\$281	\$281	\$33	\$33	\$33
SIRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	WMS	\$0	\$0	\$1,114	\$1,114	\$132	\$132
SIRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	WMS	\$0	\$0	\$0	\$682	\$682	\$81
SIRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	WMS	\$0	\$0	\$0	\$0	\$1,114	\$1,114
SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	WMS	\$0	\$229	\$229	\$19	\$19	\$19
SUGAR LAND ADVANCED LOSS REDUCTION	WMS	\$0	\$584	\$584	\$490	\$490	\$490
SUGAR LAND AMI	WMS	\$0	\$956	\$905	\$71	\$71	\$71
SUGAR LAND GROUNDWATER PLANT CONVERSION	WMS	\$0	\$252	\$252	\$14	\$14	\$14
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	WMS	\$0	\$1,360	\$1,360	\$299	\$299	\$299
SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	WMS	\$0	\$0	\$2,070	\$2,070	\$451	\$451
SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	WMS	\$0	\$996	\$996	\$409	\$409	\$409
SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	WMS	\$0	\$0	\$618	\$618	\$421	\$421
SURFIDE BEACH SUPPLY INFRASTRUCTURE	WMS	\$450	\$450	\$36	\$36	\$36	\$36
WESTWOOD SHORES REUSE INFRASTRUCTURE	WMS	\$1,921	\$1,921	\$968	\$968	\$968	\$968
WHCRWA 2025 DISTRIBUTION EXPANSION	WMS	\$0	\$136	\$136	\$15	\$15	\$15
WHCRWA 2035 DISTRIBUTION EXPANSION	WMS	\$0	\$0	\$101	\$101	\$11	\$11
WHCRWA/NBWA TRANSMISSION LINE	WMS	\$0	\$613	\$613	\$67	\$67	\$67
IRRIGATION CONSERVATION, AUSTIN COUNTY	WUG	\$133	\$133	\$132	\$132	\$132	\$132
IRRIGATION CONSERVATION, BRAZORIA COUNTY	WUG	\$132	\$132	\$131	\$131	\$131	\$131
IRRIGATION CONSERVATION, CHAMBERS COUNTY	WUG	\$133	\$133	\$132	\$132	\$132	\$132
IRRIGATION CONSERVATION, FORT BEND COUNTY	WUG	\$133	\$133	\$131	\$131	\$131	\$131
IRRIGATION CONSERVATION, GALVESTON COUNTY	WUG	\$134	\$134	\$132	\$132	\$132	\$132
IRRIGATION CONSERVATION, HARRIS COUNTY	WUG	\$134	\$134	\$133	\$133	\$133	\$133
IRRIGATION CONSERVATION, LIBERTY COUNTY	WUG	\$133	\$133	\$132	\$132	\$132	\$132
IRRIGATION CONSERVATION, WALLER COUNTY	WUG	\$131	\$131	\$130	\$130	\$130	\$130
MUNICIPAL CONSERVATION, ALVIN	WUG	\$912	\$575	\$600	\$609	\$676	\$620
MUNICIPAL CONSERVATION, ANAHUAC	WUG	\$959	\$694	\$713	\$655	\$790	\$670

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, ANGLETON	WUG	\$1,253	\$678	\$713	\$658	\$771	\$646
MUNICIPAL CONSERVATION, AUSTIN COUNTY WSC	WUG	\$1,071	\$753	\$774	\$718	\$835	\$752
MUNICIPAL CONSERVATION, BACLIFF MUD	WUG	\$1,385	\$819	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, BAKER ROAD MUD	WUG	\$598	\$463	\$435	\$444	\$491	\$491
MUNICIPAL CONSERVATION, BAYBROOK MUD 1	WUG	\$689	\$470	\$461	\$437	\$478	\$508
MUNICIPAL CONSERVATION, BAYTOWN	WUG	\$1,034	\$645	\$688	\$639	\$745	\$633
MUNICIPAL CONSERVATION, BAYVIEW MUD	WUG	\$1,312	\$745	\$848	\$725	\$888	\$745
MUNICIPAL CONSERVATION, BELLAIRE	WUG	\$725	\$511	\$565	\$587	\$654	\$576
MUNICIPAL CONSERVATION, BELLVILLE	WUG	\$840	\$528	\$507	\$488	\$528	\$542
MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY	WUG	\$615	\$499	\$552	\$530	\$616	\$550
MUNICIPAL CONSERVATION, BLUE RIDGE WEST MUD	WUG	\$721	\$519	\$572	\$546	\$639	\$576
MUNICIPAL CONSERVATION, BRAZORIA	WUG	\$1,224	\$753	\$815	\$746	\$846	\$717
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 2	WUG	\$354	\$296	\$319	\$312	\$356	\$350
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 21	WUG	\$861	\$597	\$642	\$591	\$696	\$621
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 25	WUG	\$883	\$691	\$767	\$684	\$794	\$704
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 29	WUG	\$933	\$739	\$778	\$652	\$753	\$657
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 3	WUG	\$718	\$551	\$607	\$557	\$664	\$593
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 31	WUG	\$869	\$652	\$704	\$641	\$740	\$663
MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD 6	WUG	\$577	\$459	\$487	\$465	\$535	\$507
MUNICIPAL CONSERVATION, BROOKSHIRE MWD	WUG	\$830	\$614	\$677	\$633	\$746	\$661
MUNICIPAL CONSERVATION, BUFFALO	WUG	\$949	\$567	\$536	\$530	\$589	\$579
MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	WUG	\$360	\$315	\$352	\$348	\$411	\$385
MUNICIPAL CONSERVATION, CAPE ROYALE UD	WUG	\$835	\$611	\$663	\$615	\$686	\$632
MUNICIPAL CONSERVATION, CENTERVILLE	WUG	\$1,298	\$654	\$643	\$623	\$675	\$680
MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	\$1,059	\$682	\$738	\$675	\$785	\$653
MUNICIPAL CONSERVATION, CHAMBERS COUNTY MUD 1	WUG	\$1,087	\$758	\$831	\$733	\$862	\$749
MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	WUG	\$984	\$740	\$729	\$648	\$777	\$677

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	WUG	\$978	\$661	\$707	\$654	\$768	\$674
MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	WUG	\$1,128	\$671	\$763	\$695	\$802	\$660
MUNICIPAL CONSERVATION, CLEAR LAKE CITY WATER AUTHORITY	WUG	\$732	\$515	\$568	\$580	\$643	\$566
MUNICIPAL CONSERVATION, CLEVELAND	WUG	\$768	\$507	\$505	\$483	\$539	\$535
MUNICIPAL CONSERVATION, CLUTE	WUG	\$940	\$675	\$741	\$687	\$792	\$692
MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	WUG	\$1,096	\$733	\$809	\$0	\$0	\$0
MUNICIPAL CONSERVATION, CONROE	WUG	\$753	\$516	\$549	\$561	\$621	\$564
MUNICIPAL CONSERVATION, CORINTHIAN POINT MUD 2	WUG	\$580	\$464	\$482	\$462	\$534	\$475
MUNICIPAL CONSERVATION, COUNTRY TERRACE WATER	WUG	\$1,148	\$709	\$794	\$719	\$812	\$718
MUNICIPAL CONSERVATION, COUNTY-OTHER, AUSTIN	WUG	\$960	\$690	\$752	\$693	\$804	\$706
MUNICIPAL CONSERVATION, COUNTY-OTHER, BRAZORIA	WUG	\$813	\$631	\$682	\$634	\$739	\$657
MUNICIPAL CONSERVATION, COUNTY-OTHER, CHAMBERS	WUG	\$731	\$572	\$624	\$584	\$686	\$613
MUNICIPAL CONSERVATION, COUNTY-OTHER, FORT BEND	WUG	\$844	\$647	\$694	\$670	\$782	\$696
MUNICIPAL CONSERVATION, COUNTY-OTHER, GALVESTON	WUG	\$1,086	\$688	\$746	\$670	\$770	\$661
MUNICIPAL CONSERVATION, COUNTY-OTHER, HARRIS	WUG	\$787	\$611	\$646	\$591	\$720	\$641
MUNICIPAL CONSERVATION, COUNTY-OTHER, LEON	WUG	\$1,114	\$734	\$783	\$683	\$790	\$697
MUNICIPAL CONSERVATION, COUNTY-OTHER, LIBERTY	WUG	\$883	\$637	\$695	\$645	\$748	\$656
MUNICIPAL CONSERVATION, COUNTY-OTHER, MADISON	WUG	\$969	\$670	\$727	\$669	\$778	\$679
MUNICIPAL CONSERVATION, COUNTY-OTHER, MONTGOMERY	WUG	\$858	\$678	\$735	\$681	\$792	\$703
MUNICIPAL CONSERVATION, COUNTY-OTHER, POLK	WUG	\$1,031	\$708	\$758	\$684	\$789	\$679
MUNICIPAL CONSERVATION, COUNTY-OTHER, SAN JACINTO	WUG	\$1,012	\$691	\$740	\$683	\$785	\$682
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALKER	WUG	\$670	\$512	\$564	\$532	\$622	\$559
MUNICIPAL CONSERVATION, COUNTY-OTHER, WALLER	WUG	\$906	\$663	\$725	\$669	\$777	\$686
MUNICIPAL CONSERVATION, CROSBY MUD	WUG	\$946	\$670	\$715	\$645	\$758	\$675
MUNICIPAL CONSERVATION, CUT AND SHOOT	WUG	\$1,142	\$756	\$845	\$778	\$909	\$792
MUNICIPAL CONSERVATION, DAISSETTA	WUG	\$1,028	\$683	\$774	\$698	\$791	\$695
MUNICIPAL CONSERVATION, DANBURY	WUG	\$1,119	\$695	\$739	\$698	\$807	\$716

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, DAYTON	WUG	\$621	\$477	\$592	\$566	\$618	\$555
MUNICIPAL CONSERVATION, DEER PARK	WUG	\$1,153	\$686	\$732	\$674	\$783	\$653
MUNICIPAL CONSERVATION, DEVERS	WUG	\$563	\$469	\$529	\$530	\$586	\$532
MUNICIPAL CONSERVATION, DOBBIN PLANTERSVILLE WSC	WUG	\$1,154	\$806	\$1,040	\$844	\$966	\$798
MUNICIPAL CONSERVATION, DODGE OAKHURST WSC	WUG	\$1,010	\$676	\$759	\$648	\$791	\$662
MUNICIPAL CONSERVATION, DOMESTIC WATER	WUG	\$1,010	\$737	\$795	\$682	\$769	\$684
MUNICIPAL CONSERVATION, DOUGLAS UTILITY	WUG	\$760	\$666	\$746	\$666	\$796	\$721
MUNICIPAL CONSERVATION, EAST PLANTATION UD	WUG	\$787	\$558	\$655	\$602	\$706	\$618
MUNICIPAL CONSERVATION, EL DORADO UD	WUG	\$989	\$686	\$777	\$710	\$809	\$702
MUNICIPAL CONSERVATION, FAR HILLS UD	WUG	\$562	\$500	\$547	\$489	\$558	\$517
MUNICIPAL CONSERVATION, FIRST COLONY MUD 9	WUG	\$599	\$464	\$492	\$472	\$549	\$507
MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	WUG	\$861	\$622	\$683	\$647	\$741	\$657
MUNICIPAL CONSERVATION, FOREST HILLS MUD	WUG	\$763	\$566	\$620	\$571	\$680	\$580
MUNICIPAL CONSERVATION, FORT BEND COUNTY FWSD 2	WUG	\$1,144	\$732	\$810	\$725	\$826	\$720
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	WUG	\$289	\$254	\$268	\$263	\$296	\$286
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 116	WUG	\$637	\$503	\$547	\$514	\$598	\$553
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 121	WUG	\$767	\$556	\$619	\$582	\$671	\$591
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	WUG	\$509	\$410	\$448	\$435	\$510	\$473
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	WUG	\$478	\$387	\$427	\$418	\$496	\$454
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 140	WUG	\$581	\$433	\$475	\$463	\$543	\$495
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	WUG	\$1,366	\$879	\$925	\$783	\$886	\$759
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 152	WUG	\$1,021	\$715	\$751	\$676	\$792	\$673
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 155	WUG	\$997	\$716	\$773	\$666	\$765	\$680
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	WUG	\$999	\$684	\$722	\$642	\$764	\$651
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	WUG	\$1,054	\$753	\$792	\$695	\$810	\$687
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 187	WUG	\$760	\$568	\$630	\$586	\$671	\$607
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 23	WUG	\$1,005	\$678	\$729	\$667	\$773	\$673

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 24	WUG	\$1,300	\$836	\$899	\$731	\$870	\$742
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 25	WUG	\$920	\$639	\$695	\$641	\$743	\$653
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 26	WUG	\$851	\$640	\$689	\$619	\$715	\$632
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 42	WUG	\$672	\$520	\$544	\$510	\$586	\$542
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 46	WUG	\$631	\$478	\$505	\$458	\$518	\$492
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 47	WUG	\$1,168	\$739	\$785	\$700	\$774	\$673
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 48	WUG	\$896	\$603	\$670	\$629	\$724	\$638
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 49	WUG	\$660	\$555	\$525	\$494	\$607	\$561
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 5	WUG	\$1,101	\$776	\$778	\$701	\$811	\$695
MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 81	WUG	\$338	\$304	\$336	\$326	\$391	\$370
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 2	WUG	\$639	\$485	\$510	\$514	\$573	\$524
MUNICIPAL CONSERVATION, FORT BEND COUNTY WCID 3	WUG	\$195	\$188	\$206	\$212	\$249	\$249
MUNICIPAL CONSERVATION, FREEPORT	WUG	\$987	\$685	\$745	\$887	\$808	\$642
MUNICIPAL CONSERVATION, FRIENDSWOOD	WUG	\$816	\$558	\$606	\$621	\$685	\$601
MUNICIPAL CONSERVATION, FULSHEAR	WUG	\$1,104	\$743	\$729	\$643	\$750	\$625
MUNICIPAL CONSERVATION, G & W WSC	WUG	\$908	\$682	\$742	\$671	\$779	\$693
MUNICIPAL CONSERVATION, GALENA PARK	WUG	\$1,093	\$731	\$795	\$0	\$0	\$0
MUNICIPAL CONSERVATION, GALVESTON	WUG	\$659	\$484	\$541	\$560	\$626	\$551
MUNICIPAL CONSERVATION, GALVESTON COUNTY FWSD 6	WUG	\$886	\$613	\$645	\$606	\$717	\$637
MUNICIPAL CONSERVATION, GALVESTON COUNTY MUD 12	WUG	\$1,229	\$779	\$821	\$736	\$850	\$725
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 1	WUG	\$1,074	\$664	\$720	\$665	\$779	\$654
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 12	WUG	\$578	\$456	\$449	\$429	\$481	\$469
MUNICIPAL CONSERVATION, GALVESTON COUNTY WCID 8	WUG	\$1,011	\$694	\$744	\$692	\$799	\$690
MUNICIPAL CONSERVATION, GLENDALE WSC	WUG	\$1,198	\$765	\$761	\$677	\$790	\$704
MUNICIPAL CONSERVATION, GREEN TRAILS MUD	WUG	\$550	\$433	\$475	\$447	\$513	\$477
MUNICIPAL CONSERVATION, GREENWOOD UD	WUG	\$1,487	\$913	\$916	\$810	\$928	\$782
MUNICIPAL CONSERVATION, GROVETON	WUG	\$1,177	\$757	\$873	\$718	\$925	\$739

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, GULF UTILITY	WUG	\$719	\$540	\$576	\$546	\$631	\$576
MUNICIPAL CONSERVATION, HARDIN WSC	WUG	\$1,061	\$750	\$803	\$737	\$849	\$732
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 1-A	WUG	\$1,165	\$778	\$805	\$750	\$866	\$744
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 27	WUG	\$843	\$595	\$679	\$631	\$729	\$625
MUNICIPAL CONSERVATION, HARRIS COUNTY FWSD 58	WUG	\$586	\$477	\$521	\$506	\$600	\$529
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 106	WUG	\$378	\$321	\$361	\$350	\$415	\$384
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 11	WUG	\$1,076	\$700	\$763	\$708	\$815	\$704
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 119	WUG	\$1,076	\$748	\$808	\$743	\$846	\$737
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 122	WUG	\$875	\$693	\$765	\$656	\$759	\$673
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 132	WUG	\$781	\$577	\$590	\$568	\$641	\$598
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 148	WUG	\$1,158	\$746	\$807	\$719	\$821	\$710
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 151	WUG	\$705	\$535	\$575	\$538	\$636	\$577
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 152	WUG	\$767	\$555	\$607	\$573	\$674	\$602
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 153	WUG	\$711	\$526	\$568	\$537	\$624	\$573
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 154	WUG	\$835	\$608	\$662	\$620	\$724	\$640
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 158	WUG	\$973	\$652	\$720	\$650	\$759	\$670
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 180	WUG	\$874	\$642	\$689	\$632	\$728	\$640
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 189	WUG	\$837	\$793	\$807	\$765	\$844	\$755
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 216	WUG	\$930	\$640	\$654	\$600	\$659	\$604
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 221	WUG	\$986	\$704	\$744	\$681	\$791	\$683
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 23	WUG	\$1,010	\$674	\$717	\$649	\$782	\$671
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 278	WUG	\$842	\$743	\$695	\$623	\$731	\$607
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 290	WUG	\$1,093	\$704	\$770	\$687	\$795	\$693
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 321	WUG	\$719	\$543	\$531	\$501	\$532	\$532
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 342	WUG	\$601	\$499	\$544	\$500	\$587	\$536
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 344	WUG	\$540	\$440	\$470	\$448	\$528	\$485
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 345	WUG	\$607	\$454	\$493	\$465	\$552	\$512

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 36	WUG	\$519	\$385	\$391	\$363	\$390	\$418
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 361	WUG	\$891	\$656	\$703	\$643	\$751	\$655
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 372	WUG	\$446	\$378	\$418	\$400	\$475	\$437
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 400	WUG	\$608	\$468	\$491	\$462	\$528	\$503
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 412	WUG	\$760	\$563	\$618	\$567	\$678	\$607
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 420	WUG	\$1,038	\$722	\$797	\$672	\$772	\$676
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 46	WUG	\$692	\$514	\$551	\$526	\$624	\$568
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 49	WUG	\$1,092	\$744	\$788	\$727	\$816	\$721
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 5	WUG	\$1,094	\$723	\$763	\$708	\$819	\$717
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 50	WUG	\$1,021	\$694	\$752	\$664	\$775	\$675
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 55	WUG	\$1,043	\$726	\$938	\$746	\$845	\$701
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 58	WUG	\$678	\$634	\$659	\$594	\$709	\$645
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 6	WUG	\$855	\$620	\$667	\$613	\$717	\$628
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 8	WUG	\$771	\$629	\$708	\$636	\$723	\$660
MUNICIPAL CONSERVATION, HARRIS COUNTY MUD 96	WUG	\$1,071	\$710	\$772	\$708	\$822	\$708
MUNICIPAL CONSERVATION, HARRIS COUNTY UD 15	WUG	\$734	\$559	\$604	\$553	\$650	\$591
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 1	WUG	\$1,006	\$682	\$739	\$682	\$793	\$686
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 133	WUG	\$765	\$562	\$638	\$604	\$693	\$624
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 156	WUG	\$514	\$418	\$471	\$442	\$533	\$493
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 50	WUG	\$1,109	\$723	\$775	\$689	\$808	\$687
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 70	WUG	\$880	\$651	\$649	\$623	\$726	\$645
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 74	WUG	\$709	\$542	\$607	\$555	\$671	\$582
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 89	WUG	\$1,344	\$805	\$854	\$781	\$887	\$753
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID 96	WUG	\$567	\$456	\$497	\$468	\$547	\$508
MUNICIPAL CONSERVATION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	\$941	\$689	\$750	\$661	\$770	\$656
MUNICIPAL CONSERVATION, HARRIS-MONTGOMERY COUNTIES MUD 386	WUG	\$603	\$468	\$529	\$512	\$606	\$532
MUNICIPAL CONSERVATION, HEMPSTEAD	WUG	\$664	\$483	\$502	\$484	\$551	\$532

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, HILLCREST VILLAGE	WUG	\$705	\$584	\$680	\$584	\$728	\$625
MUNICIPAL CONSERVATION, HILLTOP LAKES WSC	WUG	\$897	\$607	\$639	\$618	\$710	\$646
MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	WUG	\$769	\$522	\$513	\$481	\$565	\$541
MUNICIPAL CONSERVATION, HITCHCOCK	WUG	\$946	\$704	\$752	\$688	\$793	\$693
MUNICIPAL CONSERVATION, HMW SUD	WUG	\$1,055	\$732	\$788	\$917	\$837	\$648
MUNICIPAL CONSERVATION, HOUSTON	WUG	\$631	\$451	\$538	\$478	\$590	\$535
MUNICIPAL CONSERVATION, HUMBLE	WUG	\$1,095	\$651	\$633	\$617	\$660	\$607
MUNICIPAL CONSERVATION, HUNTSVILLE	WUG	\$692	\$464	\$490	\$509	\$563	\$514
MUNICIPAL CONSERVATION, JACINTO CITY	WUG	\$1,159	\$749	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, JAMAICA BEACH	WUG	\$718	\$525	\$560	\$533	\$621	\$546
MUNICIPAL CONSERVATION, JERSEY VILLAGE	WUG	\$834	\$569	\$577	\$551	\$624	\$596
MUNICIPAL CONSERVATION, JEWETT	WUG	\$777	\$535	\$563	\$533	\$605	\$572
MUNICIPAL CONSERVATION, JOHNSTON WATER UTILITY	WUG	\$455	\$391	\$432	\$417	\$492	\$463
MUNICIPAL CONSERVATION, KATY	WUG	\$728	\$531	\$516	\$520	\$575	\$525
MUNICIPAL CONSERVATION, KENDLETON	WUG	\$701	\$498	\$538	\$525	\$568	\$560
MUNICIPAL CONSERVATION, KINGS MANOR MUD	WUG	\$910	\$626	\$693	\$652	\$748	\$661
MUNICIPAL CONSERVATION, KIRK MOUNT MUD	WUG	\$746	\$552	\$621	\$575	\$681	\$617
MUNICIPAL CONSERVATION, LA MARQUE	WUG	\$693	\$514	\$573	\$591	\$656	\$562
MUNICIPAL CONSERVATION, LA PORTE	WUG	\$1,124	\$646	\$662	\$635	\$750	\$635
MUNICIPAL CONSERVATION, LAKE BONANZA WSC	WUG	\$1,105	\$740	\$801	\$749	\$867	\$752
MUNICIPAL CONSERVATION, LAKE CONROE HILLS MUD	WUG	\$968	\$697	\$740	\$682	\$805	\$714
MUNICIPAL CONSERVATION, LAKE JACKSON	WUG	\$867	\$569	\$612	\$621	\$684	\$599
MUNICIPAL CONSERVATION, LAKE LIVINGSTON WSC	WUG	\$1,240	\$0	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, LAKE MUD	WUG	\$1,352	\$835	\$851	\$776	\$872	\$756
MUNICIPAL CONSERVATION, LAZY RIVER IMPROVEMENT DISTRICT	WUG	\$497	\$415	\$440	\$415	\$474	\$441
MUNICIPAL CONSERVATION, LEAGUE CITY	WUG	\$946	\$612	\$664	\$615	\$717	\$602
MUNICIPAL CONSERVATION, LEGGETT WSC	WUG	\$670	\$491	\$500	\$484	\$545	\$517

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, LIBERTY	WUG	\$860	\$539	\$531	\$509	\$560	\$560
MUNICIPAL CONSERVATION, LIBERTY COUNTY FWSD 1 HULL	WUG	\$909	\$705	\$778	\$684	\$755	\$687
MUNICIPAL CONSERVATION, LIVINGSTON	WUG	\$532	\$394	\$379	\$364	\$376	\$393
MUNICIPAL CONSERVATION, LONGHORN TOWN UD	WUG	\$621	\$437	\$462	\$438	\$483	\$483
MUNICIPAL CONSERVATION, LUCE BAYOU PUD	WUG	\$674	\$498	\$524	\$537	\$578	\$578
MUNICIPAL CONSERVATION, MADISON COUNTY WSC	WUG	\$928	\$645	\$707	\$634	\$706	\$644
MUNICIPAL CONSERVATION, MADISONVILLE	WUG	\$803	\$539	\$543	\$512	\$584	\$568
MUNICIPAL CONSERVATION, MAGNOLIA	WUG	\$764	\$523	\$533	\$517	\$582	\$820
MUNICIPAL CONSERVATION, MANVEL	WUG	\$1,202	\$756	\$741	\$662	\$711	\$724
MUNICIPAL CONSERVATION, MASON CREEK UD	WUG	\$634	\$492	\$538	\$506	\$592	\$541
MUNICIPAL CONSERVATION, MEADOWCREEK MUD	WUG	\$826	\$594	\$631	\$594	\$687	\$608
MUNICIPAL CONSERVATION, MEADOWS PLACE	WUG	\$750	\$567	\$611	\$573	\$668	\$596
MUNICIPAL CONSERVATION, MEMORIAL POINT UD	WUG	\$772	\$555	\$614	\$602	\$645	\$618
MUNICIPAL CONSERVATION, MEMORIAL VILLAGES WATER AUTHORITY	WUG	\$301	\$267	\$294	\$289	\$338	\$466
MUNICIPAL CONSERVATION, MERCY WSC	WUG	\$1,141	\$759	\$816	\$744	\$838	\$719
MUNICIPAL CONSERVATION, MISSOURI CITY	WUG	\$848	\$611	\$644	\$599	\$699	\$638
MUNICIPAL CONSERVATION, MONT BELVIEU	WUG	\$427	\$358	\$379	\$366	\$413	\$575
MUNICIPAL CONSERVATION, MONTGOMERY	WUG	\$565	\$453	\$426	\$397	\$426	\$445
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 112	WUG	\$589	\$455	\$486	\$462	\$529	\$496
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 115	WUG	\$679	\$544	\$611	\$544	\$633	\$563
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 119	WUG	\$686	\$562	\$595	\$537	\$612	\$561
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 15	WUG	\$1,075	\$702	\$785	\$722	\$846	\$758
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 18	WUG	\$533	\$445	\$474	\$454	\$534	\$511
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 19	WUG	\$703	\$641	\$646	\$655	\$712	\$666
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 56	WUG	\$698	\$584	\$687	\$589	\$681	\$604
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 8	WUG	\$1,032	\$720	\$769	\$706	\$825	\$755
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 83	WUG	\$718	\$528	\$563	\$538	\$628	\$564

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 84	WUG	\$823	\$621	\$639	\$589	\$686	\$608
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 88	WUG	\$0	\$534	\$622	\$533	\$564	\$564
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 89	WUG	\$1,054	\$697	\$736	\$689	\$804	\$686
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 9	WUG	\$1,027	\$683	\$753	\$690	\$770	\$675
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 95	WUG	\$1,003	\$744	\$820	\$723	\$794	\$683
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 98	WUG	\$1,306	\$806	\$906	\$755	\$864	\$726
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD 99	WUG	\$730	\$542	\$594	\$523	\$607	\$569
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 2	WUG	\$1,139	\$741	\$786	\$718	\$832	\$757
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 3	WUG	\$1,229	\$777	\$787	\$718	\$808	\$723
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD 4	WUG	\$924	\$684	\$691	\$667	\$807	\$724
MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	WUG	\$1,120	\$748	\$816	\$739	\$850	\$742
MUNICIPAL CONSERVATION, MORGANS POINT	WUG	\$527	\$390	\$396	\$369	\$420	\$392
MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	WUG	\$803	\$627	\$662	\$616	\$712	\$621
MUNICIPAL CONSERVATION, MSEC ENTERPRISES	WUG	\$647	\$529	\$541	\$557	\$627	\$542
MUNICIPAL CONSERVATION, NASSAU BAY	WUG	\$792	\$559	\$563	\$535	\$595	\$569
MUNICIPAL CONSERVATION, NEEDVILLE	WUG	\$1,163	\$716	\$804	\$725	\$826	\$734
MUNICIPAL CONSERVATION, NEW CANEY MUD	WUG	\$1,326	\$836	\$893	\$812	\$931	\$1,043
MUNICIPAL CONSERVATION, NEW WAVERLY	WUG	\$1,014	\$582	\$571	\$548	\$595	\$605
MUNICIPAL CONSERVATION, NEWPORT MUD	WUG	\$1,000	\$679	\$728	\$664	\$780	\$677
MUNICIPAL CONSERVATION, NORMANGEE	WUG	\$1,053	\$649	\$599	\$581	\$635	\$612
MUNICIPAL CONSERVATION, NORTH BELT UD	WUG	\$739	\$504	\$514	\$494	\$553	\$532
MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	WUG	\$945	\$609	\$667	\$621	\$729	\$612
MUNICIPAL CONSERVATION, NORTH FOREST MUD	WUG	\$844	\$593	\$624	\$583	\$732	\$633
MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	WUG	\$648	\$535	\$627	\$528	\$646	\$551
MUNICIPAL CONSERVATION, NORTH GREEN MUD	WUG	\$689	\$598	\$625	\$598	\$673	\$612
MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	\$800	\$559	\$662	\$566	\$698	\$599
MUNICIPAL CONSERVATION, NORTH ZULCH MUD	WUG	\$952	\$635	\$722	\$678	\$786	\$677

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, NORTHWEST HARRIS COUNTY MUD 16	WUG	\$783	\$567	\$611	\$581	\$676	\$605
MUNICIPAL CONSERVATION, OAK HOLLOW UTILITY	WUG	\$1,054	\$710	\$803	\$706	\$840	\$723
MUNICIPAL CONSERVATION, OAK RIDGE NORTH	WUG	\$856	\$546	\$537	\$500	\$553	\$555
MUNICIPAL CONSERVATION, ONALASKA WSC	WUG	\$1,213	\$826	\$845	\$764	\$871	\$746
MUNICIPAL CONSERVATION, ONE FIVE O WSC	WUG	\$1,006	\$717	\$757	\$692	\$812	\$686
MUNICIPAL CONSERVATION, OYSTER CREEK	WUG	\$847	\$511	\$549	\$531	\$599	\$550
MUNICIPAL CONSERVATION, P B & S C WSC	WUG	\$915	\$642	\$698	\$644	\$768	\$659
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 1	WUG	\$537	\$451	\$476	\$449	\$530	\$492
MUNICIPAL CONSERVATION, PALMER PLANTATION MUD 2	WUG	\$739	\$561	\$615	\$563	\$668	\$590
MUNICIPAL CONSERVATION, PANORAMA VILLAGE	WUG	\$717	\$525	\$599	\$556	\$654	\$599
MUNICIPAL CONSERVATION, PARKWAY MUD	WUG	\$1,202	\$770	\$810	\$742	\$855	\$726
MUNICIPAL CONSERVATION, PASADENA	WUG	\$741	\$497	\$535	\$556	\$615	\$551
MUNICIPAL CONSERVATION, PATTISON WSC	WUG	\$736	\$563	\$629	\$576	\$662	\$620
MUNICIPAL CONSERVATION, PEARLAND	WUG	\$871	\$570	\$623	\$636	\$699	\$609
MUNICIPAL CONSERVATION, PECAN GROVE MUD 1	WUG	\$742	\$542	\$582	\$548	\$635	\$581
MUNICIPAL CONSERVATION, PENNINGTON WSC	WUG	\$1,238	\$786	\$809	\$718	\$839	\$748
MUNICIPAL CONSERVATION, PHELPS SUD	WUG	\$879	\$658	\$715	\$636	\$752	\$641
MUNICIPAL CONSERVATION, PINE VILLAGE PUD	WUG	\$1,013	\$749	\$794	\$709	\$832	\$706
MUNICIPAL CONSERVATION, PINEWOOD COMMUNITY	WUG	\$886	\$657	\$768	\$678	\$743	\$675
MUNICIPAL CONSERVATION, PLANTATION MUD	WUG	\$997	\$657	\$735	\$669	\$779	\$676
MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	WUG	\$770	\$577	\$615	\$602	\$685	\$623
MUNICIPAL CONSERVATION, PRAIRIE VIEW	WUG	\$543	\$453	\$492	\$470	\$545	\$513
MUNICIPAL CONSERVATION, PROVIDENCE WSC	WUG	\$1,182	\$746	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, QUADVEST	WUG	\$737	\$557	\$632	\$655	\$733	\$630
MUNICIPAL CONSERVATION, QUAIL VALLEY UD	WUG	\$713	\$629	\$640	\$603	\$659	\$574
MUNICIPAL CONSERVATION, RANCH UTILITIES	WUG	\$950	\$706	\$743	\$638	\$738	\$654
MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	WUG	\$853	\$601	\$671	\$622	\$729	\$633

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, RICHMOND	WUG	\$681	\$475	\$483	\$472	\$747	\$571
MUNICIPAL CONSERVATION, RICHWOOD	WUG	\$1,228	\$813	\$887	\$804	\$899	\$779
MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	WUG	\$594	\$462	\$506	\$487	\$568	\$514
MUNICIPAL CONSERVATION, ROLLING FORK PUD	WUG	\$624	\$491	\$508	\$495	\$578	\$528
MUNICIPAL CONSERVATION, ROMAN FOREST CONSOLIDATED MUD	WUG	\$840	\$583	\$646	\$619	\$744	\$668
MUNICIPAL CONSERVATION, ROSENBERG	WUG	\$1,061	\$643	\$681	\$637	\$746	\$641
MUNICIPAL CONSERVATION, ROYAL VALLEY UTILITIES	WUG	\$493	\$405	\$451	\$422	\$495	\$456
MUNICIPAL CONSERVATION, SAGEMEADOW UD	WUG	\$985	\$685	\$744	\$700	\$796	\$704
MUNICIPAL CONSERVATION, SAN JACINTO SUD	WUG	\$1,146	\$769	\$820	\$756	\$859	\$737
MUNICIPAL CONSERVATION, SEABROOK	WUG	\$955	\$666	\$688	\$645	\$729	\$671
MUNICIPAL CONSERVATION, SEALY	WUG	\$818	\$541	\$535	\$517	\$564	\$567
MUNICIPAL CONSERVATION, SEDONA LAKES MUD 1	WUG	\$921	\$653	\$715	\$659	\$764	\$698
MUNICIPAL CONSERVATION, SEQUOIA IMPROVEMENT DISTRICT	WUG	\$807	\$559	\$612	\$565	\$697	\$581
MUNICIPAL CONSERVATION, SHENANDOAH	WUG	\$707	\$498	\$445	\$413	\$423	\$456
MUNICIPAL CONSERVATION, SHEPHERD	WUG	\$1,066	\$715	\$762	\$703	\$799	\$705
MUNICIPAL CONSERVATION, SHOREACRES	WUG	\$675	\$547	\$599	\$553	\$658	\$568
MUNICIPAL CONSERVATION, SIENNA PLANTATION	WUG	\$728	\$542	\$623	\$637	\$704	\$604
MUNICIPAL CONSERVATION, SODA WSC	WUG	\$1,136	\$789	\$832	\$729	\$847	\$728
MUNICIPAL CONSERVATION, SOUTH CLEVELAND WSC	WUG	\$1,131	\$754	\$803	\$734	\$838	\$743
MUNICIPAL CONSERVATION, SOUTH HOUSTON	WUG	\$1,054	\$571	\$554	\$532	\$616	\$573
MUNICIPAL CONSERVATION, SOUTHEAST WSC	WUG	\$1,305	\$805	\$851	\$758	\$871	\$740
MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	\$878	\$674	\$717	\$672	\$771	\$685
MUNICIPAL CONSERVATION, SOUTHERN WATER	WUG	\$931	\$659	\$678	\$622	\$729	\$638
MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	WUG	\$624	\$484	\$520	\$497	\$596	\$535
MUNICIPAL CONSERVATION, SOUTHWEST HARRIS COUNTY MUD 1	WUG	\$1,128	\$794	\$760	\$0	\$0	\$0
MUNICIPAL CONSERVATION, SPLENDORA	WUG	\$1,117	\$729	\$820	\$750	\$881	\$1,007
MUNICIPAL CONSERVATION, SPRING CREEK UD	WUG	\$1,076	\$724	\$770	\$713	\$1,083	\$699

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, SPRING MEADOWS MUD	WUG	\$1,204	\$737	\$783	\$709	\$823	\$710
MUNICIPAL CONSERVATION, SPRING VALLEY	WUG	\$583	\$458	\$496	\$474	\$547	\$512
MUNICIPAL CONSERVATION, STANLEY LAKE MUD	WUG	\$784	\$551	\$588	\$568	\$659	\$624
MUNICIPAL CONSERVATION, SUBURBAN UTILITY	WUG	\$1,127	\$700	\$780	\$702	\$812	\$697
MUNICIPAL CONSERVATION, SUGAR LAND	WUG	\$631	\$434	\$449	\$497	\$560	\$502
MUNICIPAL CONSERVATION, SUNBELT FWSD	WUG	\$1,119	\$678	\$735	\$679	\$796	\$664
MUNICIPAL CONSERVATION, SURFSIDE BEACH	WUG	\$563	\$416	\$484	\$442	\$551	\$496
MUNICIPAL CONSERVATION, SWEENEY	WUG	\$898	\$565	\$580	\$554	\$640	\$605
MUNICIPAL CONSERVATION, T & W WATER SERVICE	WUG	\$571	\$469	\$523	\$499	\$836	\$613
MUNICIPAL CONSERVATION, TARKINGTON SUD	WUG	\$1,097	\$746	\$778	\$720	\$831	\$718
MUNICIPAL CONSERVATION, TDCJ JESTER UNITS	WUG	\$295	\$263	\$298	\$290	\$353	\$328
MUNICIPAL CONSERVATION, TDCI RAMSEY AREA	WUG	\$136	\$133	\$155	\$155	\$188	\$184
MUNICIPAL CONSERVATION, TEMPE WSC 1	WUG	\$1,042	\$703	\$764	\$689	\$811	\$712
MUNICIPAL CONSERVATION, TEXAS CITY	WUG	\$1,022	\$632	\$686	\$642	\$748	\$632
MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY	WUG	\$778	\$566	\$621	\$598	\$674	\$603
MUNICIPAL CONSERVATION, THE WOODLANDS	WUG	\$1,762	\$711	\$782	\$770	\$843	\$696
MUNICIPAL CONSERVATION, THUNDERBIRD UD	WUG	\$677	\$515	\$518	\$490	\$566	\$530
MUNICIPAL CONSERVATION, TOMBALL	WUG	\$629	\$426	\$385	\$381	\$590	\$491
MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	WUG	\$883	\$635	\$679	\$633	\$734	\$644
MUNICIPAL CONSERVATION, TRINITY	WUG	\$1,053	\$708	\$773	\$696	\$820	\$707
MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	WUG	\$956	\$653	\$812	\$736	\$783	\$679
MUNICIPAL CONSERVATION, TRINITY RURAL WSC	WUG	\$858	\$628	\$658	\$594	\$722	\$630
MUNICIPAL CONSERVATION, VALLEY RANCH MUD 1	WUG	\$1,099	\$852	\$870	\$758	\$849	\$733
MUNICIPAL CONSERVATION, VARNER CREEK UD	WUG	\$1,110	\$665	\$662	\$633	\$794	\$669
MUNICIPAL CONSERVATION, WALKER COUNTY RURAL SUD	WUG	\$854	\$620	\$671	\$623	\$721	\$641
MUNICIPAL CONSERVATION, WALLER	WUG	\$1,141	\$639	\$605	\$580	\$643	\$644
MUNICIPAL CONSERVATION, WALLIS	WUG	\$1,128	\$689	\$773	\$709	\$819	\$700

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
MUNICIPAL CONSERVATION, WATERWOOD MUD 1	WUG	\$493	\$422	\$421	\$465	\$511	\$459
MUNICIPAL CONSERVATION, WEBSTER	WUG	\$501	\$461	\$402	\$392	\$411	\$426
MUNICIPAL CONSERVATION, WEST COLUMBIA	WUG	\$1,168	\$747	\$787	\$717	\$829	\$715
MUNICIPAL CONSERVATION, WEST END WSC	WUG	\$955	\$648	\$690	\$667	\$754	\$650
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	WUG	\$693	\$521	\$564	\$591	\$674	\$607
MUNICIPAL CONSERVATION, WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WUG	\$878	\$616	\$687	\$604	\$711	\$601
MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	WUG	\$863	\$582	\$645	\$661	\$726	\$625
MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	WUG	\$750	\$547	\$584	\$544	\$631	\$599
MUNICIPAL CONSERVATION, WESTWOOD SHORES MUD	WUG	\$1,134	\$762	\$816	\$748	\$833	\$734
MUNICIPAL CONSERVATION, WHITE OAK UTILITIES	WUG	\$1,370	\$834	\$825	\$736	\$865	\$745
MUNICIPAL CONSERVATION, WHITE OAK WSC	WUG	\$905	\$700	\$682	\$602	\$754	\$675
MUNICIPAL CONSERVATION, WILLIS	WUG	\$800	\$585	\$652	\$608	\$733	\$651
MUNICIPAL CONSERVATION, WOOD BRANCH VILLAGE	WUG	\$1,263	\$812	\$0	\$0	\$0	\$0
MUNICIPAL CONSERVATION, WOODCREEK MUD	WUG	\$806	\$577	\$641	\$595	\$681	\$616
MUNICIPAL CONSERVATION, WOODCREEK WATER OF LIBERTY	WUG	\$1,085	\$731	\$797	\$711	\$827	\$711
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	WUG	\$0	\$1,308	\$1,377	\$1,112	\$983	\$896
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	WUG	\$0	\$2,537	\$3,477	\$4,025	\$3,487	\$2,546
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	WUG	\$0	\$1,713	\$2,109	\$1,535	\$1,153	\$919
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	WUG	\$0	\$3,519	\$4,451	\$3,567	\$2,636	\$2,416
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	WUG	\$0	\$1,308	\$1,377	\$1,112	\$983	\$896
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	WUG	\$0	\$1,039	\$1,040	\$828	\$812	\$854
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRWA	WUG	\$0	\$201	\$277	\$326	\$287	\$214
MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	WUG	\$0	\$381	\$431	\$461	\$422	\$339
WATER LOSS REDUCTION, ANAHUAC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, ANGLETON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, AUSTIN COUNTY WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, BAYBROOK MUD 1	WUG	\$625	\$615	\$602	\$597	\$583	\$578

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, BAYTOWN	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, BRAZORIA COUNTY MUD 2	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, BROOKSHIRE MWD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, BUFFALO	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, CAPE ROYALE UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, CLEAR LAKE CITY WATER AUTHORITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, CLEVELAND	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, AUSTIN	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, LEON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, LIBERTY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, MADISON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, POLK	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, SAN JACINTO	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, COUNTY-OTHER, WALLER	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, CROSBY MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, DEER PARK	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, ELDORADO UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FLO COMMUNITY WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FOREST HILLS MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FORT BEND COUNTY FWSD 1	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FORT BEND COUNTY MUD 81	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FORT BEND COUNTY WCID 2	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, FRIENDSWOOD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, G & W WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, GALVESTON	WUG	\$625	\$615	\$602	\$597	\$583	\$578

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 1	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, GALVESTON COUNTY WCID 8	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, GREENWOOD UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, GROVETON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 1-A	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY FWSD 58	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 106	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 11	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 180	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 216	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 412	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 5	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 50	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY MUD 55	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY UD 14	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY WCID 1	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY WCID 70	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY WCID 89	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HARRIS COUNTY WCID-FONDREN ROAD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HILLCREST VILLAGE	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HOUSTON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, HUNTSVILLE	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, JACINTO CITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, JERSEY VILLAGE	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, KENDLETON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LA MARQUE	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LA PORTE	WUG	\$625	\$615	\$602	\$597	\$583	\$578

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, LAKE CONROE HILLS MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LAKE LIVINGSTON WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LAKE MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LEAGUE CITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LEGGETT WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LIBERTY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LIVINGSTON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LONGHORN TOWN UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, LUCE BAYOU PUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MADISON COUNTY WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MADISONVILLE	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MANVEL	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MEMORIAL POINT UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MERCY WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MISSOURI CITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MONTGOMERY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 84	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 88	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD 99	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, MONTGOMERY COUNTY UD 3	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NASSAU BAY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NEW WAVERLY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NEWPORT MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NORTH BELT UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NORTH FOREST MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, NORTH ZULCH MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WATER LOSS REDUCTION, ONALASKA WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, ONE FIVE O WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, PEARLAND	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, PINE VILLAGE PUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, PINEHURST DECKER PRAIRIE WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, RICHWOOD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SEDONA LAKES MUD 1	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SEQUOIA IMPROVEMENT DISTRICT	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SOUTH HOUSTON	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SOUTHEAST WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SOUTHERN MONTGOMERY COUNTY MUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SPLENDORA	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SUBURBAN UTILITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SUGAR LAND	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, SUNBELT FWSD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, TEXAS CITY	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, TOMBALL	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, TRINITY RURAL WSC	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, VARNER CREEK UD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, WALKER COUNTY RURAL-SUD	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, WALLER	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WATER LOSS REDUCTION, WALLIS	WUG	\$625	\$615	\$602	\$597	\$583	\$578
WUG INFRASTRUCTURE EXPANSION - ANGLETON	WUG	\$0	\$205	\$205	\$34	\$34	\$34
WUG INFRASTRUCTURE EXPANSION - BACLIFF MUD	WUG	\$0	\$2,682	\$2,673	\$128	\$128	\$127
WUG INFRASTRUCTURE EXPANSION - BAYVIEW MUD	WUG	\$0	\$8,044	\$8,044	\$321	\$321	\$321
WUG INFRASTRUCTURE EXPANSION - BLUE RIDGE WEST MUD	WUG	\$0	\$3,461	\$3,461	\$166	\$166	\$166
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 25	WUG	\$0	\$5,803	\$5,803	\$258	\$262	\$270

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - BRAZORIA COUNTY MUD 29	WUG	\$0	\$3,628	\$3,628	\$174	\$178	\$184
WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	WUG	\$0	\$226	\$226	\$38	\$38	\$38
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 1	WUG	\$0	\$222	\$166	\$23	\$24	\$20
WUG INFRASTRUCTURE EXPANSION - CONROE - PHASE 2	WUG	\$0	\$0	\$0	\$100	\$106	\$9
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B)	WUG	\$0	\$0	\$0	\$0	\$0	\$3,930
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (B-C)	WUG	\$0	\$1,164	\$693	\$42	\$0	\$0
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA (SJB)	WUG	\$0	\$280	\$284	\$40	\$30	\$75
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SJB) - PHASE 1	WUG	\$0	\$1,530	\$263	\$18	\$18	\$12
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SJB) - PHASE 2	WUG	\$0	\$0	\$0	\$156	\$151	\$17
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (BRA CUSTOMERS)	WUG	\$0	\$0	\$0	\$0	\$446	\$353
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA (SJB)	WUG	\$3,189	\$229	\$34	\$34	\$35	\$36
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (B)	WUG	\$1,685	\$281	\$50	\$48	\$39	\$35
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND (S)	WUG	\$7,987	\$3,930	\$174	\$174	\$174	\$174
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 1	WUG	\$0	\$864	\$505	\$27	\$20	\$16
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, FORT BEND COUNTY (RICHMOND GRP PARTICIPANTS) - PHASE 2	WUG	\$0	\$0	\$0	\$336	\$249	\$21
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON (SJB)	WUG	\$2,404	\$2,404	\$825	\$825	\$825	\$825
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS (COH GRP PARTICIPANTS)	WUG	\$0	\$0	\$1,088	\$1,058	\$69	\$67
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S)	WUG	\$0	\$576	\$256	\$35	\$23	\$18
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S)	WUG	\$0	\$0	\$0	\$0	\$157	\$122
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S)	WUG	\$3,539	\$2,374	\$137	\$1,224	\$226	\$133
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (S)	WUG	\$1,312	\$906	\$42	\$36	\$31	\$28
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TS)	WUG	\$0	\$0	\$639	\$537	\$31	\$28
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TS)	WUG	\$0	\$0	\$1,130	\$467	\$102	\$67
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (S)	WUG	\$0	\$0	\$0	\$633	\$362	\$91
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (S)	WUG	\$0	\$0	\$0	\$0	\$447	\$294
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (S)	WUG	\$0	\$0	\$0	\$0	\$0	\$253

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY (SJIRA GRP PARTICIPANTS)	WUG	\$0	\$1,309	\$1,309	\$75	\$75	\$75
WUG INFRASTRUCTURE EXPANSION - EL DORADO UD	WUG	\$0	\$0	\$2,608	\$2,617	\$125	\$127
WUG INFRASTRUCTURE EXPANSION - FIRST COLONY MUD 9	WUG	\$0	\$2,088	\$2,088	\$110	\$110	\$110
WUG INFRASTRUCTURE EXPANSION - FOREST HILLS MUD	WUG	\$0	\$0	\$2,889	\$2,992	\$146	\$148
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 115	WUG	\$0	\$1,878	\$1,887	\$100	\$104	\$107
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	WUG	\$0	\$3,493	\$3,353	\$157	\$154	\$151
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 128	WUG	\$0	\$1,645	\$1,645	\$89	\$89	\$89
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 129	WUG	\$0	\$1,945	\$1,955	\$104	\$107	\$109
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 140	WUG	\$0	\$3,237	\$3,129	\$146	\$143	\$140
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 149	WUG	\$0	\$6,632	\$5,088	\$229	\$241	\$254
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 152	WUG	\$0	\$11,092	\$8,927	\$361	\$361	\$361
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 155	WUG	\$0	\$4,642	\$3,733	\$167	\$167	\$167
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 158	WUG	\$0	\$7,354	\$5,895	\$264	\$264	\$264
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 187	WUG	\$0	\$4,127	\$3,994	\$173	\$169	\$165
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 23	WUG	\$0	\$2,751	\$2,751	\$132	\$132	\$132
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 24	WUG	\$0	\$18,770	\$18,770	\$758	\$758	\$758
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 26	WUG	\$0	\$4,585	\$4,585	\$203	\$203	\$203
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 42	WUG	\$0	\$3,265	\$3,265	\$157	\$157	\$157
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 46	WUG	\$0	\$0	\$8,225	\$8,414	\$435	\$569
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 47	WUG	\$0	\$0	\$38,529	\$43,061	\$2,688	\$4,223
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 48	WUG	\$0	\$5,194	\$5,306	\$239	\$246	\$250
WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 49	WUG	\$11,606	\$6,459	\$289	\$292	\$305	\$317
WUG INFRASTRUCTURE EXPANSION - FULSHEAR	WUG	\$0	\$841	\$813	\$56	\$58	\$62
WUG INFRASTRUCTURE EXPANSION - GALVESTON	WUG	\$0	\$191	\$190	\$28	\$28	\$28
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY FWSD 6	WUG	\$0	\$13,556	\$13,556	\$547	\$547	\$538

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY MUD 12	WUG	\$0	\$6,906	\$6,906	\$279	\$279	\$276
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 1	WUG	\$0	\$822	\$821	\$54	\$54	\$54
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 12	WUG	\$0	\$3,016	\$2,815	\$360	\$333	\$313
WUG INFRASTRUCTURE EXPANSION - GALVESTON COUNTY WCID 8	WUG	\$0	\$3,182	\$3,182	\$152	\$152	\$151
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 106	WUG	\$0	\$0	\$596	\$590	\$45	\$44
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 11	WUG	\$0	\$0	\$3,526	\$3,493	\$162	\$159
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 119	WUG	\$0	\$0	\$1,899	\$1,899	\$101	\$100
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 122	WUG	\$104,577	\$25,243	\$580	\$603	\$616	\$616
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 132	WUG	\$0	\$0	\$820	\$819	\$57	\$57
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 151	WUG	\$0	\$0	\$784	\$788	\$54	\$55
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 152	WUG	\$0	\$0	\$761	\$750	\$53	\$53
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 154	WUG	\$0	\$0	\$1,039	\$1,029	\$67	\$66
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 189	WUG	\$0	\$0	\$2,645	\$2,556	\$131	\$126
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 221	WUG	\$0	\$0	\$2,049	\$2,001	\$103	\$102
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 278	WUG	\$0	\$0	\$2,100	\$2,100	\$111	\$111
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 290	WUG	\$0	\$0	\$1,096	\$1,076	\$65	\$65
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 36	WUG	\$0	\$0	\$2,487	\$2,512	\$120	\$120
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 46	WUG	\$0	\$0	\$1,374	\$1,391	\$80	\$80
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD 6	WUG	\$0	\$9,523	\$4,344	\$201	\$205	\$211
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 14	WUG	\$0	\$0	\$3,912	\$3,646	\$161	\$144
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY UD 15	WUG	\$0	\$0	\$1,707	\$1,737	\$95	\$95
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 133	WUG	\$0	\$0	\$1,557	\$1,480	\$79	\$74
WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY WCID 74	WUG	\$0	\$0	\$1,836	\$1,889	\$103	\$104
WUG INFRASTRUCTURE EXPANSION - HITCHCOCK	WUG	\$0	\$2,165	\$2,159	\$114	\$113	\$113
WUG INFRASTRUCTURE EXPANSION - HMW SUD	WUG	\$0	\$8,005	\$3,119	\$99	\$110	\$125

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - LA MARQUE	WUG	\$0	\$2,834	\$2,834	\$135	\$134	\$134
WUG INFRASTRUCTURE EXPANSION - LAKE BONANZA WSC	WUG	\$0	\$3,216	\$2,605	\$121	\$106	\$87
WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	WUG	\$0	\$1,396	\$1,396	\$80	\$80	\$80
WUG INFRASTRUCTURE EXPANSION - LEAGUE CITY	WUG	\$0	\$1,303	\$1,301	\$74	\$74	\$74
WUG INFRASTRUCTURE EXPANSION - MAGNOLIA	WUG	\$0	\$40,870	\$5,507	\$202	\$135	\$91
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	WUG	\$1,438	\$1,126	\$432	\$432	\$432	\$431
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SIB)	WUG	\$0	\$516	\$516	\$42	\$42	\$42
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (B)	WUG	\$12,342	\$2,523	\$866	\$866	\$866	\$866
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, FORT BEND COUNTY (SI)	WUG	\$20,897	\$9,457	\$2,449	\$2,449	\$2,449	\$2,449
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, GALVESTON COUNTY	WUG	\$1,092	\$1,091	\$412	\$411	\$414	\$418
WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	WUG	\$5,520	\$2,828	\$984	\$984	\$984	\$984
WUG INFRASTRUCTURE EXPANSION - MEADOWCREEK MUD	WUG	\$0	\$7,039	\$7,039	\$284	\$284	\$284
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 1	WUG	\$445	\$385	\$35	\$31	\$27	\$24
WUG INFRASTRUCTURE EXPANSION - MEMORIAL VILLAGES WATER AUTHORITY - PHASE 2	WUG	\$0	\$0	\$0	\$272	\$237	\$18
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	WUG	\$0	\$23,961	\$12,590	\$370	\$270	\$205
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	WUG	\$0	\$20,370	\$10,741	\$2,119	\$1,552	\$1,156
WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SIB)	WUG	\$0	\$16,182	\$8,476	\$1,887	\$1,386	\$1,044
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	WUG	\$12,774	\$11,765	\$2,587	\$2,413	\$2,261	\$2,085
WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SIB)	WUG	\$4,860	\$4,544	\$1,318	\$1,219	\$1,138	\$1,069
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SI)	WUG	\$351	\$353	\$38	\$38	\$39	\$39
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SIB)	WUG	\$4,220	\$4,245	\$192	\$194	\$195	\$197
WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TSI)	WUG	\$5,019	\$5,053	\$229	\$232	\$234	\$235
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY	WUG	\$0	\$0	\$10,282	\$4,691	\$1,105	\$703
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 112	WUG	\$0	\$2,337	\$2,359	\$125	\$132	\$132
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 115	WUG	\$0	\$3,033	\$2,450	\$131	\$143	\$144

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 119	WUG	\$0	\$903	\$724	\$52	\$55	\$55
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 15	WUG	\$0	\$43,061	\$7,957	\$325	\$519	\$2,688
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 18	WUG	\$0	\$0	\$0	\$17,455	\$5,452	\$748
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 19	WUG	\$0	\$2,135	\$2,190	\$116	\$120	\$119
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 56	WUG	\$0	\$32,510	\$12,385	\$2,018	\$2,033	\$2,077
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 88	WUG	\$0	\$7,428	\$6,039	\$275	\$300	\$300
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 89	WUG	\$0	\$1,946	\$1,927	\$97	\$94	\$93
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD 99	WUG	\$0	\$10,175	\$6,139	\$277	\$308	\$323
WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY WCID 1	WUG	\$0	\$13,264	\$10,765	\$347	\$351	\$270
WUG INFRASTRUCTURE EXPANSION - MOUNT HOUSTON ROAD MUD	WUG	\$0	\$0	\$1,228	\$1,139	\$66	\$65
WUG INFRASTRUCTURE EXPANSION - MSEC ENTERPRISES	WUG	\$0	\$287	\$272	\$34	\$33	\$31
WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	WUG	\$0	\$158	\$151	\$27	\$27	\$27
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	WUG	\$0	\$142	\$140	\$26	\$26	\$26
WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	WUG	\$0	\$0	\$6	\$6	\$1	\$1
WUG INFRASTRUCTURE EXPANSION - NORTH BELT UD	WUG	\$0	\$0	\$2,044	\$2,011	\$104	\$101
WUG INFRASTRUCTURE EXPANSION - NORTH FOREST MUD	WUG	\$0	\$0	\$5,895	\$6,349	\$297	\$320
WUG INFRASTRUCTURE EXPANSION - NORTH GREEN MUD	WUG	\$0	\$0	\$2,106	\$2,111	\$110	\$110
WUG INFRASTRUCTURE EXPANSION - OAK RIDGE NORTH	WUG	\$0	\$4,762	\$4,150	\$172	\$207	\$205
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 1	WUG	\$0	\$5,383	\$5,383	\$239	\$239	\$239
WUG INFRASTRUCTURE EXPANSION - PALMER PLANTATION MUD 2	WUG	\$0	\$10,765	\$10,765	\$435	\$435	\$435
WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	WUG	\$0	\$0	\$173,388	\$23,118	\$2,736	\$1,555
WUG INFRASTRUCTURE EXPANSION - PINE VILLAGE PUD	WUG	\$0	\$0	\$10,609	\$10,609	\$428	\$428
WUG INFRASTRUCTURE EXPANSION - PORTER SUD	WUG	\$0	\$0	\$0	\$6,827	\$2,935	\$732
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 1	WUG	\$0	\$517	\$376	\$31	\$21	\$16
WUG INFRASTRUCTURE EXPANSION - QUADVEST, MONTGOMERY COUNTY - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$151	\$112

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - QUAIL VALLEY UD	WUG	\$0	\$9,892	\$9,892	\$400	\$400	\$400
WUG INFRASTRUCTURE EXPANSION - RAYFORD ROAD MUD	WUG	\$0	\$2,227	\$1,822	\$85	\$83	\$80
WUG INFRASTRUCTURE EXPANSION - RICHWOOD	WUG	\$0	\$3,353	\$3,353	\$161	\$161	\$161
WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	WUG	\$0	\$0	\$0	\$9,948	\$4,159	\$1,166
WUG INFRASTRUCTURE EXPANSION - ROLLING FORK PUD	WUG	\$0	\$11,606	\$5,019	\$227	\$231	\$234
WUG INFRASTRUCTURE EXPANSION - SAN LEON MUD	WUG	\$0	\$1,849	\$1,844	\$99	\$99	\$99
WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	WUG	\$18,417	\$4,455	\$1,266	\$1,093	\$933	\$780
WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION	WUG	\$0	\$272	\$272	\$33	\$33	\$30
WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	WUG	\$0	\$886	\$854	\$54	\$54	\$56
WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	WUG	\$0	\$0	\$0	\$0	\$5,947	\$2,456
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, CHAMBERS COUNTY (TSJ)	WUG	\$299	\$299	\$22	\$22	\$22	\$22
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ)	WUG	\$144	\$144	\$18	\$18	\$18	\$18
WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJB)	WUG	\$2,198	\$2,198	\$98	\$98	\$98	\$98
WUG INFRASTRUCTURE EXPANSION - SUNBELT FWSD	WUG	\$0	\$0	\$948	\$948	\$63	\$63
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 1	WUG	\$0	\$1,397	\$1,131	\$50	\$34	\$25
WUG INFRASTRUCTURE EXPANSION - T & W WATER SERVICE - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$454	\$333
WUG INFRASTRUCTURE EXPANSION - TEXAS CITY	WUG	\$0	\$187	\$187	\$29	\$29	\$29
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 1	WUG	\$789	\$169	\$25	\$22	\$19	\$16
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS - PHASE 2	WUG	\$0	\$0	\$148	\$128	\$19	\$16
WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	WUG	\$0	\$0	\$389	\$359	\$36	\$35
WUG INFRASTRUCTURE EXPANSION - THUNDERBIRD UD	WUG	\$0	\$2,374	\$2,374	\$125	\$125	\$125
WUG INFRASTRUCTURE EXPANSION - TOMBALL	WUG	\$0	\$1,017	\$556	\$46	\$44	\$43
WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	WUG	\$0	\$0	\$809	\$812	\$56	\$56
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 1	WUG	\$5,321	\$2,884	\$695	\$516	\$400	\$325
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 2	WUG	\$0	\$0	\$1,688	\$1,253	\$338	\$275

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION - TRINITY BAY CONSERVATION DISTRICT - PHASE 3	WUG	\$0	\$0	\$0	\$0	\$1,097	\$892
WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	WUG	\$0	\$1,865	\$1,684	\$87	\$85	\$76
WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	WUG	\$0	\$155	\$147	\$27	\$27	\$27
WUG INFRASTRUCTURE EXPANSION - WOODCREEK MUD	WUG	\$0	\$0	\$2,635	\$2,663	\$128	\$128
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 1	WUG	\$6,806	\$4,065	\$1,486	\$1,007	\$694	\$493
WUG INFRASTRUCTURE EXPANSION (BRACKISH GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC - PHASE 2	WUG	\$0	\$0	\$0	\$2,713	\$1,870	\$756
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BAKER ROAD MUD	WUG	\$0	\$6,816	\$4,119	\$1,273	\$1,283	\$1,283
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY	WUG	\$0	\$4,901	\$2,652	\$1,028	\$950	\$898
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE RIDGE WEST MUD	WUG	\$0	\$5,947	\$3,482	\$961	\$902	\$902
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CORINTHIAN POINT MUD 2	WUG	\$0	\$8,946	\$4,004	\$1,238	\$1,246	\$1,246
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 1	WUG	\$0	\$1,426	\$1,426	\$298	\$298	\$212
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 2	WUG	\$0	\$0	\$0	\$702	\$702	\$305
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B) - PHASE 3	WUG	\$0	\$0	\$0	\$0	\$0	\$393
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	WUG	\$0	\$0	\$2,262	\$2,262	\$479	\$479
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$1,083	\$1,083
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	\$0	\$2,373	\$2,373	\$1,174	\$1,174	\$1,174
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 1	WUG	\$0	\$1,275	\$756	\$447	\$447	\$447
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND (SUGAR LAND GRP) - PHASE 2	WUG	\$0	\$0	\$607	\$607	\$339	\$339
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 1	WUG	\$0	\$0	\$1,921	\$612	\$196	\$114
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC) - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$604	\$352
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (SJB)	WUG	\$0	\$757	\$741	\$456	\$447	\$437
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 1	WUG	\$0	\$716	\$534	\$330	\$318	\$305

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ) - PHASE 2	WUG	\$0	\$0	\$320	\$308	\$186	\$179
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY (SJRA GRP PARTICIPANTS)	WUG	\$1,889	\$504	\$373	\$429	\$529	\$758
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	WUG	\$1,354	\$1,354	\$355	\$355	\$209	\$209
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	WUG	\$0	\$0	\$697	\$697	\$248	\$248
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 3	WUG	\$0	\$0	\$0	\$0	\$454	\$454
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 1	WUG	\$1,327	\$1,327	\$401	\$401	\$248	\$248
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 2	WUG	\$0	\$0	\$613	\$613	\$224	\$224
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (SJ) - PHASE 3	WUG	\$0	\$0	\$0	\$0	\$441	\$441
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - CUT AND SHOOT	WUG	\$0	\$76,187	\$14,703	\$2,674	\$1,479	\$929
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOMESTIC WATER	WUG	\$0	\$12,526	\$5,781	\$1,669	\$1,688	\$1,708
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOUGLAS UTILITY	WUG	\$0	\$9,394	\$5,657	\$1,597	\$1,597	\$1,579
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FAR HILLS UD	WUG	\$0	\$6,600	\$3,093	\$1,067	\$1,073	\$1,073
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FIRST COLONY MUD 9	WUG	\$0	\$4,575	\$2,687	\$875	\$821	\$821
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 1	WUG	\$0	\$17,536	\$15,031	\$3,672	\$3,264	\$2,938
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY FWSD 2	WUG	\$0	\$6,430	\$5,231	\$1,450	\$1,246	\$1,082
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 1	WUG	\$0	\$2,653	\$2,026	\$754	\$652	\$575
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 116 - PHASE 2	WUG	\$0	\$0	\$0	\$1,152	\$996	\$291
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 162	WUG	\$0	\$5,022	\$4,090	\$1,264	\$1,273	\$1,273
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 23	WUG	\$0	\$6,193	\$3,374	\$1,040	\$926	\$878
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 24	WUG	\$0	\$22,873	\$10,522	\$2,040	\$1,933	\$1,933
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 26	WUG	\$0	\$7,970	\$3,563	\$980	\$923	\$923
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 42	WUG	\$0	\$6,029	\$3,521	\$1,019	\$957	\$957
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 5	WUG	\$0	\$5,086	\$5,232	\$1,551	\$1,566	\$1,566

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY WCID 3	WUG	\$0	\$2,895	\$2,895	\$1,049	\$1,049	\$1,049
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - G & W WSC (SI)	WUG	\$0	\$0	\$0	\$0	\$2,379	\$2,379
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	WUG	\$0	\$4,464	\$2,551	\$960	\$960	\$960
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY FWSD 58	WUG	\$0	\$6,331	\$3,409	\$1,170	\$1,092	\$1,027
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 153	WUG	\$0	\$3,059	\$1,748	\$826	\$833	\$839
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 180	WUG	\$0	\$5,045	\$2,734	\$1,040	\$1,091	\$1,152
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 216	WUG	\$0	\$13,844	\$8,094	\$2,408	\$2,533	\$2,671
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 345	WUG	\$0	\$3,660	\$2,116	\$896	\$900	\$907
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 400	WUG	\$0	\$2,988	\$1,625	\$733	\$711	\$703
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD 58	WUG	\$0	\$7,634	\$4,241	\$1,341	\$1,341	\$1,362
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID 70	WUG	\$0	\$8,768	\$5,209	\$1,546	\$1,614	\$1,749
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD (B)	WUG	\$0	\$0	\$0	\$0	\$0	\$3,817
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HMW SUD, HARRIS COUNTY	WUG	\$0	\$5,562	\$2,675	\$863	\$915	\$974
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, FORT BEND (RICHMOND GRP PARTICIPANTS)	WUG	\$0	\$2,046	\$2,046	\$522	\$522	\$522
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	WUG	\$175	\$175	\$73	\$73	\$73	\$73
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (SI)	WUG	\$171	\$171	\$72	\$72	\$72	\$72
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 1	WUG	\$0	\$5,430	\$2,538	\$741	\$498	\$357
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - JOHNSTON WATER UTILITY - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$1,039	\$745
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	WUG	\$0	\$1,400	\$1,105	\$555	\$549	\$544
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAKE CONROE HILLS MUD	WUG	\$0	\$15,137	\$7,023	\$1,807	\$1,204	\$856
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LAZY RIVER IMPROVEMENT DISTRICT	WUG	\$0	\$9,155	\$4,292	\$1,270	\$1,280	\$1,280
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	WUG	\$348	\$348	\$89	\$89	\$89	\$89
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	WUG	\$348	\$348	\$89	\$89	\$89	\$89
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (SI)	WUG	\$348	\$348	\$89	\$89	\$89	\$89
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	WUG	\$210	\$210	\$75	\$75	\$75	\$75

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	WUG	\$348	\$348	\$89	\$89	\$89	\$89
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	WUG	\$0	\$6,534	\$3,763	\$1,218	\$1,226	\$1,226
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LUCE BAYOU PUD	WUG	\$0	\$14,218	\$7,515	\$2,192	\$2,332	\$2,369
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 1	WUG	\$0	\$0	\$9,666	\$2,821	\$683	\$381
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$0	\$642
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T)	WUG	\$761	\$604	\$387	\$387	\$387	\$387
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T)	WUG	\$0	\$2,262	\$2,262	\$1,119	\$1,119	\$1,119
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	WUG	\$0	\$2,913	\$1,688	\$803	\$810	\$818
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWCREEK MUD	WUG	\$0	\$9,591	\$5,557	\$1,242	\$1,166	\$1,166
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MEADOWS PLACE	WUG	\$0	\$3,138	\$3,201	\$1,067	\$1,032	\$986
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	WUG	\$0	\$2,262	\$2,262	\$1,119	\$1,119	\$1,119
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (SI)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	WUG	\$0	\$2,988	\$2,988	\$1,408	\$1,408	\$1,408
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	WUG	\$0	\$1,602	\$1,602	\$873	\$873	\$873
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	WUG	\$0	\$0	\$1,095	\$1,095	\$234	\$234
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	WUG	\$0	\$0	\$0	\$0	\$582	\$582
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY	WUG	\$0	\$2,560	\$2,560	\$966	\$966	\$966

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 15	WUG	\$0	\$0	\$0	\$12,365	\$3,955	\$860
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 84	WUG	\$0	\$4,795	\$4,505	\$1,338	\$1,234	\$1,166
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD 95	WUG	\$0	\$3,810	\$3,118	\$1,048	\$1,048	\$1,054
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY UD 4	WUG	\$0	\$0	\$0	\$0	\$0	\$7,207
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	WUG	\$0	\$0	\$22,738	\$7,158	\$1,411	\$871
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST HARRIS COUNTY MUD 16	WUG	\$0	\$4,901	\$2,883	\$1,067	\$1,076	\$1,100
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 1	WUG	\$0	\$7,714	\$4,477	\$1,073	\$1,004	\$1,004
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PALMER PLANTATION MUD 2	WUG	\$0	\$13,398	\$7,847	\$1,613	\$1,522	\$1,522
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEHURST DECKER PRAIRIE WSC	WUG	\$0	\$81,470	\$13,392	\$2,755	\$1,483	\$822
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINEWOOD COMMUNITY	WUG	\$0	\$17,536	\$10,315	\$2,998	\$3,060	\$3,125
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	WUG	\$0	\$4,861	\$5,282	\$1,629	\$1,646	\$1,646
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	WUG	\$0	\$0	\$29,731	\$10,811	\$1,810	\$1,105
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST (ROSENBERG GRP PARTICIPANT)	WUG	\$0	\$5,771	\$3,998	\$1,363	\$1,026	\$810
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 1	WUG	\$0	\$4,370	\$3,009	\$801	\$610	\$489
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, FORT BEND COUNTY - PHASE 2	WUG	\$0	\$0	\$0	\$2,295	\$1,746	\$518
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUADVEST, HARRIS COUNTY	WUG	\$0	\$10,590	\$4,743	\$1,431	\$1,096	\$891
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - QUAIL VALLEY UD	WUG	\$0	\$0	\$4,473	\$3,215	\$1,012	\$1,012
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - RANCH UTILITIES	WUG	\$0	\$14,613	\$16,440	\$4,896	\$4,896	\$4,896
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST CONSOLIDATED MUD	WUG	\$0	\$0	\$28,315	\$11,012	\$1,939	\$1,226
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (NFBWA GRP PARTICIPANT)	WUG	\$0	\$5,663	\$4,503	\$1,333	\$1,344	\$1,367
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROYAL VALLEY UTILITIES (SUGAR LAND GRP PARTICIPANT)	WUG	\$0	\$3,679	\$2,937	\$1,008	\$1,008	\$1,008
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SEQUOIA IMPROVEMENT DISTRICT	WUG	\$0	\$12,234	\$6,576	\$1,908	\$1,908	\$1,959
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SOUTHERN WATER	WUG	\$0	\$5,002	\$2,992	\$1,057	\$1,078	\$1,105
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPLENDORA	WUG	\$0	\$27,653	\$6,680	\$1,613	\$972	\$645

Project Name	Proj. Level	Unit Cost (\$/ac ft)					
		2020	2030	2040	2050	2060	2070
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STANLEY LAKE MUD	WUG	\$0	\$0	\$0	\$4,278	\$3,518	\$1,125
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUBURBAN UTILITY	WUG	\$0	\$8,064	\$4,404	\$1,417	\$1,452	\$1,515
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (B)	WUG	\$0	\$3,716	\$3,740	\$1,203	\$1,203	\$1,203
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TDCJ JESTER UNITS (SIB)	WUG	\$0	\$2,883	\$2,895	\$1,049	\$1,049	\$1,049
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY	WUG	\$0	\$5,716	\$3,138	\$1,037	\$1,022	\$1,018
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THUNDERBIRD UD	WUG	\$0	\$4,988	\$2,927	\$934	\$877	\$877
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD 6	WUG	\$0	\$5,874	\$3,335	\$1,100	\$1,067	\$1,052
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	WUG	\$0	\$101,980	\$14,804	\$2,730	\$1,464	\$882
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOOD BRANCH VILLAGE	WUG	\$0	\$0	\$0	\$30,946	\$11,437	\$1,770
WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK WATER OF LIBERTY	WUG	\$0	\$5,261	\$5,261	\$1,469	\$1,469	\$1,469

Table 5-A12 – WWP and WUG WMS Contractual Volumes

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY							
COUNTY-OTHER, BRAZORIA	ALLENS CREEK LAKE/RESERVOIR	0	0	0	0	2,061	2,603
GULF COAST WATER AUTHORITY	ALLENS CREEK LAKE/RESERVOIR	0	0	13,440	16,103	18,238	24,450
RICHMOND	ALLENS CREEK LAKE/RESERVOIR	0	0	0	701	1,793	2,847
BRAZOSPORT WATER AUTHORITY							
ANGLETON	DOW HARRIS RESERVOIR EXPANSION	0	6,048	6,048	6,048	6,048	6,048
COUNTY-OTHER, BRAZORIA	BRAZOS RUN-OF-RIVER, BRAZORIA	0	1,380	1,321	1,261	1,197	1,128
	GULF COAST AQUIFER SYSTEM, BRAZORIA	0	3,110	3,597	3,899	3,698	1,007
FREEPORT	BRAZOS RUN-OF-RIVER, BRAZORIA	0	1,634	1,634	1,634	1,634	1,634
LAKE JACKSON	DOW HARRIS RESERVOIR EXPANSION	0	1,726	1,726	1,726	1,726	1,726
MINING, BRAZORIA	DOW HARRIS RESERVOIR EXPANSION	0	560	560	560	560	560
OYSTER CREEK	BRAZOS RUN-OF-RIVER, BRAZORIA	0	31	59	89	122	161
RICHWOOD	DOW HARRIS RESERVOIR EXPANSION	0	11	11	11	11	11
CONROE	DOW HARRIS RESERVOIR EXPANSION	0	224	224	224	224	224
SAN JACINTO RIVER AUTHORITY							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	313	3,630	3,423	3,228	3,014	2,782
CORINTHIAN POINT MUD 2							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	6	0	0	0	0	0
COUNTY-OTHER, FORT BEND							
RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	399	451	482	511	539
COUNTY-OTHER, HARRIS							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	315	315	315	315

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
DOW INC							
MANUFACTURING, BRAZORIA	BRA SYSTEM OPERATIONS PERMIT SUPPLY	15,473	15,473	15,473	15,473	15,034	14,462
	BRAZOS RUN-OF-RIVER, BRAZORIA	0	0	10,000	10,000	10,000	10,000
	DOW HARRIS RESERVOIR EXPANSION	0	71431	71431	71431	71431	71431
	GULF OF MEXICO SALINE	0	0	11,200	11,200	11,200	11,200
ELDORADO UD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	121	121	121	121
FOREST HILLS MUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	108	108	108	108
FORT BEND COUNTY MUD 115							
FORT BEND COUNTY MUD 129	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	393	391	389	379	372
FORT BEND COUNTY MUD 149	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	112	146	144	137	130
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	80	80	79	65	54
FORT BEND COUNTY MUD 121							
RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	78	88	94	100	105
FORT BEND COUNTY MUD 129							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	51	50	49	40	33
FORT BEND COUNTY MUD 140							
RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	85	95	102	107	113
FORT BEND COUNTY MUD 149							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	27	40	40	33	26
FORT BEND COUNTY MUD 187							
RICHMOND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	72	81	87	92	97
FORT BEND COUNTY MUD 23							
FORT BEND COUNTY MUD 24	GULF COAST AQUIFER SYSTEM, FORT BEND	0	23	50	72	76	76

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 46							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	76	125	124	102	84
FORT BEND COUNTY MUD 47							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	20	33	32	26	22
FORT BEND COUNTY MUD 48							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	17	16	15	12	10
FORT BEND COUNTY MUD 49							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	26	26	26	21	17
FORT BEND COUNTY WCID 2							
HARRIS COUNTY MUD 122	BRAZOS RUN-OF-RIVER, FORT BEND	7	29	51	49	48	48
MEADOWS PLACE	GULF COAST AQUIFER SYSTEM, FORT BEND	0	204	200	205	212	222
FREEPORT							
MANUFACTURING, BRAZORIA	BRAZOS RUN-OF-RIVER, BRAZORIA	0	3,360	3,360	3,360	3,360	3,360
SURFSIDE BEACH	BRAZOS RUN-OF-RIVER, BRAZORIA	323	323	323	323	323	323
GULF COAST WATER AUTHORITY							
BACLIFF MUD	BRAZOS RUN-OF-RIVER, FORT BEND	0	280	281	282	282	283
BAYVIEW MUD	BRAZOS RUN-OF-RIVER, FORT BEND	0	91	91	92	92	92
COUNTY-OTHER, BRAZORIA	ALLENS CREEK LAKE/RESERVOIR	0	0	0	2,663	4,798	11,010
COUNTY-OTHER, FORT BEND	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	690	4,014	5,259	3,402	1,427
COUNTY-OTHER, GALVESTON	BRA SYSTEM OPERATIONS PERMIT SUPPLY	675	3,675	2,589	2,692	3,265	3,615
FORT BEND COUNTY WCID 2	BRAZOS RUN-OF-RIVER, FORT BEND	1,790	1,795	1,800	1,805	1,810	1,814
GALVESTON	BRAZOS RUN-OF-RIVER, FORT BEND	0	11,891	11,900	11,909	11,918	11,927
GALVESTON COUNTY FWSD 6	BRAZOS RUN-OF-RIVER, FORT BEND	31	85	85	85	85	86
GALVESTON COUNTY MUD 12	BRAZOS RUN-OF-RIVER, FORT BEND	0	106	106	106	106	107
GALVESTON COUNTY WCID 1	BRAZOS RUN-OF-RIVER, FORT BEND	0	982	983	985	987	989

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
GALVESTON COUNTY WCID 12	BRAZOS RUN-OF-RIVER, FORT BEND	716	1,066	1,091	1,120	1,153	1,181
GALVESTON COUNTY WCID 8	BRAZOS RUN-OF-RIVER, FORT BEND	0	236	236	237	237	238
HITCHCOCK	BRAZOS RUN-OF-RIVER, FORT BEND	0	353	354	355	356	357
LA MARQUE	BRAZOS RUN-OF-RIVER, FORT BEND	391	656	656	657	659	660
LEAGUE CITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	600	601	601	603	604
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	18,480	18,480	18,480	18,480	18,480
MANUFACTURING, BRAZORIA	GULF COAST AQUIFER SYSTEM, BRAZORIA	0	0	1,120	1,120	0	0
MANUFACTURING, FORT BEND	BRAZOS RUN-OF-RIVER, FORT BEND	529	1,360	1,360	1,361	1,362	1,363
	ALLENS CREEK LAKE/RESERVOIR	0	0	13,440	13,440	13,440	13,440
MANUFACTURING, GALVESTON	BRA SYSTEM OPERATIONS PERMIT SUPPLY	11,818	12,253	12,476	12,714	12,962	13,233
	BRAZOS RUN-OF-RIVER, FORT BEND	2,543	2,135	1,938	1,725	1,504	1,258
	DIRECT REUSE, GALVESTON COUNTY INDUSTRIES	0	22,400	22,400	22,400	22,400	22,400
MINING, BRAZORIA	BRAZOS RUN-OF-RIVER, FORT BEND	0	132	252	385	524	696
MINING, FORT BEND	BRAZOS RUN-OF-RIVER, FORT BEND	4	10	10	10	10	10
MINING, GALVESTON	BRAZOS RUN-OF-RIVER, FORT BEND	273	292	322	348	373	397
MISSOURI CITY	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	14,736	14,741	14,748	14,755	14,761
PEARLAND	BRAZOS RUN-OF-RIVER, FORT BEND	0	2,357	2,361	2,365	2,369	2,374
PECAN GROVE MUD 1	BRAZOS RUN-OF-RIVER, FORT BEND	402	403	403	404	406	407
SAN LEON MUD	BRAZOS RUN-OF-RIVER, FORT BEND	0	420	421	422	423	424
SUGAR LAND	BRAZOS RUN-OF-RIVER, FORT BEND	3,410	3,419	3,429	3,438	3,447	3,456
TEXAS CITY	BRAZOS RUN-OF-RIVER, FORT BEND	0	12,455	12,460	12,465	12,470	12,475
HARRIS COUNTY MUD 106							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	723	730	736	740
HARRIS COUNTY MUD 11							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	100	100	100	100

Contract Relationship	Source	Contractual Volume (ac ft/yr)				
		2020	2030	2040	2050	2070
HARRIS COUNTY MUD 119						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	191	191	191
HARRIS COUNTY MUD 132						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	526	527	528
HARRIS COUNTY MUD 151						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	545	544	546
HARRIS COUNTY MUD 152						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	551	556	563
HARRIS COUNTY MUD 154						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	313	313	313
HARRIS COUNTY MUD 189						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	107	107	107
HARRIS COUNTY MUD 221						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	135	135	135
HARRIS COUNTY MUD 278						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	364	364	364
HARRIS COUNTY MUD 290						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	371	376	382
HARRIS COUNTY MUD 36						
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	112	112	112
HARRIS COUNTY MUD 46						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	304	303	303
HARRIS COUNTY UD 14						
HARRIS COUNTY UD 15	GULF COAST AQUIFER SYSTEM, HARRIS	0	155	0	0	0
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	66	71	83

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
HARRIS COUNTY UD 15							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	155	150	144	137
HARRIS COUNTY WCID 133							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	202	202	202	202
HARRIS COUNTY WCID 74							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	183	183	183	183
HOUSTON							
BAKER ROAD MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	84	139	138	137	137
BLUE BELL MANOR UTILITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	171	316	338	366	387
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HOUSTON LAKE/RESERVOIR	0	5,466	5,466	5,466	5,466	5,466
COUNTY-OTHER, HARRIS	GULF COAST AQUIFER SYSTEM, HARRIS	0	2,949	3,954	4,100	4,257	4,432
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	831	3,047	6,419	6,420	8,950	11,105
DOUGLAS UTILITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	56	93	92	92	93
EL DORADO UD	GULF COAST AQUIFER SYSTEM, HARRIS	0	94	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	288	287	287	283
FOREST HILLS MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	71	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	260	251	247	243
GREEN TRAILS MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	164	287	288	288	288
GULF COAST WATER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	18,480	18,480	18,480	18,480	18,480
HARRIS COUNTY FWSD 58	GULF COAST AQUIFER SYSTEM, HARRIS	0	112	208	224	240	255
	GULF COAST AQUIFER SYSTEM, HARRIS	0	46	0	0	0	0
HARRIS COUNTY MUD 11	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	213	215	222	226
	GULF COAST AQUIFER SYSTEM, HARRIS	0	103	0	0	0	0
HARRIS COUNTY MUD 119	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	409	409	415	418
HARRIS COUNTY MUD 153	GULF COAST AQUIFER SYSTEM, HARRIS	0	332	581	573	568	564

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 154	GULF COAST AQUIFER SYSTEM, HARRIS	0	260	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	777	784	800	814
HARRIS COUNTY MUD 189	GULF COAST AQUIFER SYSTEM, HARRIS	0	101	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	289	299	309	320
HARRIS COUNTY MUD 216	GULF COAST AQUIFER SYSTEM, HARRIS	0	38	65	61	58	55
	GULF COAST AQUIFER SYSTEM, HARRIS	0	133	0	0	0	0
HARRIS COUNTY MUD 221	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	373	382	391	397
	GULF COAST AQUIFER SYSTEM, HARRIS	0	229	396	388	386	383
HARRIS COUNTY MUD 345	GULF COAST AQUIFER SYSTEM, HARRIS	0	114	0	0	0	0
HARRIS COUNTY MUD 36	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	302	299	299	300
	GULF COAST AQUIFER SYSTEM, HARRIS	0	378	695	739	762	770
HARRIS COUNTY MUD 400	GULF COAST AQUIFER SYSTEM, HARRIS	0	75	135	131	131	129
HARRIS COUNTY MUD 58	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	78	171	164	161	156
	GULF COAST AQUIFER SYSTEM, HARRIS	0	223	0	0	0	0
HARRIS COUNTY UD 14	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	192	206	223	250
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	455	447	444	441
HARRIS COUNTY UD 15	GULF COAST AQUIFER SYSTEM, HARRIS	0	165	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	502	528	565	603
HARRIS COUNTY WCID 133	GULF COAST AQUIFER SYSTEM, HARRIS	0	60	101	95	91	84
HARRIS COUNTY WCID 70	GULF COAST AQUIFER SYSTEM, HARRIS	0	143	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	423	411	409	404
HARRIS COUNTY WCID 74	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	12	0	0	0	0	0
KINGS MANOR MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	91	158	156	155	155
LONGHORN TOWN UD	GULF COAST AQUIFER SYSTEM, HARRIS	0	37	70	67	63	62
LUCE BAYOU PUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	357	616	608	603	597
MASON CREEK UD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,069	2,388	2,758	3,168	3,623	4,108

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
MINING, HARRIS	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	2,946	2,927	2,875	2,843	2,818	2,798
MOUNT HOUSTON ROAD MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	235	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	643	693	729	750
NORTH BELT UD	GULF COAST AQUIFER SYSTEM, HARRIS	0	121	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	374	380	390	399
NORTH FOREST MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	37	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	126	117	111	103
NORTH FORT BEND WATER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	49,198	48,660	40,055	38,671	36,703
	SAN JACINTO COH REUSE	0	0	0	5,809	7,160	10,432
NORTH GREEN MUD	SAN JACINTO REGIONAL RETURN FLOWS	0	10,621	13,836	16,632	16,665	15,361
	GULF COAST AQUIFER SYSTEM, HARRIS	0	123	0	0	0	0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	363	362	366	368
	HOUSTON LAKE/RESERVOIR	0	28,292	24,917	22,832	18,690	11,287
NORTHWEST HARRIS COUNTY MUD 16	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	90,202	90,813	75,596	75,448	75,818
	SAN JACINTO COH REUSE	0	0	0	11,268	15,558	22,752
NRG	SAN JACINTO REGIONAL RETURN FLOWS	0	19,858	27,630	33,664	33,664	33,503
	GULF COAST AQUIFER SYSTEM, HARRIS	0	140	238	232	230	225
ROLLING FORK PUD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	4,968	4,968	4,968	4,968	4,968	4,968
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	64	148	145	143	141
SEQUOIA IMPROVEMENT DISTRICT	CONROE LAKE/RESERVOIR	1,971	25,544	42,233	41,433	40,733	39,933
	GULF COAST AQUIFER SYSTEM, HARRIS	0	43	80	77	77	75
SOUTHERN WATER	GULF COAST AQUIFER SYSTEM, HARRIS	0	128	214	207	203	198
	GULF COAST AQUIFER SYSTEM, HARRIS	0	71	130	124	121	116
THE COMMONS WATER SUPPLY	GULF COAST AQUIFER SYSTEM, HARRIS	0	112	204	211	214	215
	GULF COAST AQUIFER SYSTEM, HARRIS	0	109	192	199	205	208
WEST HARRIS COUNTY MUD 6	GULF COAST AQUIFER SYSTEM, HARRIS	0	109	192	199	205	208

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	72,001	71,223	58,389	56,339	53,438
	SAN JACINTO COH REUSE	0	0	0	8,977	11,027	15,713
	SAN JACINTO REGIONAL RETURN FLOWS	0	15,844	21,065	24,922	24,922	23,137
WOODCREEK MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	96	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	285	282	281	282
HARRIS COUNTY MUD 278	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	364	364	364	364
PINE VILLAGE PUD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	69	69	69	69
SUNBELT FWSD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	851	851	851	851
LAKE BONANZA WSC							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	189	183	175	165	153
LOWER NECHES VALLEY AUTHORITY							
COUNTY-OTHER, GALVESTON	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	4	5	6	8	11	12
IRRIGATION, CHAMBERS	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	0	0	33,500	33,500	33,500	33,500
IRRIGATION, LIBERTY	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	0	0	33,500	33,500	33,500	33,500
MINING, GALVESTON	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	70	76	83	89	95	103
TRINITY BAY CONSERVATION DISTRICT	SAM RAYBURN-STEINHAGEN LAKE/RESERVOIR SYSTEM	342	631	955	1286	1658	2041
MAGNOLIA							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	129	0	0	0	0	0
MANVEL							
BRAZORIA COUNTY MUD 25	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	103	103	103	101	97
	MANVEL MUSTANG BAYOU RESERVOIR	0	25	25	25	25	25
BRAZORIA COUNTY MUD 29	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	167	167	167	162	156
	MANVEL MUSTANG BAYOU RESERVOIR	0	40	40	40	40	40
COUNTY-OTHER, BRAZORIA	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	3,438	3,438	3,438	3,340	3,213
	GULF COAST AQUIFER SYSTEM, BRAZORIA	331	331	0	0	0	0
	MANVEL MUSTANG BAYOU RESERVOIR	0	831	831	831	831	831

Contract Relationship	Source	Contractual Volume (ac ft/yr)						
		2020	2030	2040	2050	2060	2070	
MISSOURI CITY								
BLUE RIDGE WEST MUD	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	217	217	217	217	217	217
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	130	222	317	338	338	338
FIRST COLONY MUD 9	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	366	366	366	366	366	366
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	222	378	541	576	576	576
FORT BEND COUNTY MUD 115	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	912	942	937	905	880	880
FORT BEND COUNTY MUD 23	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	273	273	273	273	273	273
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	187	351	527	587	615	615
FORT BEND COUNTY MUD 24	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	39	39	39	39	39	39
FORT BEND COUNTY MUD 26	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	162	162	162	162	162	162
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	97	217	311	330	330	330
FORT BEND COUNTY MUD 42	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	230	230	230	230	230	230
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	139	238	341	363	363	363
FORT BEND COUNTY MUD 46	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	89	87	68	52	52
FORT BEND COUNTY MUD 47	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	19	17	11	7	7
FORT BEND COUNTY MUD 48	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	143	140	138	134	132	132
FORT BEND COUNTY MUD 49	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	64	115	114	113	108	104	104
MEADOWCREEK MUD	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	104	104	104	104	104	104
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	62	107	153	163	163	163
PALMER PLANTATION MUD 1	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	138	138	138	138	138	138
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	83	143	204	218	218	218
PALMER PLANTATION MUD 2	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	68	68	68	68	68	68
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	41	70	100	106	106	106

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
QUAIL VALLEY UD	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	74	74	74	74	74
	DIRECT REUSE, QUAIL VALLEY UD	286	478	486	486	486	486
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	0	138	192	202	202
SIENNA PLANTATION	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	3,607	3,607	3,607	3,607	3,607
	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	0	0	0	26	334
	DIRECT REUSE, SIENNA PLANTATION	1,956	2,489	3,383	4,278	5,173	5,420
THUNDERBIRD UD	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	322	322	322	322	322
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	196	334	478	509	509
MONTGOMERY COUNTY MUD 112							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	249	249	249	249	249
MONTGOMERY COUNTY MUD 115							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	187	182	182	182	182
MONTGOMERY COUNTY MUD 119							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	686	661	661	662	662
MONTGOMERY COUNTY MUD 15							
MONTGOMERY COUNTY MUD 95	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	162	198	195	195	194
MONTGOMERY COUNTY MUD 19							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	59	430	431	432	431	431
MONTGOMERY COUNTY MUD 88							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	100	124	123	122	122
MONTGOMERY COUNTY MUD 89							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	244	624	599	597	593	592
MONTGOMERY COUNTY MUD 99							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	4	43	42	42	42	42
MONTGOMERY COUNTY UD 2							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	108	0	0	0	0	0

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY WCID 1							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	6	54	53	50	47	43
MOUNT HOUSTON ROAD MUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	188	188	188	188
MSEC ENTERPRISES							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	46	499	272	52	0	0
NEW CANEY MUD							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	46	0	0	0	0	0
NORTH BELT UD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	154	154	154	154
NORTH FOREST MUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	60	60	60	60
NORTH FORT BEND WATER AUTHORITY							
COUNTY-OTHER, FORT BEND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	3,644	3,720	3,803	3,879	3,970
FORT BEND COUNTY FWSD 1	GULF COAST AQUIFER SYSTEM, FORT BEND	0	30	35	40	45	50
FULSHEAR	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	960	993	949	921	863
QUADVEST	GULF COAST AQUIFER SYSTEM, FORT BEND	0	157	228	309	406	506
ROYAL VALLEY UTILITIES	GULF COAST AQUIFER SYSTEM, FORT BEND	0	97	122	121	120	118
NORTH GREEN MUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	148	148	148	148
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY							
HMW SUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	139	289	353	333	313
PINEWOOD COMMUNITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	30	51	49	48	47
QUADVEST	GULF COAST AQUIFER SYSTEM, HARRIS	0	73	163	213	278	342
THE WOODLANDS	GULF COAST AQUIFER SYSTEM, HARRIS	0	1,260	0	0	0	0
	HOUSTON LAKE/RESERVOIR	0	0	2,367	2,561	2,700	2,795

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
TOMBALL	HOUSTON LAKE/RESERVOIR	0	846	1,546	1,594	1,666	1,710
NRG							
MANUFACTURING, HARRIS	TRINITY-SAN JACINTO RUN-OF-RIVER	0	22,400	22,400	22,400	22,400	22,400
STEAM ELECTRIC POWER, CHAMBERS	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	1,387	1,387	1,387	1,387	1,387	1,387
STEAM ELECTRIC POWER, FORT BEND	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	21,772	27,870	27,922	27,979	28,040	28,161
STEAM ELECTRIC POWER, HARRIS	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	3,581	3,581	3,581	3,581	3,581	3,581
OAK RIDGE NORTH							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	11	157	154	153	152	152
PINE VILLAGE PUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	69	69	69	69
PINEHURST DECKER PRAIRIE WSC							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	3	0	0	0	0	0
QUADVEST							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	599	0	0	0	0
RAYFORD ROAD MUD							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	26	423	415	404	392	388
RICHMOND							
COUNTY-OTHER, FORT BEND	ALLENS CREEK LAKE/RESERVOIR	0	0	0	701	1,793	2,840
	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	304	1,012	1,342	1,210	1,075
	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	692	692	692	692	692
	DIRECT REUSE, RICHMOND	440	440	440	440	440	440
	GULF COAST AQUIFER SYSTEM, FORT BEND	0	143	143	143	143	143
FORT BEND COUNTY MUD 116	GULF COAST AQUIFER SYSTEM, FORT BEND	0	346	453	536	620	703
FORT BEND COUNTY MUD 121	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	215	224	229	234	238
FORT BEND COUNTY MUD 140	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	232	240	246	251	257

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 187	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	180	186	191	195	200
	DIRECT REUSE, RICHMOND	18	18	18	18	18	18
FORT BEND COUNTY WCID 3	GULF COAST AQUIFER SYSTEM, FORT BEND	0	237	237	236	236	236
IRRIGATION, FORT BEND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	17	17	17	17	17
ROSENBERG							
FORT BEND COUNTY FWSD 2	GULF COAST AQUIFER SYSTEM, FORT BEND	0	96	118	141	164	189
FORT BEND COUNTY MUD 152	BRAZOS RUN-OF-RIVER, BRAZORIA	0	66	82	82	82	82
FORT BEND COUNTY MUD 155	BRAZOS RUN-OF-RIVER, BRAZORIA	0	160	199	197	197	197
FORT BEND COUNTY MUD 158	BRAZOS RUN-OF-RIVER, BRAZORIA	0	101	126	125	125	125
FORT BEND COUNTY MUD 162	GULF COAST AQUIFER SYSTEM, FORT BEND	0	114	140	139	138	138
FORT BEND COUNTY MUD 5	GULF COAST AQUIFER SYSTEM, FORT BEND	0	108	105	104	103	103
QUADVEST	GULF COAST AQUIFER SYSTEM, FORT BEND	0	176	254	347	461	584
SABINE RIVER AUTHORITY							
HOUSTON	TOLEDO BEND LAKE/RESERVOIR	0	0	0	250,000	250,000	250,000
SAN JACINTO RIVER AUTHORITY							
CONROE	CONROE LAKE/RESERVOIR	0	5,581	7,438	9,190	8,648	8,648
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	0	1,815
CORINTHIAN POINT MUD 2	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	64	143	142	141	141
	CONROE LAKE/RESERVOIR	0	597	11,919	6,245	2,707	720
COUNTY-OTHER, MONTGOMERY	GULF COAST AQUIFER SYSTEM (CATAHOULA FORMATION), MONTGOMERY	0	0	2,287	10,500	10,500	10,500
	GULF COAST AQUIFER SYSTEM, MONTGOMERY	4,416	16,548	14,151	12,298	9,969	6,958
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	16,801	44,797	36,141
	SAN JACINTO REGIONAL RETURN FLOWS	0	0	0	0	306	31,566
	GULF COAST AQUIFER ASR	0	0	0	0	0	9,426
CUT & SHOOT	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	11	57	130	235	374
DOMESTIC WATER	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	42	91	88	87	86

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
HMW SUD	CONROE LAKE/RESERVOIR	0	97	249	423	380	336
JOHNSTON WATER UTILITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	208	445	731	1,087	1,516
LAKE BONANZA WSC	CONROE LAKE/RESERVOIR	0	243	300	368	421	512
LAKE CONROE HILLS MUD	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	58	125	208	312	439
LAZY RIVER IMPROVEMENT DISTRICT	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	60	128	127	126	126
MAGNOLIA	CONROE LAKE/RESERVOIR	0	19	141	208	310	461
	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	129	442	903	1,620
MANUFACTURING, HARRIS	INDIRECT REUSE, SJRA	2,749	3,550	4,308	5,008	5,776	6,594
	SAN JACINTO REGIONAL RETURN FLOWS	4,655	17,350	17,654	17,723	16,131	14,309
MANUFACTURING, MONTGOMERY	CONROE LAKE/RESERVOIR	292	570	570	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	570	570	570
MONTGOMERY	CONROE LAKE/RESERVOIR	0	0	219	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	480	751	1,181
MONTGOMERY COUNTY MUD 112	CONROE LAKE/RESERVOIR	0	327	324	323	307	306
MONTGOMERY COUNTY MUD 115	CONROE LAKE/RESERVOIR	0	252	312	308	282	280
MONTGOMERY COUNTY MUD 119	CONROE LAKE/RESERVOIR	0	903	1,126	1,121	1,066	1,060
MONTGOMERY COUNTY MUD 15	CONROE LAKE/RESERVOIR	0	17	92	91	57	11
MONTGOMERY COUNTY MUD 18	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	162	198	266	417	631
MONTGOMERY COUNTY MUD 19	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	129	413	1,110
MONTGOMERY COUNTY MUD 56	CONROE LAKE/RESERVOIR	0	358	349	347	337	339
MONTGOMERY COUNTY MUD 83	CONROE LAKE/RESERVOIR	0	32	84	0	0	0
MONTGOMERY COUNTY MUD 88	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	141	140	137
MONTGOMERY COUNTY MUD 89	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	124	132	142	154	163
MONTGOMERY COUNTY MUD 99	CONROE LAKE/RESERVOIR	0	100	123	120	110	110
	CONROE LAKE/RESERVOIR	0	399	403	433	446	453
	CONROE LAKE/RESERVOIR	0	73	121	119	107	102

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY WCID 1	CONROE LAKE/ RESERVOIR	0	56	69	95	94	122
MSEC ENTERPRISES	CONROE LAKE/RESERVOIR	0	3,682	3,887	4,226	4,393	4,699
NEW CANEY MUD	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	34	108	216	350
OAK RIDGE NORTH	CONROE LAKE/RESERVOIR	0	156	179	192	159	161
PANORAMA VILLAGE	CONROE LAKE/RESERVOIR	0	0	6	0	0	0
PINEHURST DECKER PRAIRIE WSC	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	45	104	183
POINT AQUARIUS MUD	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	12	73	162	301	543
PORTER SUD	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	20	55	105	172
QUADVEST	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	316	735	1,083
RANCH UTILITIES	CONROE LAKE/RESERVOIR	0	2,041	2,806	4,694	6,981	6,981
RAYFORD ROAD MUD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	0	2,401
RIVER PLANTATION MUD	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	36	32	30	30	30
ROMAN FOREST CONSOLIDATED MUD	CONROE LAKE/RESERVOIR	0	351	429	523	535	554
SHENANDOAH	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	148	354	422
SPLENDORA	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	21	54	98	155
SPRING CREEK UD	CONROE LAKE/ RESERVOIR	112	463	597	0	0	0
STANLEY LAKE MUD	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	691	810	969
T & W WATER SERVICE	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	43	178	359	596	898
THE WOODLANDS	CONROE LAKE/RESERVOIR	0	916	950	1,028	1,030	1,002
WESTWOOD NORTH WSC	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	306	741
WHITE OAK WSC	CONROE LAKE/RESERVOIR	0	587	725	1,207	1,797	2,448
	CONROE LAKE/RESERVOIR	1,567	7,305	8,351	9,661	10,041	10,041
	GULF COAST AQUIFER SYSTEM, MONTGOMERY	170	0	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	0	0	1,020	3,247
	CONROE LAKE/RESERVOIR	0	419	464	511	525	587
	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	9	6	5	4	4

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
WOOD BRANCH VILLAGE	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	0	0	17	46	83
SIENNA PLANTATION							
MISSOURI CITY	GULF COAST AQUIFER SYSTEM, FORT BEND	0	804	1,745	2,687	2,977	3,056
SOUTHERN MONTGOMERY COUNTY MUD							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	173	236	236	235	234	232
SPRING CREEK UD							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	850	846	838	826	822
SUGAR LAND							
COUNTY-OTHER, FORT BEND	GULF COAST AQUIFER SYSTEM, FORT BEND	0	505	852	852	852	852
FORT BEND COUNTY MUD 128	BRAZOS RIVER AUTHORITY MAIN STEM LAKE/RESERVOIR SYSTEM	0	472	472	472	472	472
FORT BEND COUNTY MUD 25	BRA SYSTEM OPERATIONS PERMIT SUPPLY	0	1,120	1,120	1,120	1,120	1,120
PLANTATION MUD	GULF COAST AQUIFER SYSTEM, FORT BEND	0	113	104	99	98	98
ROYAL VALLEY UTILITIES	GULF COAST AQUIFER SYSTEM, FORT BEND	0	174	218	217	217	217
TDCJ JESTER UNITS	GULF COAST AQUIFER SYSTEM, FORT BEND	0	398	396	394	394	394
SUNBELT FWSD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	851	851	851	851
T & W WATER SERVICE							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	206	0	0	0	0
THE WOODLANDS							
HARRIS-MONTGOMERY COUNTIES MUD 386	GULF COAST AQUIFER SYSTEM, MONTGOMERY	170	0	0	0	0	0
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	3,339	7,801	7,685	7,540	7,318	7,046
TRAIL OF THE LAKES MUD							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	526	526	527	529
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY							
HARRIS COUNTY MUD 106	GULF COAST AQUIFER SYSTEM, HARRIS	0	366	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	1,398	1,412	1,420	1,430

Contract Relationship	Source	Contractual Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 132	GULF COAST AQUIFER SYSTEM, HARRIS	0	269	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	989	990	989	989
HARRIS COUNTY MUD 151	GULF COAST AQUIFER SYSTEM, HARRIS	0	280	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	1,035	1,029	1,028	1,026
HARRIS COUNTY MUD 152	GULF COAST AQUIFER SYSTEM, HARRIS	0	285	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	1,071	1,087	1,101	1,108
HARRIS COUNTY MUD 180	GULF COAST AQUIFER SYSTEM, HARRIS	0	136	251	238	227	215
HARRIS COUNTY MUD 290	GULF COAST AQUIFER SYSTEM, HARRIS	0	183	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	720	734	744	746
HARRIS COUNTY MUD 46	GULF COAST AQUIFER SYSTEM, HARRIS	0	154	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	569	562	560	557
KATY	GULF COAST AQUIFER SYSTEM, HARRIS	0	2,538	3,217	3,244	3,279	3,309
TRAIL OF THE LAKES MUD	GULF COAST AQUIFER SYSTEM, HARRIS	0	269	0	0	0	0
	LIVINGSTON-WALLISVILLE LAKE/RESERVOIR SYSTEM	0	0	1,003	999	999	994
WESTWOOD NORTH WSC							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	0	414	408	403	398	391
WHITE OAK UTILITIES							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	43	0	0	0	0	0
WHITE OAK WSC							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	10	0	0	0	0	0
WOOD BRANCH VILLAGE							
SAN JACINTO RIVER AUTHORITY	GULF COAST AQUIFER SYSTEM, MONTGOMERY	20	0	0	0	0	0
WOODCREEK MUD							
HOUSTON	GULF COAST AQUIFER SYSTEM, HARRIS	0	0	118	118	118	118

Table 5-A13 – WUG Management Supply Factors

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
ALVIN	1.0	1.1	1.1	1.1	1.1	1.1
ANAHUAC	4.0	4.1	4.2	4.3	4.3	4.2
ANGLETON	1.2	4.6	4.7	4.8	4.8	4.8
AUSTIN COUNTY WSC	1.0	1.1	1.1	1.1	1.1	1.1
BACLIFF MUD	2.1	2.8	2.8	2.7	2.7	2.7
BAKER ROAD MUD	1.0	1.0	1.0	1.0	1.0	1.0
BAYBROOK MUD 1	8.2	8.0	7.2	6.7	6.3	6.0
BAYTOWN	1.3	1.4	1.4	1.4	1.3	1.3
BAYVIEW MUD	2.5	3.0	2.9	2.8	2.7	2.6
BELLAIRE	1.0	1.0	1.0	1.1	1.1	1.1
BELLVILLE	1.0	1.0	1.1	1.1	1.1	1.1
BLUE BELL MANOR UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
BLUE RIDGE WEST MUD	1.0	1.0	1.1	1.2	1.2	1.2
BOLIVAR PENINSULA SUD	28.2	22.6	17.9	14.1	11.0	8.5
BRAZORIA	1.1	1.2	1.2	1.2	1.2	1.2
BRAZORIA COUNTY MUD 2	1.0	1.1	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 21	1.0	1.0	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 25	1.0	1.3	1.3	1.3	1.3	1.2
BRAZORIA COUNTY MUD 29	1.0	1.3	1.3	1.3	1.3	1.3
BRAZORIA COUNTY MUD 3	1.0	1.1	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 31	1.0	1.0	1.1	1.1	1.1	1.1
BRAZORIA COUNTY MUD 6	1.0	1.0	1.0	1.0	1.0	1.0
BROOKSHIRE MWD	1.0	1.1	1.1	1.1	1.1	1.2
BUFFALO	1.0	1.1	1.1	1.1	1.1	1.1
BUNKER HILL VILLAGE	1.0	1.0	1.0	1.0	1.0	1.0
CAPE ROYALE UD	1.0	1.1	1.1	1.1	1.1	1.1
CENTERVILLE	1.0	1.1	1.1	1.1	1.1	1.1
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	1.2	1.8	1.6	1.6	1.5	1.5
CHAMBERS COUNTY MUD 1	1.0	1.1	1.1	1.1	1.1	1.1
CHATEAU WOODS MUD	1.0	1.0	1.1	1.1	1.1	1.1
CHIMNEY HILL MUD	1.1	1.1	1.1	1.2	1.2	1.2
CLEAR BROOK CITY MUD	1.8	1.9	1.7	1.7	1.6	1.6
CLEAR LAKE CITY WATER AUTHORITY	1.6	1.6	1.5	1.4	1.4	1.3
CLEVELAND	1.1	1.1	1.1	1.1	1.1	1.1
CLUTE	1.0	1.0	1.0	1.0	1.1	1.1
CONCORD-ROBBINS WSC	1.0	1.1	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
CONROE	1.1	1.1	1.1	1.1	1.0	1.0
CORINTHIAN POINT MUD 2	1.6	1.5	1.4	1.4	1.4	1.4
COUNTRY TERRACE WATER	1.1	1.1	1.1	1.1	1.0	1.0
COUNTY-OTHER, AUSTIN	1.0	1.2	1.1	1.2	1.1	1.1
COUNTY-OTHER, BRAZORIA	1.1	1.4	1.3	1.3	1.1	1.0
COUNTY-OTHER, CHAMBERS	1.7	1.6	1.5	1.4	1.3	1.3
COUNTY-OTHER, FORT BEND	1.2	1.4	1.2	1.1	1.1	1.1
COUNTY-OTHER, GALVESTON	1.0	1.1	1.2	1.3	1.5	1.6
COUNTY-OTHER, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
COUNTY-OTHER, LEON	1.1	1.1	1.1	1.2	1.2	1.2
COUNTY-OTHER, LIBERTY	1.0	1.1	1.1	1.1	1.2	1.2
COUNTY-OTHER, MADISON	1.0	1.1	1.1	1.1	1.2	1.2
COUNTY-OTHER, MONTGOMERY	1.0	1.1	1.0	1.0	1.0	1.0
COUNTY-OTHER, POLK	1.0	1.1	1.1	1.1	1.1	1.1
COUNTY-OTHER, SAN JACINTO	1.0	1.1	1.1	1.1	1.1	1.1
COUNTY-OTHER, TRINITY	1.6	1.6	1.7	2.0	1.7	1.8
COUNTY-OTHER, WALKER	1.9	1.9	1.9	2.0	1.9	1.9
COUNTY-OTHER, WALLER	1.2	1.0	1.2	1.0	1.1	1.0
CROSBY MUD	3.0	3.0	3.0	2.9	2.9	2.9
CUT & SHOOT	1.0	1.1	1.1	1.1	1.1	1.1
DAISETTA	1.0	1.1	1.1	1.1	1.1	1.1
DANBURY	1.0	1.1	1.1	1.1	1.1	1.1
DAYTON	1.0	1.0	1.0	1.0	1.1	1.1
DEER PARK	1.1	1.1	1.2	1.2	1.2	1.2
DEVERS	1.0	1.0	1.0	1.0	1.0	1.0
DOBBIN PLANTERSVILLE WSC	1.0	1.0	1.0	1.0	1.0	1.0
DODGE OAKHURST WSC	1.0	1.0	1.1	1.1	1.1	1.1
DOMESTIC WATER	1.0	1.1	1.1	1.1	1.1	1.1
DOUGLAS UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
EAST PLANTATION UD	1.0	1.0	1.0	1.1	1.1	1.1
EL DORADO UD	1.0	1.0	1.0	1.0	1.0	1.0
FAR HILLS UD	1.6	1.5	1.4	1.4	1.4	1.4
FIRST COLONY MUD 9	1.0	1.0	1.1	1.2	1.2	1.2
FLO COMMUNITY WSC	1.0	1.1	1.1	1.1	1.2	1.2
FOREST HILLS MUD	1.1	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY FWSD 1	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY FWSD 2	1.0	1.1	1.1	1.1	1.1	1.1

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 115	1.0	1.0	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 116	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 121	1.0	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 128	2.0	2.5	2.5	2.5	2.6	2.6
FORT BEND COUNTY MUD 129	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 140	1.0	1.0	1.0	1.0	1.0	1.0
FORT BEND COUNTY MUD 149	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 152	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 155	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 158	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 162	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 187	1.1	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 23	1.0	1.1	1.1	1.2	1.3	1.3
FORT BEND COUNTY MUD 24	1.0	1.1	1.1	1.3	1.3	1.3
FORT BEND COUNTY MUD 25	1.1	1.6	1.6	1.6	1.6	1.5
FORT BEND COUNTY MUD 26	1.0	1.0	1.1	1.2	1.2	1.3
FORT BEND COUNTY MUD 42	1.0	1.0	1.1	1.2	1.3	1.3
FORT BEND COUNTY MUD 46	1.7	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 47	1.7	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 48	1.0	1.0	1.0	1.1	1.1	1.1
FORT BEND COUNTY MUD 49	1.3	1.0	1.0	1.0	1.0	1.1
FORT BEND COUNTY MUD 5	1.0	1.1	1.1	1.1	1.1	1.1
FORT BEND COUNTY MUD 81	1.0	1.0	1.1	1.1	1.1	1.1
FORT BEND COUNTY WCID 2	1.3	1.2	1.3	1.2	1.2	1.1
FORT BEND COUNTY WCID 3	1.0	1.0	1.0	1.0	1.0	1.0
FREEPORT	1.4	1.4	1.4	1.4	1.3	1.3
FRIENDSWOOD	1.9	1.8	1.8	1.7	1.6	1.5
FULSHEAR	1.0	1.0	1.0	1.0	1.0	1.0
G & W WSC	1.0	1.1	1.1	1.0	1.2	1.0
GALENA PARK	1.2	1.3	1.3	1.3	1.3	1.2
GALVESTON	1.2	1.9	1.9	1.8	1.8	1.8
GALVESTON COUNTY FWSD 6	1.0	1.2	1.2	1.2	1.2	1.2
GALVESTON COUNTY MUD 12	1.6	2.1	2.1	2.2	2.2	2.2
GALVESTON COUNTY WCID 1	1.1	1.4	1.3	1.2	1.2	1.1
GALVESTON COUNTY WCID 12	1.0	1.0	1.0	1.0	1.0	1.0
GALVESTON COUNTY WCID 8	1.9	2.4	2.4	2.4	2.4	2.3
GLENDALE WSC	1.4	1.3	1.3	1.4	1.4	1.3

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
GREEN TRAILS MUD	1.0	1.0	1.0	1.0	1.0	1.0
GREENWOOD UD	1.1	1.2	1.2	1.2	1.3	1.3
GROVETON	7.7	7.5	7.7	8.1	7.9	7.6
GULF UTILITY	1.0	1.0	1.1	1.1	1.1	1.1
HARDIN WSC	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY FWSD 1-A	1.5	1.5	1.5	1.5	1.5	1.5
HARRIS COUNTY FWSD 27	1.2	1.2	1.2	1.1	1.1	1.1
HARRIS COUNTY FWSD 58	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 106	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 11	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 119	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 122	1.0	1.0	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 132	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 148	1.0	1.1	1.1	1.0	1.0	1.0
HARRIS COUNTY MUD 151	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 152	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 153	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 154	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 158	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 180	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 189	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 216	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 221	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 23	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 278	1.7	1.2	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 290	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 321	1.0	1.0	1.0	1.0	1.1	1.1
HARRIS COUNTY MUD 342	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 344	1.1	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 345	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 36	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 361	1.0	1.0	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 372	1.2	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 400	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 412	2.2	1.9	1.6	1.6	1.5	1.5
HARRIS COUNTY MUD 420	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 46	1.0	1.0	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 49	1.6	1.3	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 5	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY MUD 50	1.7	1.8	1.8	1.8	1.8	1.9
HARRIS COUNTY MUD 55	2.9	2.9	2.9	2.8	2.6	2.5
HARRIS COUNTY MUD 58	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 6	1.2	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY MUD 8	1.4	1.5	1.5	1.5	1.6	1.6
HARRIS COUNTY MUD 96	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY UD 14	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY UD 15	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 1	1.2	1.3	1.3	1.3	1.3	1.3
HARRIS COUNTY WCID 133	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 156	1.1	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY WCID 50	1.0	1.1	1.1	1.1	1.1	1.1
HARRIS COUNTY WCID 70	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 74	1.0	1.0	1.0	1.0	1.0	1.0
HARRIS COUNTY WCID 89	5.9	6.0	6.1	6.1	6.2	6.1
HARRIS COUNTY WCID 96	2.3	2.0	1.8	1.8	1.8	1.8
HARRIS COUNTY WCID-FONDREN ROAD	1.1	1.1	1.1	1.1	1.1	1.1
HARRIS-MONTGOMERY COUNTIES MUD 386	1.4	1.1	1.1	1.1	1.1	1.1
HEMPSTEAD	1.0	1.0	1.0	1.0	1.0	1.0
HILLCREST VILLAGE	1.0	1.1	1.1	1.1	1.1	1.1
HILLTOP LAKES WSC	1.0	1.0	1.1	1.1	1.1	1.1
HILSHIRE VILLAGE	1.0	1.0	1.0	1.1	1.0	1.1
HITCHCOCK	1.5	1.7	1.6	1.5	1.4	1.4
HMW SUD	1.0	1.0	1.0	1.0	1.0	1.0
HOUSTON	1.1	1.0	1.4	1.8	1.8	1.7
HUMBLE	1.0	1.1	1.1	1.1	1.1	1.1
HUNTSVILLE	2.9	2.8	2.8	2.8	2.7	2.7
IRRIGATION, AUSTIN	1.5	1.5	1.5	1.5	1.5	1.5
IRRIGATION, BRAZORIA	0.6	0.6	0.6	0.6	0.6	0.6
IRRIGATION, CHAMBERS	1.4	1.4	1.6	1.6	1.6	1.6
IRRIGATION, FORT BEND	1.2	1.2	1.2	1.2	1.2	1.2
IRRIGATION, GALVESTON	0.5	0.5	0.5	0.5	0.5	0.5
IRRIGATION, HARRIS	1.6	1.6	1.6	1.6	1.6	1.6
IRRIGATION, LEON	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, LIBERTY	1.9	1.9	2.7	2.7	2.7	2.7

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
IRRIGATION, MADISON	2.4	2.4	2.4	2.4	2.4	2.4
IRRIGATION, MONTGOMERY	1.2	1.2	1.2	1.2	1.2	1.2
IRRIGATION, POLK	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, SAN JACINTO	1.8	1.8	1.8	1.8	1.8	1.8
IRRIGATION, TRINITY	1.1	1.1	1.1	1.1	1.1	1.1
IRRIGATION, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
IRRIGATION, WALLER	1.4	1.4	1.4	1.4	1.4	1.4
JACINTO CITY	1.7	1.7	1.7	1.7	1.7	1.6
JAMAICA BEACH	1.0	1.0	1.0	1.0	1.0	1.1
JERSEY VILLAGE	1.2	1.1	1.1	1.1	1.1	1.1
JEWETT	1.0	1.0	1.0	1.1	1.1	1.1
JOHNSTON WATER UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
KATY	1.0	1.0	1.0	1.0	1.0	1.0
KENDLETON	1.0	1.1	1.1	1.2	1.2	1.2
KINGS MANOR MUD	1.1	1.1	1.1	1.1	1.1	1.1
KIRKMONT MUD	1.0	1.0	1.0	1.1	1.1	1.1
LA MARQUE	1.0	1.1	1.1	1.2	1.2	1.2
LA PORTE	1.8	1.8	1.8	1.8	1.8	1.8
LAKE BONANZA WSC	1.0	1.1	1.1	1.1	1.0	1.0
LAKE CONROE HILLS MUD	1.0	1.1	1.1	1.1	1.1	1.1
LAKE JACKSON	1.0	1.2	1.2	1.2	1.2	1.2
LAKE LIVINGSTON WSC	2.0	1.9	1.9	1.8	1.8	1.8
LAKE MUD	3.6	3.6	3.7	3.7	3.7	3.8
LAZY RIVER IMPROVEMENT DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
LEAGUE CITY	1.7	3.1	2.9	2.8	2.7	2.7
LEGGETT WSC	1.0	1.1	1.1	1.2	1.2	1.2
LIBERTY	1.0	1.1	1.1	1.1	1.2	1.2
LIBERTY COUNTY FWSD 1 HULL	1.0	1.1	1.1	1.1	1.1	1.1
LIVESTOCK, AUSTIN	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, BRAZORIA	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, FORT BEND	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, GALVESTON	0.1	0.1	0.1	0.1	0.1	0.1
LIVESTOCK, HARRIS	0.7	0.4	0.2	0.2	0.2	0.2
LIVESTOCK, LEON	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, LIBERTY	1.2	1.2	1.2	1.2	1.2	1.2
LIVESTOCK, MADISON	1.0	1.0	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
LIVESTOCK, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, POLK	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, TRINITY	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
LIVESTOCK, WALLER	1.0	1.0	1.0	1.0	1.0	1.0
LIVINGSTON	2.2	2.0	1.9	1.8	1.8	1.7
LONGHORN TOWN UD	1.0	1.0	1.0	1.0	1.0	1.0
LUCE BAYOU PUD	1.0	1.0	1.0	1.0	1.0	1.0
MADISON COUNTY WSC	1.0	1.1	1.1	1.1	1.1	1.1
MADISONVILLE	1.0	1.1	1.1	1.1	1.1	1.1
MAGNOLIA	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, AUSTIN	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, BRAZORIA	1.3	1.5	1.6	1.6	1.6	1.6
MANUFACTURING, CHAMBERS	2.1	1.8	1.8	1.8	1.8	1.8
MANUFACTURING, FORT BEND	1.3	1.1	1.1	1.1	1.1	1.1
MANUFACTURING, GALVESTON	1.4	1.5	1.7	1.7	1.7	1.7
MANUFACTURING, HARRIS	1.4	1.3	1.3	1.3	1.3	1.3
MANUFACTURING, LEON	1.1	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, LIBERTY	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, POLK	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
MANUFACTURING, WALKER	2.4	2.1	2.1	2.1	2.1	2.1
MANUFACTURING, WALLER	1.1	1.1	1.1	1.1	1.1	1.1
MANVEL	1.1	1.2	1.2	1.2	1.2	1.2
MASON CREEK UD	1.0	1.0	1.0	1.0	1.0	1.0
MEADOWCREEK MUD	1.0	1.0	1.1	1.3	1.3	1.3
MEADOWS PLACE	1.1	1.0	1.0	1.1	1.1	1.1
MEMORIAL POINT UD	1.1	1.1	1.2	1.2	1.2	1.3
MEMORIAL VILLAGES WATER AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
MERCY WSC	1.1	1.1	1.1	1.2	1.2	1.2
MINING, AUSTIN	1.0	1.5	1.9	2.5	3.6	4.9
MINING, BRAZORIA	1.0	1.0	1.0	1.0	1.0	1.0
MINING, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
MINING, FORT BEND	6.3	6.0	7.7	10.1	14.7	21.3
MINING, GALVESTON	1.0	1.0	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
MINING, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
MINING, LEON	1.0	1.0	1.1	1.1	1.2	1.3
MINING, LIBERTY	1.0	2.1	2.1	2.0	1.9	1.7
MINING, MADISON	1.0	1.0	1.3	1.7	2.2	3.1
MINING, MONTGOMERY	1.0	1.0	1.0	1.0	1.0	1.0
MINING, POLK	1.0	1.0	1.0	1.0	1.5	3.6
MINING, SAN JACINTO	1.0	1.0	1.0	1.0	1.0	1.0
MINING, TRINITY	1.0	1.0	1.0	1.0	1.0	1.0
MINING, WALKER	1.0	1.0	1.0	1.0	1.0	1.0
MINING, WALLER	1.0	1.0	1.0	1.0	1.0	1.0
MISSOURI CITY	1.0	18.7	16.7	15.0	13.6	12.4
MONT BELVIEU	1.0	1.0	1.2	1.0	1.2	1.0
MONTGOMERY	1.4	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 112	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 115	1.0	1.1	1.1	1.1	1.0	1.0
MONTGOMERY COUNTY MUD 119	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 15	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 18	1.5	1.2	1.1	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 19	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 56	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 8	5.0	4.8	4.4	4.0	3.7	3.1
MONTGOMERY COUNTY MUD 83	1.0	1.0	1.0	1.0	1.1	1.1
MONTGOMERY COUNTY MUD 84	1.0	1.1	1.1	1.1	1.1	1.1
MONTGOMERY COUNTY MUD 88	1.0	1.1	1.1	1.1	1.0	1.0
MONTGOMERY COUNTY MUD 89	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY MUD 9	2.7	2.7	2.4	2.2	2.2	2.2
MONTGOMERY COUNTY MUD 95	1.0	2.0	1.8	1.8	1.7	1.6
MONTGOMERY COUNTY MUD 98	1.5	1.2	1.0	1.0	1.0	1.1
MONTGOMERY COUNTY MUD 99	1.0	1.0	1.0	1.0	1.0	1.0
MONTGOMERY COUNTY UD 2	1.0	1.5	1.5	1.4	1.3	1.2
MONTGOMERY COUNTY UD 3	1.7	1.6	1.6	1.6	1.6	1.5
MONTGOMERY COUNTY UD 4	1.6	1.4	1.4	1.3	1.1	1.0
MONTGOMERY COUNTY WCID 1	1.0	1.1	1.1	1.1	1.0	1.0
MORGANS POINT	4.1	3.8	3.6	3.4	3.2	3.1
MOSCOW WSC	1.4	1.3	1.2	1.1	1.1	1.0
MOUNT HOUSTON ROAD MUD	1.0	1.0	1.0	1.0	1.0	1.0
MSEC ENTERPRISES	1.0	1.0	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
NASSAU BAY	2.2	2.3	2.3	2.2	2.2	2.2
NEEDVILLE	1.0	1.1	1.1	1.1	1.1	1.1
NEW CANEY MUD	1.0	1.1	1.1	1.1	1.1	1.1
NEW WAVERLY	1.0	1.1	1.1	1.1	1.1	1.1
NEWPORT MUD	1.6	1.3	1.1	1.1	1.1	1.1
NORMANGEE	1.0	1.1	1.1	1.1	1.1	1.1
NORTH BELT UD	1.0	1.0	1.0	1.0	1.0	1.0
NORTH CHANNEL WATER AUTHORITY	1.1	1.1	1.1	1.1	1.1	1.1
NORTH FOREST MUD	1.1	1.0	1.0	1.0	1.0	1.0
NORTH FORT BEND WATER AUTHORITY	1.1	1.4	1.2	1.2	1.1	1.1
NORTH GREEN MUD	1.0	1.0	1.0	1.0	1.0	1.0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	1.0	1.8	1.5	1.5	1.5	1.4
NORTH ZULCH MUD	1.0	1.1	1.1	1.1	1.1	1.1
NORTHWEST HARRIS COUNTY MUD 16	1.0	1.0	1.0	1.0	1.0	1.0
OAK HOLLOW UTILITY	1.0	1.1	1.1	1.1	1.1	1.1
OAK RIDGE NORTH	1.0	1.0	1.1	1.1	1.0	1.0
ONALASKA WSC	1.0	1.1	1.1	1.1	1.1	1.1
ONE FIVE O WSC	1.0	1.1	1.1	1.1	1.1	1.2
OYSTER CREEK	1.0	1.1	1.1	1.1	1.1	1.1
P B & S C WSC	1.0	1.0	1.1	1.1	1.1	1.1
PALMER PLANTATION MUD 1	1.0	1.0	1.1	1.2	1.3	1.3
PALMER PLANTATION MUD 2	1.0	1.0	1.1	1.2	1.2	1.2
PANORAMA VILLAGE	1.0	1.0	1.0	1.0	1.0	1.0
PARKWAY MUD	1.0	1.1	1.1	1.1	1.1	1.1
PASADENA	2.1	2.2	2.2	2.1	2.1	2.1
PATTISON WSC	1.0	1.0	1.0	1.0	1.1	1.1
PEARLAND	1.3	2.5	2.3	2.2	2.1	2.1
PECAN GROVE MUD 1	3.5	3.3	3.4	3.4	3.4	3.4
PENNINGTON WSC	1.2	1.1	1.2	1.2	1.2	1.2
PHELPS SUD	1.0	1.0	1.1	1.1	1.1	1.1
PINE VILLAGE PUD	1.0	1.1	1.1	1.1	1.1	1.1
PINEHURST DECKER PRAIRIE WSC	1.0	1.0	1.0	1.0	1.0	1.0
PINEWOOD COMMUNITY	1.0	1.0	1.0	1.0	1.0	1.0
PLANTATION MUD	1.0	1.1	1.1	1.1	1.1	1.1
POINT AQUARIUS MUD	2.4	2.4	2.3	2.2	2.1	2.0
PORTER SUD	1.3	1.3	1.0	1.0	1.0	1.0
PRAIRIE VIEW	1.0	1.0	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
PRAIRIE VIEW A&M UNIVERSITY	1.0	1.0	1.0	1.0	1.0	1.0
PROVIDENCE WSC	1.0	1.0	1.0	1.0	1.0	1.0
QUADVEST	1.0	1.1	1.0	1.0	1.0	1.0
QUAIL VALLEY UD	1.4	1.1	1.0	1.1	1.1	1.1
RANCH UTILITIES	1.0	1.0	1.1	1.1	1.1	1.1
RAYFORD ROAD MUD	1.0	1.0	1.0	1.1	1.0	1.0
RICHMOND	1.1	1.0	1.0	1.0	1.0	1.0
RICHWOOD	1.0	1.6	1.7	1.7	1.7	1.6
RIVER PLANTATION MUD	1.3	1.3	1.0	1.0	1.0	1.0
RIVERSIDE WSC	1.0	1.0	1.0	1.0	1.0	1.0
ROLLING FORK PUD	1.1	1.0	1.0	1.0	1.0	1.0
ROMAN FOREST CONSOLIDATED MUD	1.0	1.1	1.1	1.1	1.1	1.1
ROSENBERG	1.4	1.6	1.5	1.4	1.4	1.3
ROYAL VALLEY UTILITIES	1.0	1.0	1.0	1.0	1.0	1.0
SAGEMEADOW UD	1.5	1.4	1.4	1.3	1.2	1.1
SAN JACINTO SUD	2.2	2.1	2.1	2.1	2.0	2.0
SAN LEON MUD	4.2	4.8	4.5	4.3	4.0	3.8
SEABROOK	1.1	1.1	1.1	1.1	1.1	1.1
SEALY	1.0	1.0	1.0	1.0	1.1	1.1
SEDONA LAKES MUD 1	1.0	1.1	1.1	1.1	1.1	1.1
SEQUOIA IMPROVEMENT DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
SHENANDOAH	1.0	1.0	1.0	1.0	1.0	1.0
SHEPHERD	1.0	1.1	1.1	1.1	1.1	1.1
SHOREACRES	1.3	1.3	1.3	1.3	1.2	1.2
SIENNA PLANTATION	2.3	2.2	1.8	1.5	1.4	1.3
SODA WSC	1.0	1.1	1.1	1.1	1.1	1.1
SOUTH CLEVELAND WSC	1.0	1.1	1.1	1.1	1.1	1.1
SOUTH HOUSTON	2.4	2.5	2.5	2.5	2.5	2.4
SOUTHEAST WSC	1.0	1.1	1.1	1.2	1.2	1.2
SOUTHERN MONTGOMERY COUNTY MUD	1.0	1.0	1.1	1.1	1.1	1.1
SOUTHERN WATER	1.0	1.0	1.0	1.0	1.0	1.0
SOUTHSIDE PLACE	1.0	1.0	1.0	1.0	1.0	1.1
SOUTHWEST HARRIS COUNTY MUD 1	1.3	1.1	1.1	1.1	1.1	1.1
SPLENDORA	1.0	1.1	1.1	1.1	1.2	1.2
SPRING CREEK UD	1.0	1.1	1.1	1.1	1.0	1.0
SPRING MEADOWS MUD	1.0	1.1	1.1	1.1	1.1	1.1
SPRING VALLEY	1.5	1.2	1.0	1.0	1.0	1.0

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
STANLEY LAKE MUD	1.6	1.5	1.1	1.0	1.0	1.0
STEAM ELECTRIC POWER, CHAMBERS	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, FORT BEND	1.7	1.6	1.6	1.6	1.6	1.6
STEAM ELECTRIC POWER, HARRIS	1.0	1.0	1.0	1.0	1.0	1.0
STEAM ELECTRIC POWER, MONTGOMERY	2.6	2.6	2.6	2.6	2.6	2.6
SUBURBAN UTILITY	1.0	1.0	1.0	1.0	1.0	1.0
SUGAR LAND	1.2	1.1	1.2	1.2	1.2	1.2
SUNBELT FWSD	1.3	1.1	1.1	1.1	1.1	1.1
SURFSIDE BEACH	2.6	2.3	2.4	2.4	2.4	2.4
SWEENEY	1.0	1.1	1.1	1.1	1.1	1.1
T & W WATER SERVICE	1.0	1.0	1.0	1.0	1.0	1.0
TARKINGTON SUD	1.0	1.1	1.1	1.1	1.1	1.1
TDCJ JESTER UNITS	1.0	1.0	1.0	1.0	1.0	1.0
TDCJ RAMSEY AREA	1.7	1.7	1.7	1.7	1.7	1.7
TEMPE WSC 1	1.0	1.1	1.1	1.1	1.1	1.1
TEXAS CITY	1.5	3.1	3.0	2.9	2.8	2.7
THE COMMONS WATER SUPPLY	1.0	1.0	1.0	1.0	1.0	1.0
THE CONSOLIDATED WSC	1.5	1.6	1.6	1.6	1.6	1.6
THE WOODLANDS	1.0	1.0	1.0	1.0	1.0	1.0
THUNDERBIRD UD	1.0	1.0	1.1	1.2	1.3	1.3
TOMBALL	1.0	1.0	1.0	1.0	1.0	1.0
TRAIL OF THE LAKES MUD	1.0	1.0	1.0	1.0	1.0	1.0
TRINITY	2.9	2.8	2.9	3.0	2.9	2.8
TRINITY BAY CONSERVATION DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
TRINITY RURAL WSC	1.0	1.1	1.1	1.1	1.1	1.1
VALLEY RANCH MUD 1	1.0	1.0	1.1	1.1	1.1	1.1
VARNER CREEK UD	1.0	1.1	1.1	1.1	1.1	1.1
WALKER COUNTY RURAL SUD	1.0	1.1	1.1	1.1	1.2	1.2
WALLER	1.0	1.1	1.1	1.1	1.2	1.2
WALLIS	1.0	1.1	1.1	1.1	1.1	1.1
WATERWOOD MUD 1	3.8	3.6	3.4	3.2	3.1	3.0
WEBSTER	1.3	1.2	1.2	1.2	1.1	1.1
WEST COLUMBIA	1.0	1.1	1.1	1.1	1.1	1.1
WEST END WSC	1.0	1.0	1.1	1.1	1.1	1.1
WEST HARDIN WSC	1.0	1.0	1.0	1.0	1.0	1.0
WEST HARRIS COUNTY MUD 6	1.0	1.0	1.0	1.0	1.0	1.0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	1.1	2.0	1.7	1.7	1.6	1.6

WUG*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
WEST UNIVERSITY PLACE	1.0	1.1	1.1	1.1	1.1	1.1
WESTWOOD NORTH WSC	1.0	1.0	1.0	1.1	1.0	1.0
WESTWOOD SHORES MUD	4.5	4.3	4.4	4.6	4.4	4.2
WHITE OAK UTILITIES	1.0	1.1	1.2	1.2	1.2	1.2
WHITE OAK WSC	1.0	1.0	1.1	1.1	1.1	1.1
WILLIS	2.8	2.8	2.7	2.6	2.4	2.2
WOOD BRANCH VILLAGE	1.0	1.3	1.1	1.0	1.0	1.0
WOODCREEK MUD	1.0	1.0	1.0	1.0	1.0	1.0
WOODCREEK WATER OF LIBERTY	1.0	1.3	1.2	1.2	1.1	1.1

**Reflects only the portions of split WUGs within Region H.*

Table 5-A14 – MWP Management Supply Factors

MWP*	Management Supply Factor					
	2020	2030	2040	2050	2060	2070
BRAZOS RIVER AUTHORITY	1.0	1.0	1.0	1.1	1.1	1.0
BRAZOSPORT WATER AUTHORITY	1.0	1.8	1.6	1.6	1.6	1.5
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	1.0	1.0	1.0	1.0	1.0	1.0
CLEAR LAKE CITY WATER AUTHORITY	1.0	1.0	1.0	1.0	1.1	1.1
CONROE	1.0	1.1	1.1	1.1	1.0	1.0
DOW INC	1.1	1.5	1.7	1.7	1.7	1.7
GALVESTON	1.0	1.7	1.7	1.7	1.8	1.7
GULF COAST WATER AUTHORITY	1.1	1.4	1.4	1.4	1.4	1.4
HOUSTON	1.0	1.2	1.2	1.4	1.4	1.4
HUNTSVILLE	1.0	1.0	1.0	1.0	1.0	1.0
LEAGUE CITY	1.0	2.1	2.1	2.1	2.1	2.1
LOWER NECHES VALLEY AUTHORITY	1.0	1.0	2.0	2.0	1.9	1.9
MISSOURI CITY	1.2	2.0	2.0	2.0	1.9	1.9
NORTH FORT BEND WATER AUTHORITY	1.1	1.4	1.3	1.2	1.2	1.2
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	1.0	1.7	1.5	1.5	1.5	1.4
NRG	1.0	1.1	1.1	1.1	1.1	1.1
PASADENA	1.0	1.0	1.0	1.0	1.0	1.0
PEARLAND	1.0	2.0	2.0	2.0	1.9	1.9
SAN JACINTO RIVER AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
SUGAR LAND	1.1	1.2	1.2	1.2	1.2	1.2
TEXAS CITY	1.0	2.2	2.2	2.2	2.3	2.3
THE WOODLANDS	1.0	1.0	1.0	1.0	1.0	1.0
TRINITY RIVER AUTHORITY	1.0	1.0	1.0	1.0	1.0	1.0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	1.0	1.9	1.7	1.6	1.6	1.6

**The Management Supply Factors shown in this table reflect total MWP-related water supply allocations divided by MWP demand. MWP-level surpluses which remain unassigned to a WUG are excluded from the calculation. Values in this table represent MWP Management Supply Factors within Region H only and do not include demands, supplies, or projects for other regions.*

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Table 5-A15 – Unmet WUG Water Need*

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
ALVIN	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
ANAHUAC	CHAMBERS	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
ANAHUAC	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
ANGLETON	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
AUSTIN COUNTY WSC	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
AUSTIN COUNTY WSC	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
BACLIFF MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BAKER ROAD MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYBROOK MUD 1	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYTOWN	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BAYVIEW MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BELLAIRE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BELLVILLE	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BLUE BELL MANOR UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BLUE RIDGE WEST MUD	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
BLUE RIDGE WEST MUD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BOLIVAR PENINSULA SUD	GALVESTON	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
BRAZORIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 2	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 21	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 25	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 29	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
BRAZORIA COUNTY MUD 3	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 31	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BRAZORIA COUNTY MUD 6	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
BROOKSHIRE MWD	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
BUFFALO	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
BUNKER HILL VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CAPE ROYALE UD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
CENTERVILLE	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CHAMBERS COUNTY MUD 1	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CHATEAU WOODS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CHIMNEY HILL MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLEAR BROOK CITY MUD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CLEAR LAKE CITY WATER AUTHORITY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CLEVELAND	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLEVELAND	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CLUTE	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
CONCORD-ROBBINS WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
CONCORD-ROBBINS WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
CONROE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CORINTHIAN POINT MUD 2	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTRY TERRACE WATER	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, AUSTIN	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, AUSTIN	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, AUSTIN	AUSTIN	COLORADO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, BRAZORIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, CHAMBERS	CHAMBERS	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, CHAMBERS	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, FORT BEND	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, FORT BEND	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, FORT BEND	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, GALVESTON	GALVESTON	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, HARRIS	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, HARRIS	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LEON	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LEON	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MADISON	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MADISON	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, MONTGOMERY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, POLK	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, POLK	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, SAN JACINTO	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
COUNTY-OTHER, SAN JACINTO	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, TRINITY	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALKER	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALKER	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALLER	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
COUNTY-OTHER, WALLER	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CROSBY MUUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
CUT & SHOOT	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DAISETTA	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
DAISETTA	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DANBURY	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
DAYTON	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DAYTON	LIBERTY	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DEER PARK	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DEER PARK	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
DEVERS	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
DEVERS	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
DOBBLIN PLANTERSVILLE WSC	GRIMES	BRAZOS	MUNICIPAL	0	0	0	0	0	0
DOBBLIN PLANTERSVILLE WSC	GRIMES	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DOBBLIN PLANTERSVILLE WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DODGE OAKHURST WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
DODGE OAKHURST WSC	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DODGE OAKHURST WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
DOMESTIC WATER	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
DOUGLAS UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
EAST PLANTATION UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
EL DORADO UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
FAR HILLS UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FIRST COLONY MUD 9	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FIRST COLONY MUD 9	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FLO COMMUNITY WSC	FREESTONE	TRINITY	MUNICIPAL	0	0	0	0	0	0
FLO COMMUNITY WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
FOREST HILLS MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY FWSD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY FWSD 2	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 115	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 115	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 116	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 121	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 128	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 129	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 140	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 149	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 152	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 155	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 158	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 162	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 187	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 23	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 24	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 25	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 25	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 26	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 42	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 46	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 46	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 47	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 48	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 49	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 5	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY MUD 81	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 2	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 2	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 2	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 3	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FORT BEND COUNTY WCID 3	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FREEPORT	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FREEPORT	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
FREEPORT	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FRIENDSWOOD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FRIENDSWOOD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
FULSHEAR	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
FULSHEAR	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
FULSHEAR	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
G & W WSC	GRIMES	BRAZOS	MUNICIPAL	0	0	0	0	0	0
G & W WSC	GRIMES	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
G & W WSC	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
G & W WSC	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GALENA PARK	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY FWSD 6	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
GALVESTON COUNTY MUD 12	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY WCID 1	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY WCID 12	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GALVESTON COUNTY WCID 8	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
GLENDALE WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
GREEN TRAILS MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GREENWOOD UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
GROVETON	TRINITY	NECHES	MUNICIPAL	0	0	0	0	0	0
GROVETON	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
GULF UTILITY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARDIN WSC	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
HARDIN WSC	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 1-A	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 27	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY FWSD 58	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 106	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 11	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 119	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 122	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 132	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 148	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 151	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 152	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 153	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 154	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 158	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 180	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 189	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 216	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 221	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 23	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 278	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 290	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 321	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 342	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 344	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 345	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 36	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 361	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 372	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 400	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 412	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 420	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 46	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 49	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 5	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 50	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 55	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 58	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 6	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 8	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY MUD 96	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY UD 14	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY UD 15	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
HARRIS COUNTY WCID 1	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 1	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 133	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 156	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 50	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 70	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 74	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 89	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID 96	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS COUNTY WCID-FONDREN ROAD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HARRIS-MONTGOMERY COUNTIES MUD 386	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HEMPSTEAD	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
HILLCREST VILLAGE	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HILLTOP LAKES WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
HILSHIRE VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HITCHCOCK	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HMW SUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HMW SUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HOUSTON	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HOUSTON	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HOUSTON	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HOUSTON	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
HOUSTON	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HOUSTON	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HUMBLE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HUNTSVILLE	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
HUNTSVILLE	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
IRRIGATION, AUSTIN	AUSTIN	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, AUSTIN	AUSTIN	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	IRRIGATION	38,229	38,229	38,229	38,229	38,229	38,229
IRRIGATION, CHAMBERS	CHAMBERS	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, CHAMBERS	CHAMBERS	TRINITY	IRRIGATION	4,695	4,695	4,695	4,695	4,695	4,695
IRRIGATION, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	IRRIGATION	1,616	1,616	1,616	1,616	1,616	1,616
IRRIGATION, FORT BEND	FORT BEND	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	BRAZOS-COLORADO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, GALVESTON	GALVESTON	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	IRRIGATION	2,765	2,765	2,765	2,765	2,765	2,765
IRRIGATION, HARRIS	HARRIS	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, HARRIS	HARRIS	TRINITY-SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LEON	LEON	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LEON	LEON	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	NECHES	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	NECHES-TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MADISON	MADISON	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MADISON	MADISON	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, MONTGOMERY	MONTGOMERY	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, POLK	POLK	NECHES	IRRIGATION	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
IRRIGATION, POLK	POLK	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, SAN JACINTO	SAN JACINTO	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, SAN JACINTO	SAN JACINTO	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, TRINITY	TRINITY	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALKER	WALKER	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALKER	WALKER	TRINITY	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALLER	WALLER	BRAZOS	IRRIGATION	0	0	0	0	0	0
IRRIGATION, WALLER	WALLER	SAN JACINTO	IRRIGATION	0	0	0	0	0	0
JACINTO CITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
JAMAICA BEACH	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
JERSEY VILLAGE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
JEWETT	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
JEWETT	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
JOHNSTON WATER UTILITY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KATY	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KATY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KATY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KENDLETON	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
KINGS MANOR MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KINGS MANOR MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
KIRK MOUNT MUD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LA MARQUE	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LA PORTE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LA PORTE	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LAKE BONANZA WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAKE CONROE HILLS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAKE JACKSON	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
LAKE JACKSON	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	HARDIN	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	TYLER	NECHES	MUNICIPAL	0	0	0	0	0	0
LAKE LIVINGSTON WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
LAKE MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAKE MUD	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LAZY RIVER IMPROVEMENT DISTRICT	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LEAGUE CITY	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LEAGUE CITY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
LEGGETT WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
LIBERTY COUNTY FWSD 1 HULL	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, AUSTIN	AUSTIN	COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, BRAZORIA	BRAZORIA	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	8
LIVESTOCK, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	NECHES-TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	LIVESTOCK	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
LIVESTOCK, FORT BEND	FORT BEND	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, GALVESTON	GALVESTON	NECHES-TRINITY	LIVESTOCK	53	53	53	53	53	53
LIVESTOCK, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	LIVESTOCK	184	184	184	184	184	184
LIVESTOCK, HARRIS	HARRIS	SAN JACINTO	LIVESTOCK	383	766	1,022	1,022	1,022	1,022
LIVESTOCK, HARRIS	HARRIS	TRINITY-SAN JACINTO	LIVESTOCK	101	101	101	101	101	101
LIVESTOCK, LEON	LEON	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LEON	LEON	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	NECHES	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	NECHES-TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, MADISON	MADISON	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, MADISON	MADISON	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, MONTGOMERY	MONTGOMERY	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, POLK	POLK	NECHES	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, POLK	POLK	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, SAN JACINTO	SAN JACINTO	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, SAN JACINTO	SAN JACINTO	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, TRINITY	TRINITY	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALKER	WALKER	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALKER	WALKER	TRINITY	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALLER	WALLER	BRAZOS	LIVESTOCK	0	0	0	0	0	0
LIVESTOCK, WALLER	WALLER	SAN JACINTO	LIVESTOCK	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
LIVINGSTON	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
LONGHORN TOWN UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
LUCE BAYOU PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MADISON COUNTY WSC	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
MADISON COUNTY WSC	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
MADISONVILLE	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
MAGNOLIA	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MANUFACTURING, AUSTIN	AUSTIN	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, AUSTIN	AUSTIN	BRAZOS-COLORADO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, BRAZORIA	BRAZORIA	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, CHAMBERS	CHAMBERS	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, FORT BEND	FORT BEND	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, FORT BEND	FORT BEND	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, HARRIS	HARRIS	TRINITY-SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LEON	LEON	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LIBERTY	LIBERTY	NECHES	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LIBERTY	LIBERTY	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, LIBERTY	LIBERTY	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, MONTGOMERY	MONTGOMERY	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, POLK	POLK	TRINITY	MANUFACTURING	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
MANUFACTURING, SAN JACINTO	SAN JACINTO	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALKER	WALKER	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALKER	WALKER	TRINITY	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALLER	WALLER	BRAZOS	MANUFACTURING	0	0	0	0	0	0
MANUFACTURING, WALLER	WALLER	SAN JACINTO	MANUFACTURING	0	0	0	0	0	0
MANVEL	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MASON CREEK UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MEADOWCREEK MUD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MEADOWS PLACE	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MEADOWS PLACE	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MEMORIAL POINT UD	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
MEMORIAL VILLAGES WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MERCY WSC	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MERCY WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MINING, AUSTIN	AUSTIN	BRAZOS	MINING	0	0	0	0	0	0
MINING, AUSTIN	AUSTIN	BRAZOS-COLORADO	MINING	0	0	0	0	0	0
MINING, AUSTIN	AUSTIN	COLORADO	MINING	0	0	0	0	0	0
MINING, BRAZORIA	BRAZORIA	BRAZOS	MINING	0	0	0	0	0	0
MINING, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	MINING	0	0	0	0	0	0
MINING, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	MINING	0	0	0	0	0	0
MINING, CHAMBERS	CHAMBERS	NECHES-TRINITY	MINING	0	0	0	0	0	0
MINING, CHAMBERS	CHAMBERS	TRINITY	MINING	0	0	0	0	0	0
MINING, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	BRAZOS	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	BRAZOS-COLORADO	MINING	0	0	0	0	0	0
MINING, FORT BEND	FORT BEND	SAN JACINTO-BRAZOS	MINING	0	0	0	0	0	0
MINING, GALVESTON	GALVESTON	NECHES-TRINITY	MINING	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
MINING, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	MINING	0	0	0	0	0	0
MINING, HARRIS	HARRIS	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, HARRIS	HARRIS	SAN JACINTO-BRAZOS	MINING	0	0	0	0	0	0
MINING, HARRIS	HARRIS	TRINITY-SAN JACINTO	MINING	0	0	0	0	0	0
MINING, LEON	LEON	BRAZOS	MINING	0	0	0	0	0	0
MINING, LEON	LEON	TRINITY	MINING	0	0	0	0	0	0
MINING, LIBERTY	LIBERTY	NECHES	MINING	0	0	0	0	0	0
MINING, LIBERTY	LIBERTY	NECHES-TRINITY	MINING	0	0	0	0	0	0
MINING, LIBERTY	LIBERTY	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, LIBERTY	LIBERTY	TRINITY	MINING	0	0	0	0	0	0
MINING, LIBERTY	LIBERTY	TRINITY-SAN JACINTO	MINING	0	0	0	0	0	0
MINING, MADISON	MADISON	BRAZOS	MINING	0	0	0	0	0	0
MINING, MADISON	MADISON	TRINITY	MINING	0	0	0	0	0	0
MINING, MONTGOMERY	MONTGOMERY	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, POLK	POLK	NECHES	MINING	0	0	0	0	0	0
MINING, POLK	POLK	TRINITY	MINING	0	0	0	0	0	0
MINING, SAN JACINTO	SAN JACINTO	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, SAN JACINTO	SAN JACINTO	TRINITY	MINING	0	0	0	0	0	0
MINING, TRINITY	TRINITY	TRINITY	MINING	0	0	0	0	0	0
MINING, WALKER	WALKER	SAN JACINTO	MINING	0	0	0	0	0	0
MINING, WALKER	WALKER	TRINITY	MINING	0	0	0	0	0	0
MINING, WALLER	WALLER	BRAZOS	MINING	0	0	0	0	0	0
MINING, WALLER	WALLER	SAN JACINTO	MINING	0	0	0	0	0	0
MISSOURI CITY	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MONT BELVIEU	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
MONT BELVIEU	CHAMBERS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
MONTGOMERY COUNTY MUD 112	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 115	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 119	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 15	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 18	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 19	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 56	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 8	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 83	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 84	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 88	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 89	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 9	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 95	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 98	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY MUD 99	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY UD 2	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY UD 3	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY UD 4	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MONTGOMERY COUNTY WCID 1	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MORGANS POINT	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MORGANS POINT	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
MOSCOW WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
MOUNT HOUSTON ROAD MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
MSEC ENTERPRISES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NASSAU BAY	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
NEEDVILLE	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
NEEDVILLE	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
NEW CANEY MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NEW WAVERLY	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NEWPORT MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORMANGEE	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORTH BELT UD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH CHANNEL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH FOREST MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORTH FORT BEND WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH GREEN MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
NORTH ZULCH MUD	MADISON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
NORTH ZULCH MUD	MADISON	TRINITY	MUNICIPAL	0	0	0	0	0	0
NORTHWEST HARRIS COUNTY MUD 16	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
OAK HOLLOW UTILITY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
OAK RIDGE NORTH	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
ONALASKA WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
ONE FIVE O WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
OYSTER CREEK	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
P B & S C WSC	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
P B & S C WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
PALMER PLANTATION MUD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
PALMER PLANTATION MUD 2	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PANORAMA VILLAGE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PARKWAY MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PASADENA	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PASADENA	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PATTISON WSC	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PEARLAND	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PECAN GROVE MUD 1	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PECAN GROVE MUD 1	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
PENNINGTON WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
PHELPS SUD	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PHELPS SUD	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
PINE VILLAGE PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PINEHURST DECKER PRAIRIE WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PINEWOOD COMMUNITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PLANTATION MUD	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
POINT AQUARIUS MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PORTER SUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
PRAIRIE VIEW A&M UNIVERSITY	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
PROVIDENCE WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
QUADVEST	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
QUADVEST	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
QUADVEST	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
QUADVEST	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
QUADVEST	WALLER	BRAZOS	MUNICIPAL	0	0	0	0	0	0
QUAIL VALLEY UD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
RANCH UTILITIES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
RAYFORD ROAD MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
RICHMOND	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
RICHWOOD	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
RIVER PLANTATION MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
RIVERSIDE WSC	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
RIVERSIDE WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
ROLLING FORK PUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
ROMAN FOREST CONSOLIDATED MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
ROSENBERG	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
ROSENBERG	FORT BEND	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
ROYAL VALLEY UTILITIES	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SAGEMEADOW UD	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SAN JACINTO SUD	SAN JACINTO	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SAN JACINTO SUD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
SAN LEON MUD	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEABROOK	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEALY	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEALY	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
SEDONA LAKES MUD 1	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SEQUOIA IMPROVEMENT DISTRICT	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SHENANDOAH	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SHEPHERD	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
SHOREACRES	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SIENNA PLANTATION	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
SIENNA PLANTATION	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SODA WSC	POLK	NECHES	MUNICIPAL	0	0	0	0	0	0
SODA WSC	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
SOUTH CLEVELAND WSC	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTH HOUSTON	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHEAST WSC	LEON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SOUTHEAST WSC	LEON	TRINITY	MUNICIPAL	0	0	0	0	0	0
SOUTHERN MONTGOMERY COUNTY MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHERN WATER	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHSIDE PLACE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SOUTHWEST HARRIS COUNTY MUD 1	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPLENDORA	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPRING CREEK UD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPRING MEADOWS MUD	HARRIS	TRINITY-SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SPRING VALLEY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
STANLEY LAKE MUD	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
STEAM ELECTRIC POWER, CHAMBERS	CHAMBERS	NECHES-TRINITY	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, CHAMBERS	CHAMBERS	TRINITY-SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, FORT BEND	FORT BEND	BRAZOS	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, HARRIS	HARRIS	SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, HARRIS	HARRIS	SAN JACINTO-BRAZOS	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, HARRIS	HARRIS	TRINITY-SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
STEAM ELECTRIC POWER, MONTGOMERY	MONTGOMERY	SAN JACINTO	STEAM ELECTRIC POWER	0	0	0	0	0	0
SUBURBAN UTILITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SUGAR LAND	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
SUGAR LAND	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
SUGAR LAND	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SUNBELT FWSD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
SURFSIDE BEACH	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
SWEENEY	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
T & W WATER SERVICE	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
T & W WATER SERVICE	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
T & W WATER SERVICE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
TARKINGTON SUD	LIBERTY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
TARKINGTON SUD	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TDCJ JESTER UNITS	FORT BEND	BRAZOS	MUNICIPAL	0	0	0	0	0	0
TDCJ JESTER UNITS	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
TDCJ RAMSEY AREA	BRAZORIA	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
TEMPE WSC 1	POLK	TRINITY	MUNICIPAL	0	0	0	0	0	0
TEXAS CITY	GALVESTON	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
THE COMMONS WATER SUPPLY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
THE CONSOLIDATED WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
THE WOODLANDS	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
THE WOODLANDS	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
THUNDERBIRD UD	FORT BEND	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
TOMBALL	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
TRAIL OF THE LAKES MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
TRINITY	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY BAY CONSERVATION DISTRICT	CHAMBERS	NECHES-TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY BAY CONSERVATION DISTRICT	CHAMBERS	TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY RURAL WSC	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
TRINITY RURAL WSC	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0
VALLEY RANCH MUD 1	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
VARNER CREEK UD	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	WALKER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WALKER COUNTY RURAL SUD	WALKER	TRINITY	MUNICIPAL	0	0	0	0	0	0

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)					
				2020	2030	2040	2050	2060	2070
WALLER	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WALLER	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WALLIS	AUSTIN	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
WATERWOOD MUD 1	SAN JACINTO	TRINITY	MUNICIPAL	0	0	0	0	0	0
WEBSTER	HARRIS	SAN JACINTO-BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST COLUMBIA	BRAZORIA	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST COLUMBIA	BRAZORIA	BRAZOS-COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	AUSTIN	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	AUSTIN	COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	FAYETTE	COLORADO	MUNICIPAL	0	0	0	0	0	0
WEST END WSC	WASHINGTON	BRAZOS	MUNICIPAL	0	0	0	0	0	0
WEST HARDIN WSC	LIBERTY	NECHES	MUNICIPAL	0	0	0	0	0	0
WEST HARRIS COUNTY MUD 6	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	FORT BEND	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WEST UNIVERSITY PLACE	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WESTWOOD NORTH WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WESTWOOD SHORES MUD	TRINITY	TRINITY	MUNICIPAL	0	0	0	0	0	0
WHITE OAK UTILITIES	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WHITE OAK UTILITIES	WALLER	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WHITE OAK WSC	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WILLIS	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WOOD BRANCH VILLAGE	MONTGOMERY	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WOODCREEK MUD	HARRIS	SAN JACINTO	MUNICIPAL	0	0	0	0	0	0
WOODCREEK WATER OF LIBERTY	LIBERTY	TRINITY	MUNICIPAL	0	0	0	0	0	0

*For this table, positive values reflect a projected unmet need. MWP information has been omitted from this table as no MWP was projected to have an unmet need after recommended WMS.

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Table 5-A16 – Unmet WUG Water Need Summary

Water User Group	County	Basin	Type	Unmet Water Need (ac ft)*					
				2020	2030	2040	2050	2060	2070
IRRIGATION, BRAZORIA	BRAZORIA	SAN JACINTO-BRAZOS	IRRIGATION	38,229	38,229	38,229	38,229	38,229	38,229
IRRIGATION, CHAMBERS	CHAMBERS	TRINITY	IRRIGATION	4,695	4,695	4,695	4,695	4,695	4,695
		TRINITY-SAN JACINTO	IRRIGATION	1,616	1,616	1,616	1,616	1,616	1,616
IRRIGATION, GALVESTON	GALVESTON	SAN JACINTO-BRAZOS	IRRIGATION	2,765	2,765	2,765	2,765	2,765	2,765
LIVESTOCK, BRAZORIA	BRAZORIA	BRAZOS-COLORADO	LIVESTOCK	0	0	0	0	0	8
LIVESTOCK, GALVESTON	GALVESTON	NECHES-TRINITY	LIVESTOCK	53	53	53	53	53	53
		SAN JACINTO-BRAZOS	LIVESTOCK	184	184	184	184	184	184
LIVESTOCK, HARRIS	HARRIS	SAN JACINTO	LIVESTOCK	383	766	1,022	1,022	1,022	1,022
		TRINITY-SAN JACINTO	LIVESTOCK	101	101	101	101	101	101

*For this table, positive values reflect a projected unmet need. Entities without projected unmet needs are omitted.

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APPENDIX 5-B

PROJECT AND WATER MANAGEMENT STRATEGY TECHNICAL MEMORANDA

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDA

TABLE OF CONTENTS

Project	Memorandum
Conservation	
Adv. Municipal Conservation and Water Loss Reduction	CNSV-001
Irrigation Conservation	CNSV-002
Conveyance	
BWA Transmission Expansion	CONV-001
CHCRWA Transmission and Internal Distribution	CONV-002
City of Houston GRP Transmission	CONV-003
COH, NHCRWA, and CHCRWA Shared Transmission	CONV-004
CWA Transmission Expansion	CONV-005
East Texas Transfer	CONV-006
GCWA Industrial Raw Water Line	CONV-007
Lake Livingston to SJRA Transfer	CONV-008
LNVA Neches-Trinity Basin Interconnect	CONV-009
NFBWA Phase 2 Distribution Segments	CONV-010
NHCRWA Distribution Expansion	CONV-011
NHCRWA Transmission Lines	CONV-012
Southeast Transmission Line Improvements	CONV-013
Surfside Beach Supply Infrastructure	CONV-014
WHCRWA Distribution Expansion	CONV-015
WHCRWA/NFBWA Transmission Line	CONV-016
Groundwater Development	
Aquifer Storage and Recovery	GWDV-001
Brackish GW Development and GW Blending	GWDV-002
BWA Brackish Groundwater Development	GWDV-003
City of Houston Area 2 Groundwater Infrastructure	GWDV-004
Expanded Use of Groundwater	GWDV-005
Forestar Houston County Project	GWDV-006
Forestar Liberty County Project	GWDV-007
GCWA Backup Well Development	GWDV-008
Groveton Groundwater Expansion	GWDV-009
SJRA Catahoula Aquifer Supplies	GWDV-010
Groundwater Reduction Plans	
CHCRWA GRP	GWRP-001
City of Houston GRP	GWRP-002

Project	Memorandum
City of Missouri City GRP	GWRP-003
City of Richmond GRP	GWRP-004
City of Rosenberg GRP	GWRP-005
City of Sugar Land IWRP	GWRP-006
Fort Bend County MUD 25 GRP	GWRP-007
Fort Bend County WCID 2 GRP	GWRP-008
Montgomery County MUDs 8 and 9 GRP	GWRP-009
NFBWA GRP	GWRP-010
NHCRWA GRP	GWRP-011
Porter SUD Joint GRP	GWRP-012
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SJRA GRP	GWRP-014
WHCRWA GRP	GWRP-015
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City of Houston Reuse	REUS-001
City of Pearland Reuse	REUS-002
Galveston County Industrial Reuse	REUS-003
NFBWA Member District Reuse	REUS-004
NHCRWA Member District Reuse	REUS-005
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Wastewater Reclamation for Industry	REUS-007
Wastewater Reclamation for Municipal Irrigation	REUS-008
Westwood Shores MUD Reuse	REUS-009
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Allens Creek Reservoir	SWDV-001
BRA System Operation Permit	SWDV-002
Dow Reservoir and Pump Station Expansion	SWDV-003
Freeport Seawater Desalination	SWDV-004
Lake Somerville Augmentation	SWDV-005
Lone Star Lake	SWDV-006
Manvel Supply Expansion	SWDV-007
NRG Cedar Bayou Desalination	SWDV-008
Treatment	
BWA Conventional Treatment Expansion	TRET-001
City of Houston Treatment Expansion	TRET-002
City of Houston West Water Purification Plant	TRET-003
GCWA Western Galveston County Treatment Expansion	TRET-004
Northeast Water Purification Plant Expansion	TRET-005
Pearland Surface Water Treatment Plant	TRET-006
SEWPP Additional Module	TRET-007

Project	Memorandum
Other	
Brazos Saltwater Barrier	OTHR-001
GCWA Shannon Pump Station Expansion	OTHR-002
Municipal Drought Management	OTHR-003
New and Expanded Contracts	OTHR-004

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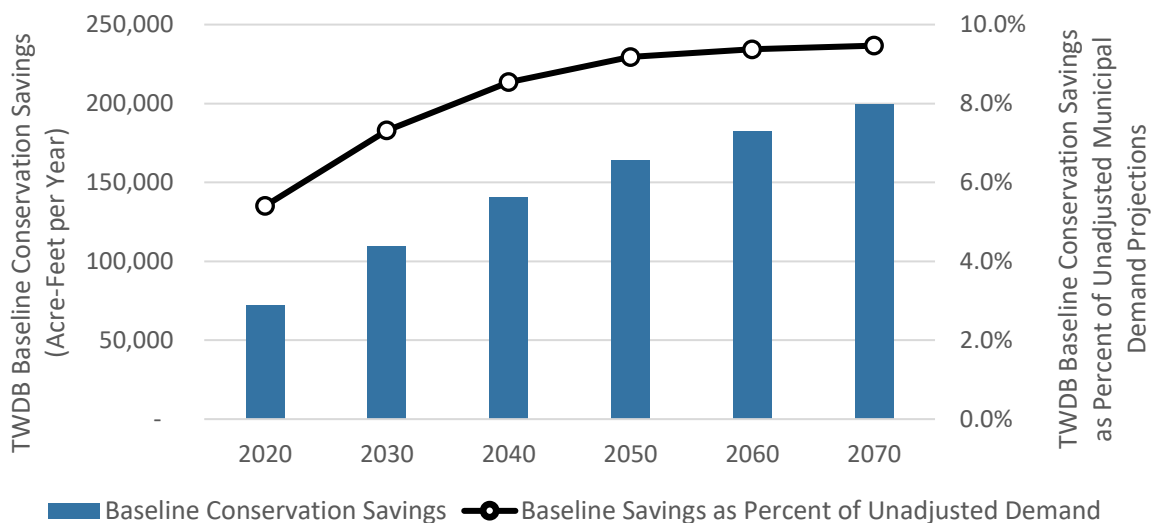
REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Advanced Municipal Conservation and Water Loss Reduction
Project ID:	CNSV-001
Project Type:	Conservation
Potential Supply Quantity (Rounded):	185,852 ac-ft/yr (165.9 mgd)
Implementation Decade:	2020 with ongoing annual expenditures
Development Timeline:	1 year
Project Capital Cost:	\$3,103,058,567 over planning horizon (Sept. 2018)
Unit Water Cost (Rounded):	\$608 per ac-ft (Advanced Conservation) \$591 per ac-ft (Water Loss Reduction)

Strategy Description

Water conservation is a demand management project that pro-actively causes a decrease of future water needs. Conservation facilitates more efficient use of existing water supplies by allowing existing supplies to serve demands for a longer period of time and/or to delay the need to develop new supplies. The current Region H water demands have an embedded quantity of conservation savings. This quantity has been determined based on the assumption that water will be saved as a result of anticipated future, natural installation of plumbing fixtures and appliances as detailed in relevant legislation. These savings were included in the demand projections developed by TWDB. The resulting savings in Region H are described below in *Figure 1* and amount to as much as 9.5 percent of the annual, total (prior to reductions applied by TWDB) municipal water demand.

Figure 1 – TWDB-Applied Baseline Conservation



The use of advanced water conservation projects will accomplish a higher degree of conservation than is already contained within the current demand projections. This technical memorandum illustrates the application of advanced water conservation to Municipal and Municipal County-Other WUGs throughout Region H. These projects are recommended for the majority of WUGs in the region, with limited exceptions for those with extremely low existing per-capita demands or leakage losses. Due to the importance of conservation for meeting the growing water demands of the region and as a means to more effectively utilize existing water sources, conservation projects have been applied even for WUGs that do not demonstrate a need throughout the planning period.

For the 2021 round of regional planning, the Region H Water Planning Group (RHWPG) approached the issue of municipal water conservation in two ways. First, the RHWPG reviewed the results of the 2015 through 2017 Water Loss Audit Reports developed by TWDB in order to identify opportunities to implement conservation savings through gradual reduction in water losses. Specific measures for combatting water loss will vary from system to system but may include smart metering, leak detection, line repair, line replacement, or other actions appropriate to an individual system.

The RHWPG also benefitted from a combination of prior analyses and new data and tools in assessing advanced municipal conservation measures beyond embedded plumbing code savings in demand projections. The Texas Water Foundation (TWF), as well as the *Water Conservation by the Yard* report by The Sierra Club, National Wildlife Federation, and Texas Living Water Project, provided valuable insight into conservation practices and savings potential in the Region H area. Also extremely valuable to Region H's assessment was the Municipal Water Conservation Planning Tool (MWCPT), a tool released by TWDB in 2018 to assist utilities in water conservation planning and reporting. The MWCPT includes savings, lifespan, cost, and other information on a broad range of conservation measures for single family residential (SFR), multi-family residential (MFR), and industrial, commercial, and institutional (ICI) sectors of municipal water use. The logic and data in the MWCPT, with consideration for other references and knowledge of local water use characteristics, served as the basis for development of the Region H Municipal Regional Conservation Tool (MRCT) used to assess potential savings from advanced municipal conservation practices on a regional scale.

Strategy Analyses

The project analyses for Municipal Conservation include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Estimates of potential savings as a result of water loss reduction were developed using data from the 2015, 2016, and 2017 Water Loss Audit Reports prepared by TWDB. These reports identified, by utility, the estimated losses of various types calculated from production and sales records, including apparent losses due to unbilled or unmetered usage, metering accuracy limitations, and other causes as well as real losses from line breaks and leakage. For the sake of this analysis, real losses were used as a basis of estimating potential savings.

The utilities identified in the report were associated with either named Municipal WUGs or Municipal County-Other WUGs. On a WUG-basis, totals of utility real losses and total system input volume were developed. These totals could then be used to calculate the real loss identified for each unit of system input volume. WUGs with no identified utility records for the years examined were excluded from the analysis of loss. Real losses were examined by WUG, and WUGs with real losses exceeding ten

percent were targeted for potential savings. These WUGs exceeding the ten percent real loss threshold were assumed to reduce the fraction of their demands attributable to real loss by one percent annually throughout the planning period or until they reached the threshold level of ten percent real loss. It should be noted that the recommended water loss reduction values presented in the 2021 RWP are intended to reflect a conservative estimate of potential savings and are not intended to depict a 10 percent real loss rate or 1 percent per year reduction in loss rate as ideal system performance. The Region H Water Planning Group (RHWPG) recommends that all utilities perform regular system audits, aggressively strive to reduce the inefficient and costly leakage loss of water, and establish procedures to rapidly address line breaks. For the utilities which were identified as potential targets, reductions in water loss from this methodology would reduce per-capita demands for individual WUGs as shown in *Table 1*.

Table 1 – Impact of Water Loss Reduction on Per-Capita Demands

Reduction in Per Capita Demand (gpcd)	2020	2030	2040	2050	2060	2070
Minimum Entity Savings	0.3	0.3	0.3	0.3	0.2	0.2
Median Entity Savings	1.1	3.0	4.6	5.7	6.7	7.0
Average Entity Savings	1.4	3.7	5.6	7.1	8.3	9.3
Maximum Entity Savings	6.2	17.6	27.3	36.8	45.2	52.5

Projections for advanced municipal conservation beyond passive savings and water loss reduction were estimated using the MRCT, which is based largely on the methods and savings and cost assumptions from the MWCPT, with consideration of local water use characteristics and other information. Due to the presence of embedded residential plumbing code implementation savings in the water demand projections for regional planning, the analysis for Region H focused primarily on measures to reduce outdoor water use, which is a major driver of overall local municipal demand. Consideration was also given to some advanced indoor measures for commercial facilities in the decades 2020 through 2050; by 2060, commercial facilities were assumed to have fully converted to more efficient fixtures. Considered measures included (but were not limited to) home water reports, irrigation audits, commercial kitchen pre-rinse valves, rain barrels, and rebate programs including rebates for:

- Commercial general, dishwasher, and food steamer,
- High-efficiency sprinklers,
- Smart irrigation controllers,
- WaterWise landscape program participation, and
- Rainwater harvesting.

Mandatory outdoor watering restrictions were applied to all municipal WUGs and municipal County-Other WUGs, with the exception of the Woodlands, which already utilizes permanent outdoor watering restrictions. A 2018 report by the Texas Living Waters Project estimates that restrictions on outdoor municipal watering could save 2 percent to 11 percent of total municipal water use, depending on the amount of education and enforcement implemented by a water utility. Projected savings for the 2021 Region H RWP were based on the assumption that all connections would implement a twice-per-week watering restriction, resulting in overall savings of 2 percent of the

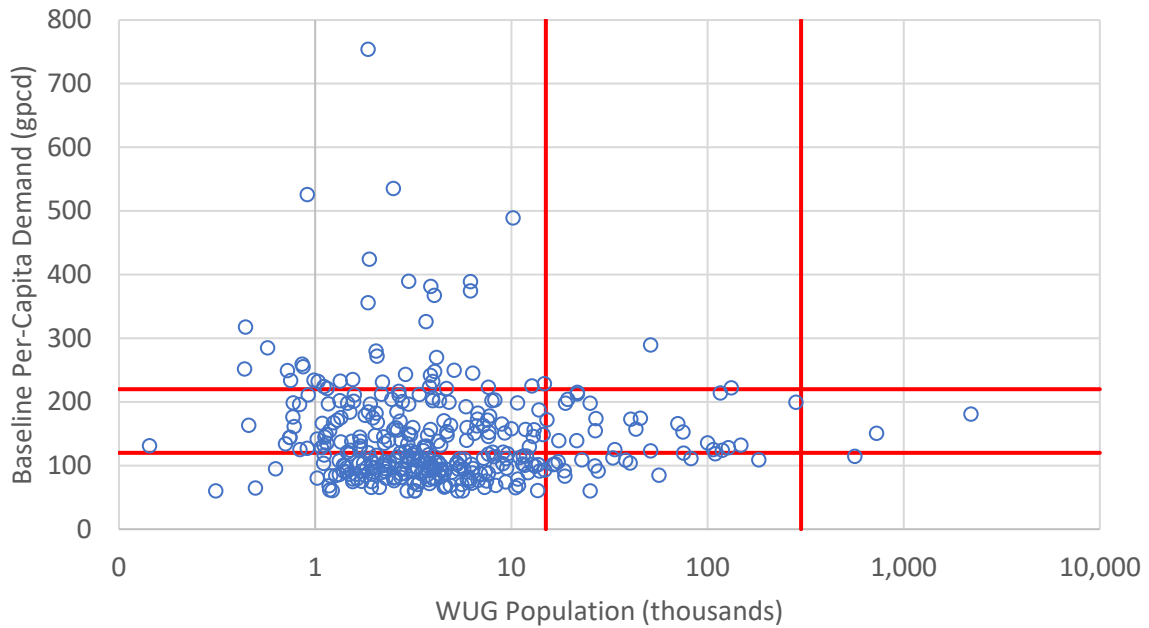
demand projected by TWDB (already inclusive of TWDB-applied baseline conservation). Due to the possibility that not all systems would necessarily implement immediately, estimates for Region H apply the lower end of the savings spectrum identified by the Texas Living Waters Project; entities which in reality implement conservation programs with a significant amount of education and enforcement could see even greater savings of water.

While mandatory outdoor watering restrictions were applied equally to all municipal WUGs in Region H, other measures were implemented at varying levels for different WUGs. Because the financial resources and savings potential varies widely among WUGs, municipal WUGs were grouped into three categories (small, medium, and large) based upon population, with these further divided into categories of low, mid, and high savings potential based upon per-capita demand after the inclusion of baseline savings assumed by TWDB each decade, in gallons per-capita per day (gpcd). This categorization acknowledges that larger WUGs would likely have greater resources available to implement more measures at a more aggressive rate, while smaller WUGs may be limited to more gradual programs. Additionally, WUGs with higher per-capita demands offer the greatest potential for conservation savings, while those with low per-capita demands may have limited savings potential or, through existing proactive conservation programs, have already substantially reduced water use. Breaks in the per-capita demand classification were determined first by using the Jenks Natural Breaks algorithm to best identify the groups with similar values, and to maximize the differences between classes. These break points were then subjectively modified, for the purpose of placing more WUGs in the mid and high savings potential categories and less WUGs in the low savings potential. It was determined that the break points would be those found in *Table 2* and *Figure 2*, which shows the distribution of Region H WUGs in the categories described in *Table 2*.

Table 2 – Summary of Advanced Conservation Categories

GPCD	Population	Category
<=120	<=15,000	Low Potential Small Utility
<=120	>15,000 & <=300,000	Low Potential Medium Utility
<=120	>300,000	Low Potential Large Utility
>120 & <=220	<=15,000	Mid Potential Small Utility
>120 & <=220	>15,000 & <=300,000	Mid Potential Medium Utility
>120 & <=220	>300,000	Mid Potential Large Utility
>220	<=15,000	High Potential Small Utility
>220	>15,000 & <=300,000	High Potential Medium Utility
>220	>300,000	High Potential Large Utility

Figure 2 – Distribution of Region H WUGs in Municipal WUG Conservation Categories



Detailed utility connection data provided by TWDB was used to estimate the future number of single-family, multi-family, and non-residential connections for each WUG. For each WUG category of size and savings potential, an implementation table was developed indicating the potential conservation measures applied and the percentage of connections participating annually. Aggressiveness of recommendations was based upon the WUG category. More measures and higher implementation rates were recommended for large WUGs with higher per-capita demands, and fewer measures and more gradual implementation rates were recommended for smaller WUGS with lower per-capita demands. Specific implementation rates of each measure are found in *Table 3*, *Table 4*, and *Table 5*.

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Table 3 – Implementation Rates of Single-Family Residential (SFR) Measures

SFR Measure	Percentage of SFR Connections Participating Annually									
	High Potential Large Utility	High Potential Medium Utility	High Potential Small Utility	Mid Potential Large Utility	Mid Potential Medium Utility	Mid Potential Small Utility	Low Potential Large Utility	Low Potential Medium Utility	Low Potential Small Utility	
	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070
Home Water Reports	35% / 50%	35% / 50%	35% / 50%	30% / 50%	30% / 50%	30% / 50%	25% / 50%	25% / 50%	25% / 50%	25% / 50%
Irrigation Audits – High Users	1% / 5%	1% / 2%	-	1% / 3%	1% / 2%	-	1% / 3%	1% / 2%	1% / 2%	-
High-Efficiency Sprinkler Nozzle Rebate	1% / 2%	1% / 1.5%	1% / 1%	1% / 2%	1% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	-
Smart Irrigation Controller Rebate	1% / 2%	1% / 1.5%	1% / 1%	1% / 2%	1% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	-
WaterWise Landscape Rebate	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%
Rainwater Harvesting Rebate	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	0.25% / 1%	-
Rain Barrel	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	0.25% / 1%	-

Table 4 – Implementation Rates of Multi-Family Residential (MFR) Measures

MFR Measure	Percentage of MFR Connections Participating Annually									
	High Potential Large Utility	High Potential Medium Utility	High Potential Small Utility	Mid Potential Large Utility	Mid Potential Medium Utility	Mid Potential Small Utility	Low Potential Large Utility	Low Potential Medium Utility	Low Potential Small Utility	
	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070	2020 / 2070
Irrigation Audits – High Users	1.5% / 1.5%	1.5% / 1.5%	-	1.5% / 1.5%	1.5% / 1.5%	-	1% / 1%	1% / 1%	1% / 1%	-
High-Efficiency Sprinkler Nozzle Rebate	1.5% / 1.5%	1% / 1%	1% / 1%	1.5% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%
Smart Irrigation Controller Rebate	1.5% / 1.5%	1% / 1%	1% / 1%	1.5% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%
WaterWise Landscape Rebate	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%	0.25% / 1%
Rainwater Harvesting Rebate	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	-	0.25% / 1%	0.25% / 1%	0.25% / 1%	-

Table 5 – Implementation Rates of Industrial, Commercial, & Institutional (ICI) Measures*

ICI Measure	Percentage of ICI Connections Participating Annually									
	High Potential Large Utility	High Potential Medium Utility	High Potential Small Utility	Mid Potential Large Utility	Mid Potential Medium Utility	Mid Potential Small Utility	Low Potential Large Utility	Low Potential Medium Utility	Low Potential Small Utility	
	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050	2020 / 2050
Commercial General Rebate	1% / 0.8%	1% / 0.8%	1% / 0.8%	0.9% / 0.6%	0.9% / 0.6%	0.9% / 0.6%	0.7% / 0.4%	0.7% / 0.4%	0.7% / 0.4%	0.7% / 0.4%
Kitchen Pre-Rinse Spray Valve Installation	1% / 0.8%	1% / 0.8%	1% / 0.8%	0.9% / 0.6%	0.9% / 0.6%	0.9% / 0.6%	-	-	-	-
Irrigation Audits – High Users	1% / 1%	0.5% / 0.5%	-	0.5% / 0.5%	0.5% / 0.5%	-	0.5% / 0.5%	0.5% / 0.5%	-	-
High-Efficiency Sprinkler Nozzle Rebate	1.5% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%
Smart Irrigation Controller Rebate	1.5% / 1.5%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%	1% / 1%
WaterWise Landscape Rebate	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%
Rainwater Harvesting Rebate	0.25% / 0.5%	0.25% / 0.5%	--	0.25% / 0.5%	0.25% / 0.5%	-	0.25% / 0.5%	0.25% / 0.5%	0.25% / 0.5%	-
Commercial Dishwasher Rebate	1% / 0.8%	1% / 0.8%	1% / 0.8%	0.9% / 0.6%	0.9% / 0.6%	0.9% / 0.6%	0.7% / 0.4%	0.7% / 0.4%	0.7% / 0.4%	-
Commercial Food Steamer Rebate	1% / 0.8%	1% / 0.8%		0.9% / 0.6%	-	-	-	-	-	-

*Implementation rates for industrial, commercial, and institutional measures are shown for 2020 and 2050, as indoor ICI measures were not recommended after 2050.

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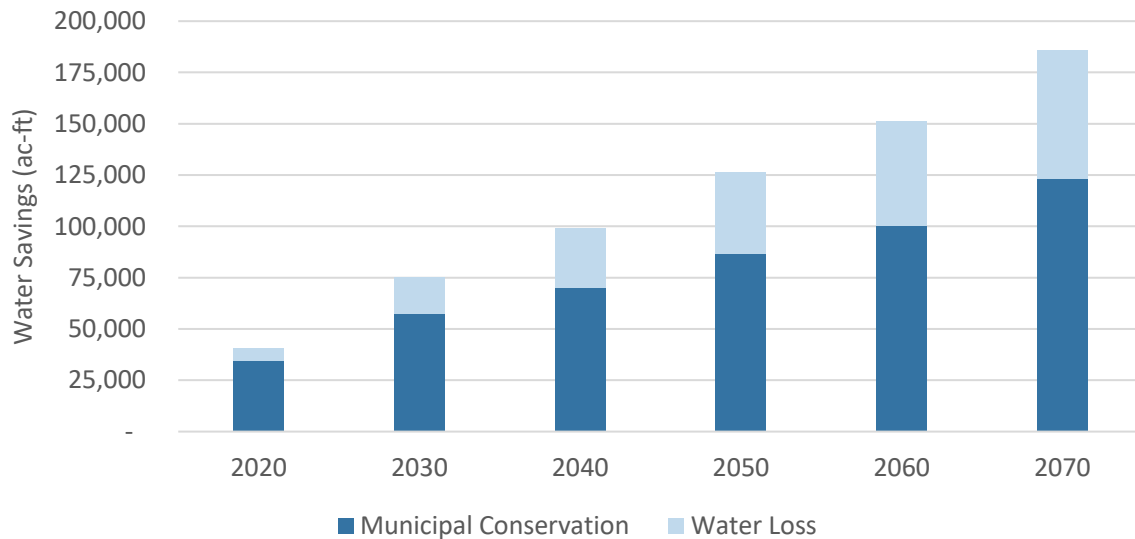
Once the number of units of implementation were determined for each WUG by decade, the applicable water savings assumptions derived from the TWDB MWCPT (per-connection measure savings, measure lifespan and natural replacement rates, cost, etc.) were applied to generate arrays of potential advanced conservation water savings and program cost for each connection type by WUG. Water savings calculations were constrained by a lower boundary of 60 gpcd to prevent recommendation of measures beyond a level feasible for many WUGS; study results indicated that few WUGs would reach this lower threshold even after application of advanced municipal conservation measures. Due to the importance of conservation to meeting the growing water demands of the region and as a means to more effectively utilize existing water sources, municipal conservation measures were applied even for WUGs that do not demonstrate a projected need throughout the planning period.

Table 6 describes the impact on per-capita demands of individual WUGs by the advanced conservation measures recommended by Region H. Resultant savings for water loss reduction and advanced municipal conservation (including mandatory outdoor watering restrictions) beyond embedded savings are illustrated in Figure 3.

Table 6 – Impact of Advanced Conservation on Per-Capita Demands

Reduction in Per Capita Demand (gpcd)	2020	2030	2040	2050	2060	2070
Minimum Entity Savings	0.0	0.0	0.0	0.0	0.0	0.0
Median Entity Savings	3.8	5.6	6.1	6.8	7.3	8.3
Average Entity Savings	4.1	5.9	6.3	7.0	7.5	8.4
Maximum Entity Savings	16.3	17.3	17.3	18.5	18.3	18.7

Figure 3 – Advanced Municipal Conservation and Water Loss Reduction Savings



Combined, the water saved through water loss reduction and the advanced conservation methods analyzed in this study represents 9.7 percent of the year 2070 demand demonstrated in the Region H RWP. However, this projected demand is already reduced by 9.5 percent based on baseline conservation methods applied by TWDB. In total, the effective demand for the region is reduced by

a total of 18.3 percent in 2070 compared against the total demand which is represented by the population demand of Region H prior to application of baseline reductions by TWDB. This information is presented in *Table 7*, below.

Table 7 – Summary of Conservation Savings by Decade

Conservation Metric	Basis	2020	2030	2040	2050	2060	2070
Baseline Conservation	% of Total Demand	5.4%	7.3%	8.5%	9.2%	9.4%	9.5%
Water Loss Reduction	% of RWP Net Demand	0.5%	1.3%	1.9%	2.5%	2.9%	3.3%
Advanced Conservation		2.7%	4.1%	4.7%	5.3%	5.7%	6.5%
<i>Total Additional Conservation (Water Loss + Advanced)</i>		3.2%	5.4%	6.6%	7.8%	8.6%	9.7%
Total Conservation Methods (Baseline + Water Loss + Advanced)	% of Total Demand	8.4%	12.3%	14.6%	16.2%	17.2%	18.3%

Environmental Considerations

Generally, there are no significant negative environmental impacts associated with the Municipal Conservation projects outlined herein. Large-scale structural modifications (constructing physical facilities) are not necessary to implement the Municipal Conservation measures found in this WMS. Therefore, construction impacts are not anticipated. Municipal effluent is a critical and substantial component to baseflows in the Houston area and Municipal Conservation measures, particularly those associated with indoor conservation, will reduce these flows below the level that would occur without conservation in place. However, the reduction in return flows in the receiving basins due to Municipal Conservation would, theoretically, be more than offset by the reduced diversions of water from the source basins. Finally, Municipal Conservation would reduce the amount of energy and chemicals needed to distribute water, resulting in a positive impact on the environment.

Permitting and Development

Accomplishing the Municipal Conservation demand reductions, as described herein, requires proactive implementation. Identification of an appropriate utility or political subdivision to facilitate or implement use of the conservation measures in each of the municipal WUGs is one of the critical issues facing the success of this project.

It should be noted that some WUGs are collections of small systems, which may present challenges to a coordinated effort to reduce water consumption. Individual systems will have varying attitudes toward conservation, with some moving forward with conservation plans and others focusing on revenue generation to support water system operation. The implementation of conservation measures for collective groupings of small systems presents challenges due to the lack of a single point of accountability. Further, these systems may lack the leverage to encourage conservation or lack the economic incentive to reduce billings. However, water conservation does delay the need to

build capital-intensive water supply and distribution projects, which can potentially help offset the need for modest rate adjustments that water conservation creates.

It should be noted that the majority of measures in the Region H municipal conservation approach are incentive-based and not education or enforcement-based. This is primarily due to the difficulty in estimating savings from the latter approaches. However, some WUGS may consider education or other conservation approaches not quantified in this analysis as part of a comprehensive municipal conservation program.

Cost Analysis

Costs for implementation of a water loss reduction program were adapted from the analysis applied in the 2016 Region H Regional Water Plan, with values scaled to September 2018 costs using the Engineering News Record (ENR) Construction Cost Index (CCI). Overall water loss reduction strategy costs for Region H are shown in *Table 8*.

Table 8 – Water Loss Reduction Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	PROGRAM COST	1	LS	\$891,822,048	\$891,822,048	
PROJECT CAPITAL COST						\$891,822,048

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$3,682,500	\$10,831,380	\$17,407,432	\$23,822,688	\$29,819,867	\$36,183,378
2	YIELD	5,892	17,612	28,916	39,904	51,149	62,601
3	UNIT COST	\$625	\$615	\$602	\$597	\$583	\$578
TOTAL UNIT COST							\$591

Cost estimates for advanced municipal conservation measures were based upon the per-connection cost rates from the TWDB MWCPT, with adjustments for local connection characteristics and multi-family development properties. Overall advanced municipal conservation strategy costs for Region H are shown in *Table 9*. Actual costs will vary by WUG. Generally, unit costs for implementation in smaller communities is more costly. However, these efforts may be made part of a more regional approach that can be accomplished in a more cost-effective manner.

Table 9 – Advanced Municipal Conservation Project Costs

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	PROGRAM COST	1	LS	\$2,211,236,519	\$2,211,236,519
PROJECT CAPITAL COST					\$2,211,236,519

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$26,041,578	\$30,731,441	\$42,337,138	\$48,130,887	\$66,596,566	\$72,860,419
2	YIELD	34,537	57,360	69,940	86,404	100,193	123,251
3	UNIT COST	\$754	\$536	\$605	\$557	\$665	\$591
TOTAL UNIT COST							\$608

It should be noted that the costs demonstrated here for municipal water conservation programs represent a total cost for offsetting a unit volume of water at the point of delivery. This sets conservation programs apart from other strategies employed in the RWP. In other cases, a comprehensive approach to delivering water to an end-user may include one project that provides for development of raw water, one or more raw water transmission project, a treatment project, and one or more treated water transmission projects to finally deliver water to the demand center. In addition, there are also costs associated with distribution of this water to retail customers which is outside of the scope of the RWP. A comprehensive summation of all of these projects in a layered manner are required to provide the same utility as a conservation program. Therefore, the additive nature of these costs must be considered when they are compared with and contrasted against conservation programs.

Water Management Strategy Evaluation

Based on the analysis provided above, the Municipal Conservation project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in *Table 10* below.

Table 10 – Water Management Strategy Evaluation

CRITERIA	RATING	EXPLANATION
Cost	3	Conservation costs are moderate and vary by WUG characteristics, but in many cases may delay or preclude the need for development of more expensive infrastructure. Costs of conservation strategies are extremely low when compared against the combined cost of raw water development, transmission, treatment, and distribution.

CRITERIA	RATING	EXPLANATION
Location	5	Conservation measures generally benefit the WUGs in which they are implemented without need for conveyance but conservation in one WUG may also allow for water to be used by other customers after the demand level is reduced.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	5	No impacts to landform associated with conservation projects.
Environmental Flows	3	No impacts to instream flows. Typically, reductions in return flows are also associated with reduced diversions.
Local Preference	4	No opposition to conservation efforts although local support varies from utility to utility.
Institutional Constraints	5	No permits required for implementation of conservation measures.
Development Timeline	5	Conservation programs can be implemented in a relatively short period of time.
Sponsorship	3	Although sponsors are identified, commitment to implementation varies considerably.
Vulnerability	5	Conservation has no identifiable risk from natural or man-made disasters.
Impacts on Other WMS	2	Conservation may negatively impact the availability of return flows for development into indirect reuse projects.

Municipal Conservation is not anticipated to affect acreage, vulnerable species, or agricultural land and production. The projects may potentially reduce surface water diversions and positively impact instream flows by as much as 185,852 ac-ft/yr depending upon the source of potential alternative supplies. Although this project will potentially result in maintaining instream flows in surface water source basins, reduced return flows in receiving basins (as much as 92,926 ac-ft/yr assuming 50 percent return flows through municipal effluent) may reduce potential benefits to those systems.

Water User Group Application

The Municipal Conservation project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served, as shown in *Table 11*.

Table 11 – Suitability of Strategy to Water User Groups

CRITERIA	WUG SUITABILITY
Proximity	Conservation projects do not produce water and only reduce total demand. Therefore, proximity of source and demand is not an issue for implementation.
Size	Conservation projects can generally be scaled to fit the WUG and the need. However, there are limits to how much of the total future need can be offset through conservation alone.
Water Quality	The measure produces no water and only reduces demand. Therefore, water quality of the supply is not impacted.
Unit Cost	The unit cost for this project makes it a viable option for most WUGs aside from those that are already achieving a very low level of per-capita municipal demand.
Other Factors	Successful implementation will ultimately depend on the dedication of individual WUGs to a conservation approach.

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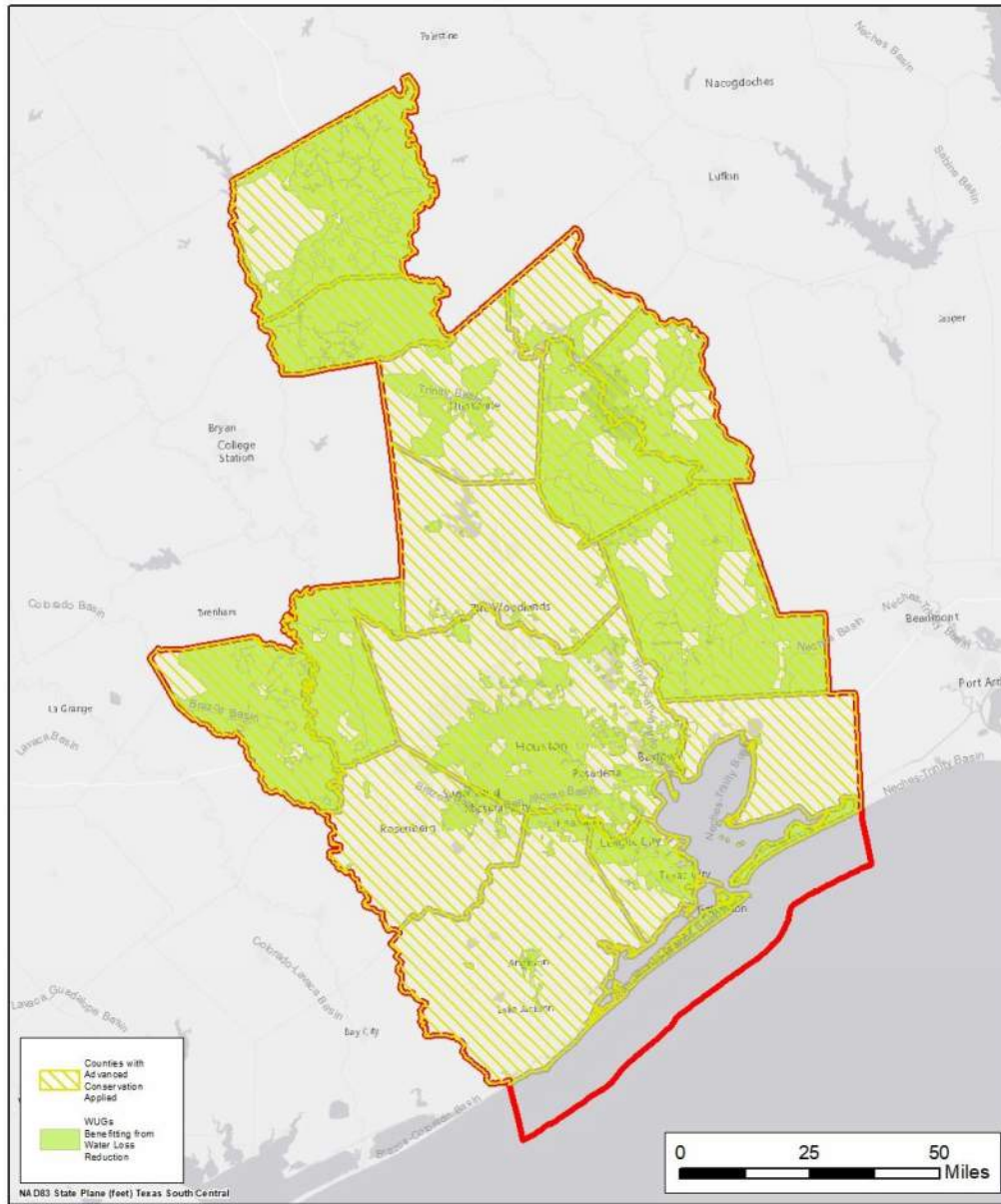
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Location Map



Municipal Conservation Location Map



Texas

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Irrigation Conservation
Project ID:	CNSV-002
Project Type:	Conservation
Potential Supply Quantity (Rounded):	93,562 ac-ft/yr (83.5 mgd)
Implementation Decade:	2020
Development Timeline:	1-3 years
Project Capital Cost:	\$1,489,156 for canal lining projects only (Sept. 2018)
Unit Water Cost (Rounded):	\$133 per ac-ft (during loan period) \$131 per ac-ft (after loan period)

Strategy Description

In Southeast Texas, including Region H, irrigated agriculture is dominated by rice production. Although rice is a water-intensive crop, this high demand for water makes it an ideal opportunity for implementation of water conservation practices.

Senate Bill 1094, enacted by the Texas Legislature in 2003, created the Water Conservation Implementation Task Force to review, evaluate, and recommend optimum levels of water use efficiency and conservation for the state. Members of the Task Force, which were appointed by the Texas Water Development Board (TWDB), were a volunteer group of persons with experience in and commitment to using water more efficiently. The Task Force developed TWDB Report 362 – Water Conservation Best Management Practices Guide, which outlines specific water conservation best management practices (BMPs) for various water uses. The Task Force was a temporary group, but it has been succeeded by the state Water Conservation Advisory Council, created by the Legislature in 2007. Among its other responsibilities, the Council updates the BMP Guide as needed. The BMP Guide is available online on the TWDB website at the following address: <https://www.twdb.texas.gov/conservation/BMPs/index.asp>. Various BMPs from this report are discussed and outlined in this project.

To supplement the TWDB Report 362, the report *Potential Rice Irrigation Water Conservation Measures, Water Planning Group - Region H* by James W. Stansel of Texas A&M University (TAMU) proposes several conservation methods to reduce irrigation water demand. The study first addresses on-farm conservation practices. Specifically covered are the benefits of land leveling to reduce the water required for each flush, multiple field inlets to reduce overfilling of the higher cuts, reduced levee spacing to reduce the water required for each flush and replacing irrigation ditches with pipes to reduce seepage and evaporation losses. The study also addresses off-farm conservation through the lining of irrigation canals to reduce losses.

Eight Region H counties have notable irrigation demands related to rice irrigation. This project analyzes the potential for implementation of conservation measures and identifies reasonable quantities of water savings and the associated cost of the project.

Strategy Analyses

The project analyses for Irrigation Conservation include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The first step in identifying potential supply volumes associated with conservation practices was to determine the volume of water demand and associated acreage for rice production in each Region H county. Data collected and compiled by TWDB in the development of water demands and application rates for agriculture were used to determine the percentage of the overall demand attributable to rice which could then be used with application rate to determine the number of acres in production.

For the 2016 Region H Regional Water Plan (RWP), a Geographic Information System (GIS) was created containing data on crop locations as well as aerial imagery. CropScape data from the National Agricultural Statistics Service (NASS) was used to identify locations in Region H that are used for rice production. Data from 2010 through 2012 was used for this purpose as rice acreage is rotated over a number of years. Year 2012 imagery from the National Agriculture Imagery Program (NAIP) was used to investigate areas identified as being active for rice irrigation. Visual inspection was used to determine if fields in the vicinity demonstrated characteristics of conservation practices (laser leveling, reduced levee intervals, etc.) or appeared to be unimproved. Farm lands of both varieties were outlined with polygons identifying them as improved or unimproved. Once a review of Region H rice-producing counties was completed, the resulting polygons were analyzed to determine the percentage of rice production acreage in each county and basin that has already received some level of improvement and would not be considered viable for application of additional conservation projects. Improvement percentages from the 2016 Region H RWP were retained for the current analysis of potential conservation savings. On-farm savings were applied to the annual active acreage estimated from the demand projections for the percentage assumed to be unimproved at a rate of 1.4 ac-ft/ac. Off-farm techniques were applied assuming a canal length of 16.5 feet per active acre and a savings rate of 38.0 ac-ft/mile of canal. *Table 1*, below, demonstrates the resulting savings identified for each county in every decade of the planning cycle. Note that the potential savings are level over time, which is consistent with the level nature of projected irrigation demands.

Table 1 – Potential Irrigation Conservation Savings by County (Ac-Ft/Yr)

COUNTY	2020	2030	2040	2050	2060	2070
Austin	2,993	2,993	2,993	2,993	2,993	2,993
Brazoria	21,517	21,517	21,517	21,517	21,517	21,517
Chambers	29,891	29,891	29,891	29,891	29,891	29,891
Fort Bend	5,745	5,745	5,745	5,745	5,745	5,745
Galveston	2,062	2,062	2,062	2,062	2,062	2,062
Harris	39	39	39	39	39	39
Liberty	23,035	23,035	23,035	23,035	23,035	23,035
Waller	8,280	8,280	8,280	8,280	8,280	8,280
TOTAL	93,562	93,562	93,562	93,562	93,562	93,562

Environmental Considerations

Due to the nature of the project, project implementation will occur in areas that are already disturbed through use in rice production or that have already been developed for the use of water conveyance to production land. The reduction in overall application of irrigation water may result in a reduction of return flows when fields are drained prior to harvest. These flushes may occur twice a year after the first and second (ratoon) crops and may beneficially impact downstream habitat during the dry summer season. However, these potential impacts are offset by the reduced diversion of water for irrigation purposes. Greater potential for impacts may exist for improvements made to conveyance channels depending on the specifics of the project application.

Permitting and Development

Based on a preliminary desktop review, the following environmental permits and permitting activities may potentially apply to projects other than on-farm practices:

- U.S. Army Corps of Engineers (USACE) Section 404 Permit – All proposed pipeline rights-of-way (ROW), temporary workspace, and access road locations should be delineated for waters of the U.S., including wetlands. The proposed pipeline construction would likely be permitted under Nationwide Permit (NWP) 12-Utility Line Activities either with or without a Pre-construction Notification (PCN) to the USACE depending on the amount of impacts to waters of the U.S. If pipelines are placed within irrigation canals that are channelized streams (waters of the U.S.), construction would likely be permitted under NWP 12 with a PCN or Section 404 Individual Permit (IP) depending on the amount of impacts to waters of the U.S. If channel lining occurs within irrigation canals that are channelized streams (waters of the U.S.), construction would likely be permitted under NWP 3-Maintenance with or without a PCN or Section 404 IP depending on the amount of impacts to waters of the U.S.
- Texas Historical Commission (THC) Coordination - Projects sponsored by public entities that affect a cumulative area greater than five acres or that disturb more than 5,000 cubic yards require advance consultation with the Texas Antiquities Committee according to Section 191.0525 (d) of the Antiquities Code of Texas. Because the proposed pipeline and/or irrigation canal lining may exceed these thresholds, coordination with the THC would be required. The THC may determine that archeological and/or historical surveys are needed.
- Threatened and Endangered Species – All proposed pipeline ROW, temporary workspace, and access road locations as well as lining projects within channelized streams (waters of the U.S.) should be surveyed for potential threatened and endangered species habitat. If preferred habitat for threatened or endangered species is present, presence/absence surveys for the species would be required.

Cost Analysis

Costs for on-farm conservation measures and canal lining were taken from the report by Stansel (2000) and scaled to September 2018 costs using the Engineering News Record (ENR) Construction Cost Index (CCI). Overall costs for Region H are shown in *Table 2* below.

Table 2 – Irrigation Conservation Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						April 2019
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$1,044,780	\$1,044,780	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$365,673	\$365,673	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$78,703	\$78,703	
PROJECT CAPITAL COST					\$1,489,156	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$104,778	\$104,778	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$10,448	\$10,448	\$10,448	\$10,448	\$10,448	\$10,448
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
5	ON-FARM CONSERVATION MEASURES	\$12,291,546	\$12,291,546	\$12,291,546	\$12,291,546	\$12,291,546	\$12,291,546
TOTAL ANNUAL COST		\$12,406,772	\$12,406,772	\$12,301,994	\$12,301,994	\$12,301,994	\$12,301,994

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$12,406,772	\$12,406,772	\$12,301,994	\$12,301,994	\$12,301,994	\$12,301,994
2	YIELD	93,562	93,562	93,562	93,562	93,562	93,562
3	UNIT COST	\$133	\$133	\$131	\$131	\$131	\$131
TOTAL UNIT COST		\$132					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1	LS	\$1,044,780	\$1,044,780	
PROJECT COST					\$1,044,780	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1.0	%	\$1,044,780	\$10,448	
ANNUAL OPERATION AND MAINTENANCE COST					\$10,448	

Water Management Strategy Evaluation

Based on the analysis provided above, the Irrigation Conservation project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Low cost compared to other regional projects but may be prohibitive compared to the current cost of water for agriculture.
Location	5	Conservation is applied at point of water use.
Water Quality	4	Potential improvement due to reduced downstream runoff.
Environmental Land and Habitat	4	Minimal impacts above existing agricultural operations.
Environmental Flows	3	Conservation may reduce return flows at the end of growing seasons but also reduces the necessary diversions for irrigation use.
Local Preference	3	Support by some proactive growers and those that own their own property and can invest in long-term improvements.
Institutional Constraints	5	Limited identified permitting obstacles.
Development Timeline	5	Projects can be implemented quickly, and even off-farm methods have relatively short timelines.
Sponsorship	3	Projects may be sponsored by local farmers and irrigation water providers, but interest level varies and is uncertain.
Vulnerability	5	Very limited risk to developed infrastructure.
Impacts on Other Projects	3	No known impacts to other projects.

Irrigation Conservation will impact over 61,000 acres of rice-producing land in Region H. Reduction in impounded water in rice fields may negatively impact migratory species that rely on the artificially wet areas for habitat. Costs associated with the project may impose burden upon rice production if alternative means of finance are not available. The projects may potentially reduce surface water diversions and positively impact instream flows by as much as 93,562 ac-ft/yr depending upon the source of potential alternative supplies. However, the projects may negatively impact dry-weather base flows that occur as a result of draining excess water from rice fields during harvest.

Water User Group Application

The Irrigation Conservation project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the project as well as other factors that may relate to the suitability of the project to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The project availability is in the same location as irrigation water use for rice production and is focused in Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, and Waller Counties.
Size	The nature of this project makes its yield relative to the size of irrigation operations.
Water Quality	This project does not produce new water but reduces need by conservation of other supplies.
Unit Cost	The unit cost for this project is relatively expensive for irrigation use but is one of the most cost-competitive alternatives for agriculture.
Other Factors	This project is suited only to irrigation demand. Actual implementation of projects will be performed by growers or water suppliers. This process is complicated by the predominance of rice production in Region H being performed on land leased by the producer, often discouraging the long-term investment necessary to implement these programs.

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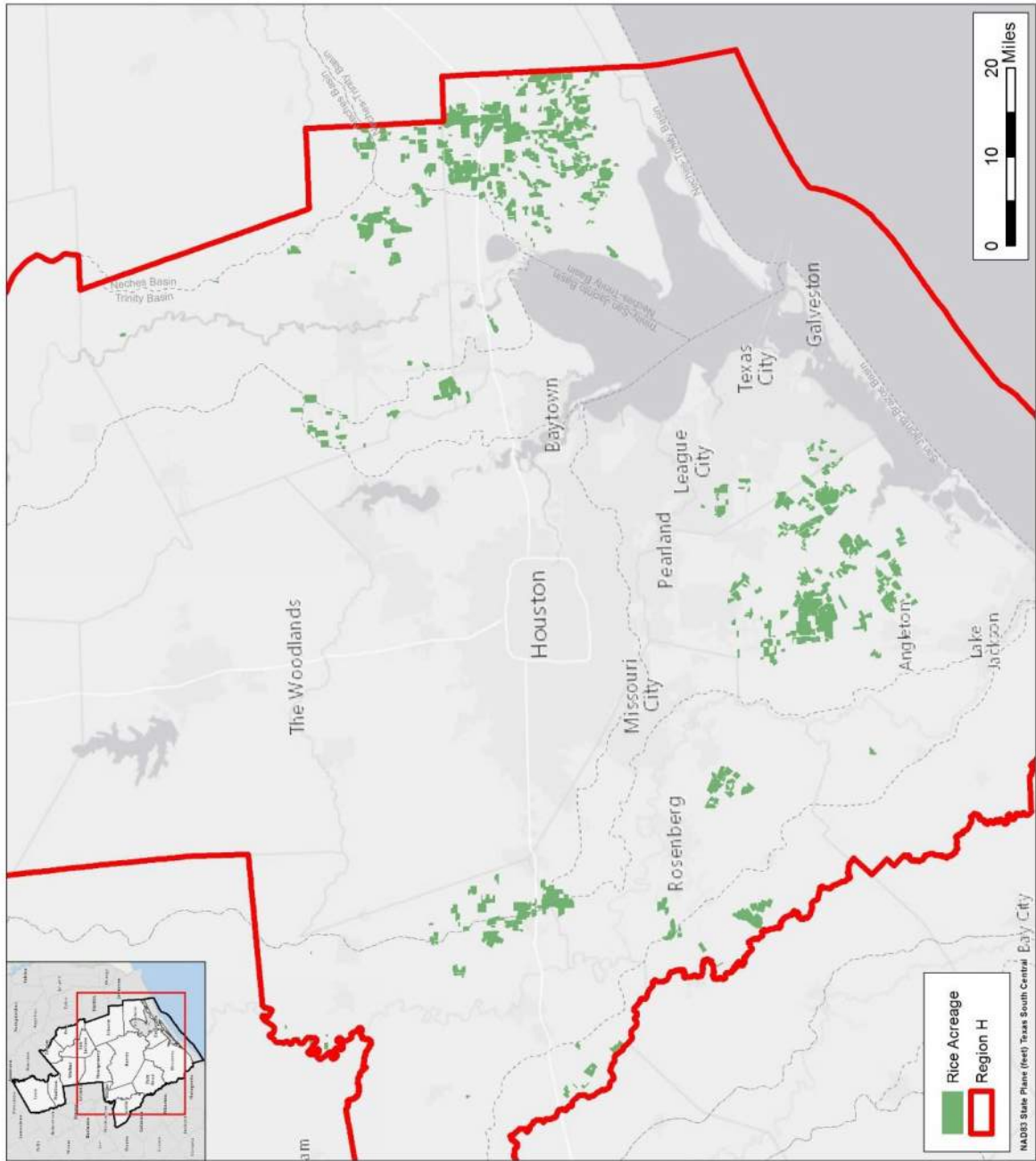
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Location Map



Irrigation Conservation Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	BWA Transmission Expansion
Project ID:	CONV-001
Project Type:	Various
Potential Supply Quantity (Rounded):	26,211 ac-ft/yr (23.4 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years
Project Capital Cost:	\$77,755,692 (Sept. 2018)
Unit Water Cost (Rounded):	\$248 per ac-ft (during loan period) \$39 per ac-ft (after loan period)

Strategy Description

The Brazosport Water Authority (BWA) serves seven communities in the southern Brazoria County area and provides potable service to Dow Inc. and two Texas Department of Criminal Justice (TDCJ) units, as well as the City of Rosenberg. In December of 2013, BWA concluded a Texas Water Development Board (TWDB) Regional Facility Planning Grant study to examine the potential for serving the current BWA service area as well as other portions of Brazoria County in the future. This study recommended the development of a reverse osmosis (RO) water treatment plant (WTP) at the site of the current BWA surface water treatment plant, as well as expansion of BWA's surface water treatment plant in order to accommodate additional growth within and surrounding the existing service area of the facility. More recently, BWA has identified a need for increasing the capacity of its transmission system to serve increasing demands of its customers.

Strategy Analyses

The project analyses for the BWA Transmission Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The project concept presented here is adapted from information provided by BWA on anticipated transmission line expansions. BWA expects to construct an additional 24-inch transmission line to serve approximately 6.5 mgd to the Texas Department of Criminal Justice (TDCJ) Darrington Unit in northern Brazoria County by 2024. An additional expansion of this line to 15 mgd is expected by 2030. BWA also expects to provide an additional 3 mgd to the City of Freeport to serve industrial demands and an additional 5.4 mgd to the City of Angleton for municipal use. In total, the BWA Transmission Expansion will provide an average additional flow of 23.4 mgd (26,211 ac-ft/yr).

Environmental Considerations

Environmental issues are expected to be minimal due to the use of existing corridors for development. Further environmental study will be conducted as part of the ongoing study of alternatives and configurations. *Table 1* lists federally and state protected species occurring within Brazoria County.

Table 1 – Threatened and Endangered Species in Brazoria County

BIRDS		FEDERAL STATUS	STATE STATUS
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Piping plover	<i>Charadrius melodus</i>	LT	T
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
White-tailed hawk	<i>Buteo albicaudatus</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	LT	T
Shortfin mako shark	<i>Isurus oxyrinchus</i>		T

MAMMALS		FEDERAL STATUS	STATE STATUS
Blue whale	<i>Balaenoptera musculus</i>	LE	E
Gulf of Mexico bryde's whale	<i>Balaenoptera edeni</i>	LE	E
Humpback whale	<i>Megaptera novaeangliae</i>	LE	
North Atlantic right whale	<i>Eubalaena glacialis</i>	LE	E
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T
Sei whale	<i>Balaenoptera borealis</i>	LE	E
Sperm whale	<i>Physeter macrocephalus</i>	LE	E
West Indian manatee	<i>Trichechus manatus</i>	LT	T

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Brazos heelsplitter	<i>Potamilus streckersoni</i>		T
Texas fawnsfoot	<i>Truncilla macrodon</i>	C	T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Green sea turtle	<i>Chelonia mydas</i>	LT	T
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	LE	E
Leatherback sea turtle	<i>Dermochelys coriacea</i>	LE	E
Loggerhead sea turtle	<i>Caretta caretta</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T

LE, LT - Federally Listed Endangered/Threatened; *SAE, SAT* - Federally Listed Endangered/Threatened by Similarity of Appearance; *C* - Federal Candidate for Listing; *DL, PDL* - Federally Delisted/Proposed for Delisting; *NL* - Not Federally Listed; *E, T* - State Listed Endangered/Threatened; "blank" - Rare, but with no regulatory listing status.

Permitting and Development

Permitting issues related to the project will be examined more closely during further phases of study. However, the use of existing thoroughfares minimizes potential permitting obstacles.

Cost Analysis

A preliminary planning-level cost estimate was developed for the BWA Transmission Expansion project using standard regional planning assumptions. Construction costs include the estimated cost of transmission lines and associated booster pump stations, as well as a ground storage tank near Clute to facilitate the delivery of 3 mgd to Freeport. Other estimated capital cost components include engineering services, surveying, environmental studies and mitigation, and interest during construction. It was assumed that pipelines would be developed in existing rights-of-way, so land acquisition costs were only included for the ground storage tank. Regional planning cost estimating assumptions were also applied to estimate annualized debt service and ongoing costs of operation and maintenance. Project cost estimates are presented in September 2018 dollars in *Table 2*.

Table 2 – BWA Transmission Expansion Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$42,638,425	\$42,638,425
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$13,425,390	\$13,425,390
3	LAND AND EASEMENTS	1	LS	\$7,465,520	\$7,465,520
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$10,116,912	\$10,116,912
5	INTEREST DURING CONSTRUCTION	1	LS	\$4,109,445	\$4,109,445
PROJECT CAPITAL COST					\$77,755,692

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$5,470,974	\$5,470,974	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$570,736	\$570,736	\$570,736	\$570,736	\$570,736
3	PUMPING ENERGY COSTS	\$0	\$447,857	\$447,857	\$447,857	\$447,857	\$447,857
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$6,489,567	\$6,489,567	\$1,018,593	\$1,018,593	\$1,018,593

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$6,489,567	\$6,489,567	\$1,018,593	\$1,018,593	\$1,018,593
2	YIELD	-	26,211	26,211	26,211	26,211	26,211
3	UNIT COST	\$0	\$248	\$248	\$39	\$39	\$39
TOTAL UNIT COST							\$122

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$9,623,478	\$9,623,478
2	PIPELINES	1	LS	\$29,901,195	\$29,901,195
3	PIPELINE CROSSINGS	1	LS	\$59,980	\$59,980
4	WATER STORAGE TANKS	1	LS	\$3,053,771	\$3,053,771
PROJECT COST					\$42,638,425

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$9,623,478	\$240,587
2	PIPELINES	1.0	%	\$29,901,195	\$299,012
3	PIPELINE CROSSINGS	1.0	%	\$59,980	\$600
4	WATER STORAGE TANKS	1.0	%	\$3,053,771	\$30,538
ANNUAL OPERATION AND MAINTENANCE COST					\$570,736

Water Management Strategy Evaluation

Based on the analysis provided above, the BWA Transmission Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	While not directly generating supply, the project provides conveyance of treated water with only a small additional cost.
Location	4	Project reflects conveyance infrastructure from a treatment facility to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	5	Limited impacts associated with construction in existing corridors.
Environmental Flows	3	No impact to environmental flows.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Property availability and limited permitting efforts.
Development Timeline	4	Project to be developed within 10 years.
Sponsorship	4	Brazosport Water Authority is identified as a sponsor and is committed to development.
Vulnerability	5	Minimal risk associated with pipeline infrastructure.
Impacts on Other WMS	5	Project facilitates the use of treated surface water and treated brackish groundwater from BWA facilities.

Water User Group Application

The BWA Transmission Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

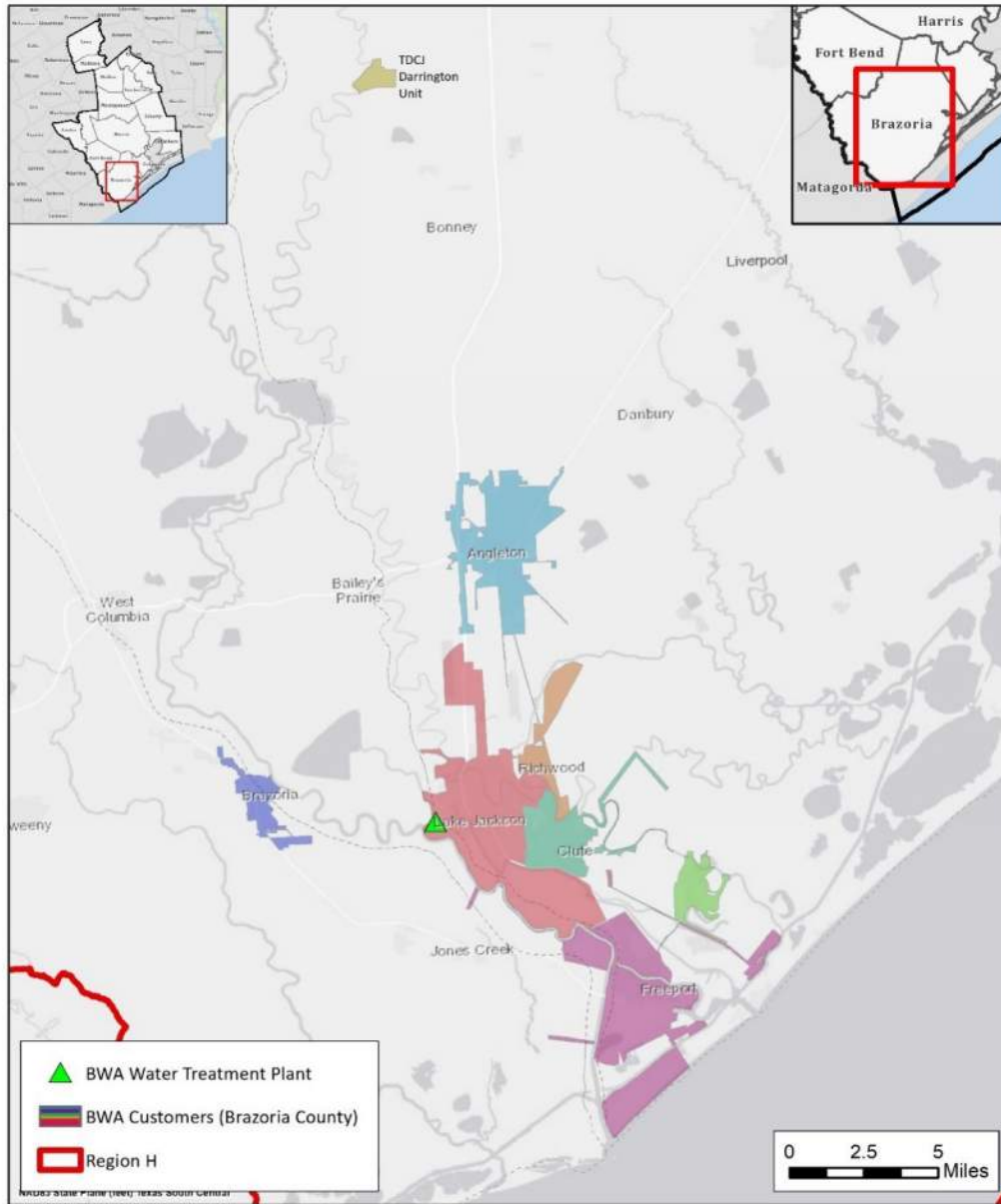
CRITERIA	WUG SUITABILITY
Proximity	This project conveys treated water to BWA customers in southern and northern Brazoria County.
Size	The capacity of this project is based on the projected need of the sponsor’s customers.
Water Quality	This project will convey treated, potable water.
Unit Cost	Adds small amount to unit cost of BWA’s strategies to provide additional water to wholesale customers.

CRITERIA	WUG SUITABILITY
Other Factors	This project has been identified for a few specific customers of the project sponsor.

References

CDM-Smith. *Brazoria County Regional Water Facility Study*. May 2013.

Location Map



BWA Transmission Expansion Location Map



Texas

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Central Harris County Regional Water Authority Transmission and Internal Distribution
Project ID:	CONV-002
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	5,466 ac-ft/yr (4.88 mgd)
Implementation Decade:	2030 (2024)
Development Timeline:	5 years
Project Capital Cost:	\$17,202,167 (Sept. 2018)
Unit Water Cost (Rounded):	\$238 per ac-ft (during loan period) \$16 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the Central Harris County Regional Water Authority (CHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, CHCRWA is developing expansions to its transmission and distribution infrastructure.

Strategy Analyses

The project analyses for CHCRWA Transmission and Internal Distribution include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The CHCRWA will continue to deliver surface water to certain districts within the Authority to meet the requirements of its Groundwater Reduction Plan (GRP). The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP program. The Authority has increased its

supply reservation from COH from an original reservation of 2.12 mgd (2,374 ac-ft/yr) currently applied in the Regional Plan as existing supply to 7.0 mgd (7,840 ac-ft/yr). CHCRWA is developing expanded transmission infrastructure to convey supplies from a proposed shared pipeline with COH and North Harris County Regional Water Authority (NHCRWA). Transmission facilities include a connection to a NHCRWA pipeline along Hardy Toll Road and another connection along TC Jester Blvd. CHCRWA is also developing an expansion of the infrastructure network through which it supplies its member districts.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

CHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

Planning-level capital cost estimates for the CHCRWA Transmission and Internal Distribution project were provided by the Authority's engineering consultant; capital costs included estimates for engineering and legal fees, contingency, land acquisition, surveying, environmental studies and mitigation, and cost of bond issuance. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Capital costs for interest during construction and annual cost components such as annualized debt service and operations and maintenance costs were assumed using standard Regional Planning costing assumptions. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – CHCRWA Transmission and Internal Distribution Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$8,920,000	\$8,920,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$5,250,000	\$5,250,000	
3	LAND AND EASEMENTS	1	LS	\$780,000	\$780,000	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$50,000	\$50,000	
5	INTEREST DURING CONSTRUCTION	1	LS	\$2,202,167	\$2,202,167	
PROJECT CAPITAL COST						\$17,202,167

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$1,210,363	\$1,210,363	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$89,200	\$89,200	\$89,200	\$89,200	\$89,200
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$1,299,563	\$1,299,563	\$89,200	\$89,200	\$89,200

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$1,299,563	\$1,299,563	\$89,200	\$89,200	\$89,200
2	YIELD	-	5,466	5,466	5,466	5,466	5,466
3	UNIT COST	\$0	\$238	\$238	\$16	\$16	\$16
TOTAL UNIT COST							\$105

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$7,470,000	\$7,470,000	
2	METER STATIONS	1	LS	\$1,450,000	\$1,450,000	
PROJECT COST						\$8,920,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$7,470,000	\$74,700	
2	METER STATIONS	1.0	%	\$1,450,000	\$14,500	
ANNUAL OPERATION AND MAINTENANCE COST						\$89,200

Water Management Strategy Evaluation

Based on the analysis provided above, the CHCRWA Transmission and Internal Distribution project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	The CHCRWA Transmission and Internal Distribution, while not directly generating supply, provides conveyance with a reasonable level of additional cost.
Location	4	Reflects conveyance infrastructure from major transmission pipelines to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project to be developed within five years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The CHCRWA Transmission and Internal Distribution includes the construction of several pipeline segments. The majority of this impact will be in urbanized areas with limited impacts to habitat. However, the project will not directly impact environmental flows. The CHCRWA Transmission and Internal Distribution is not anticipated to impact agricultural land or production.

Water User Group Application

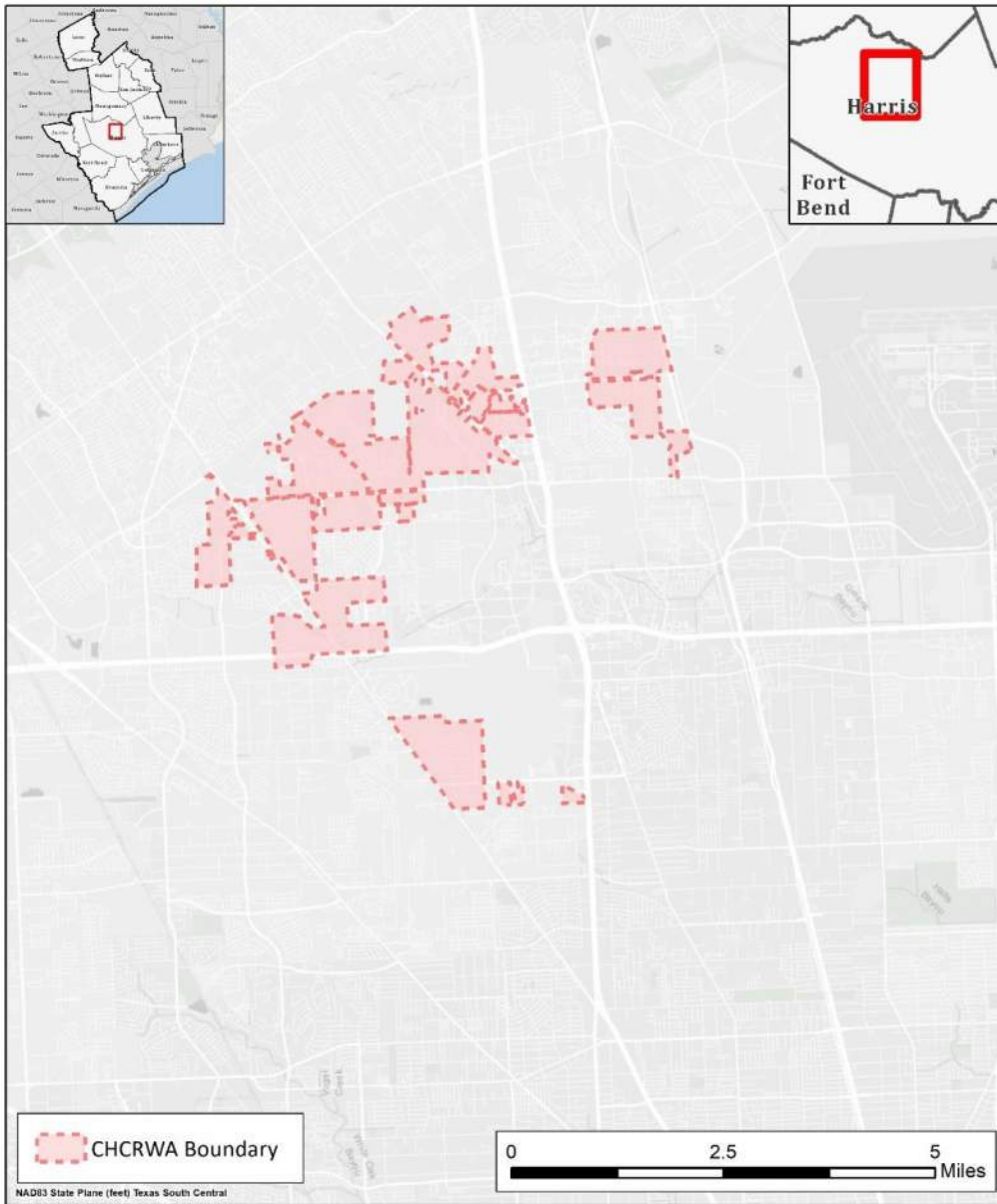
The CHCRWA Transmission and Internal Distribution project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve member districts of the CHCRWA.

CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds small amount to unit cost of CHCRWA's surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Central Harris County Regional Water Authority. *Transmission and Distribution System Expansion Preliminary Planning Report*, prepared by IDS Engineering Group, July 2016.

Location Map



CHCRWA Transmission and Internal Distribution Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston GRP Transmission
Project ID:	CONV-003
Project Type:	Conveyance
Potential Supply Quantity (Rounded):	27,216 ac-ft/yr (24.3 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	<5 years
Project Capital Cost:	\$31,986,905 (Sept. 2018)
Unit Water Cost (Rounded):	\$91 per ac-ft (during loan period) \$8 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged heavy pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the City of Houston (COH) has used its surface water rights and treatment capacity to provide an alternative to groundwater pumpage. The COH has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand. In order to utilize sufficient supplies to meet future surface water conversion obligations, COH is developing multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for COH GRP Transmission include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The COH has developed significant infrastructure for the development, treatment, and delivery of surface water supplies. These projects have formed the fundamental basis for much of the region's conversion from groundwater to alternative water sources. In several cases, such as the regional water authorities, COH supplies are already used as an alternative source of water and will continue to be a critical resource in the future.

In addition to providing water to regional authorities for their GRPs, COH maintains compliance with HGSD rules through its own use of surface water supplies within the City's retail water service area.

COH has also made an opportunity available for other water users to join the COH GRP to promote synergy in addressing the region's water supply issues. A total of 6 participants reside within HGSD Areas I and II. Another 89 participants are located in HGSD Area III. Of these total participants, 45 can be identified as named Water User Groups (WUGs) in the Region H Regional Water Plan (RWP).

In most cases, COH does not provide direct surface water supplies to these participants. Instead, COH provides its own over-conversion as a service to these participants to account for their pumpage of groundwater, causing a net reduction in overall groundwater use. In effect, the requirement for groundwater conversion is met jointly across the GRP as is done by other GRP sponsors in the region. However, COH is planning to begin delivery of treated surface water to some of these participants by developing several new pipelines as part of the COH GRP Transmission project.

Environmental Considerations

Environmental issues are expected to be limited, as pipelines will primarily be constructed in developed areas in the northern part of the greater Houston area. Further environmental study will be conducted as part of the ongoing study of alternatives and configurations.

Permitting and Development

Permitting issues related to the project will be examined more closely during further phases of study. Infrastructure development may result in some construction disturbance which could require mitigation. However, the development of the project primarily within existing right-of-way in an urbanized setting minimizes potential permitting obstacles.

Cost Analysis

Project costs were provided by COH, including estimated capital costs for engineering, design, construction, and contingency. Environmental mitigation and land acquisition costs were assumed to be included in the costs provided by COH. Standard assumptions for regional planning were applied to determine interest during construction, annualized debt service, and annual operating and maintenance costs. Estimated project costs for the COH GRP Transmission project are shown in *Table 1* in September 2018 dollars.

Table 1 – COH GRP Transmission Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$22,187,734	\$22,187,734
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$5,575,940	\$5,575,940
3	LAND AND EASEMENTS	1	LS	\$0	\$0
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$128,369	\$128,369
5	INTEREST DURING CONSTRUCTION	1	LS	\$4,094,862	\$4,094,862
PROJECT CAPITAL COST					\$31,986,905

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$2,250,633	\$2,250,633	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$221,877	\$221,877	\$221,877	\$221,877	\$221,877
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$2,472,510	\$2,472,510	\$221,877	\$221,877	\$221,877

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$2,472,510	\$2,472,510	\$221,877	\$221,877	\$221,877
2	YIELD	-	27,216	27,216	27,216	27,216	27,216
3	UNIT COST	\$0	\$91	\$91	\$8	\$8	\$8
TOTAL UNIT COST							\$41

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PIPELINES	1	LS	\$21,691,372	\$21,691,372
2	PIPELINE CROSSINGS	1	LS	\$496,362	\$496,362
PROJECT COST					\$22,187,734

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PIPELINES	1.0	%	\$21,691,372	\$216,914
2	PIPELINE CROSSINGS	1.0	%	\$496,362	\$4,964
ANNUAL OPERATION AND MAINTENANCE COST					\$221,877

Water Management Strategy Evaluation

Based on the analysis provided above, the COH GRP Transmission project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The COH GRP Transmission project, while not directly generating supply, provides conveyance of treated water with small additional cost.
Location	4	Reflects conveyance infrastructure from treatment to demand centers.
Water Quality	3	No impacts to water quality.
Environmental Land and Habitat	3	Limited concerns. Environmental impacts can be mitigated.
Environmental Flows	3	No impact to environmental flows.
Local Preference	4	Minimal local opposition expected.
Institutional Constraints	3	Property available and limited permitting efforts.
Development Timeline	4	Projected may be implemented within 5 years.
Sponsorship	5	Sponsors identified and in the process of developing project.
Vulnerability	5	Minimal risk associated with pipeline infrastructure.
Impacts on Other WMS	3	No impacts on other WMS are expected.

The COH GRP Transmission project includes approximately 13 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

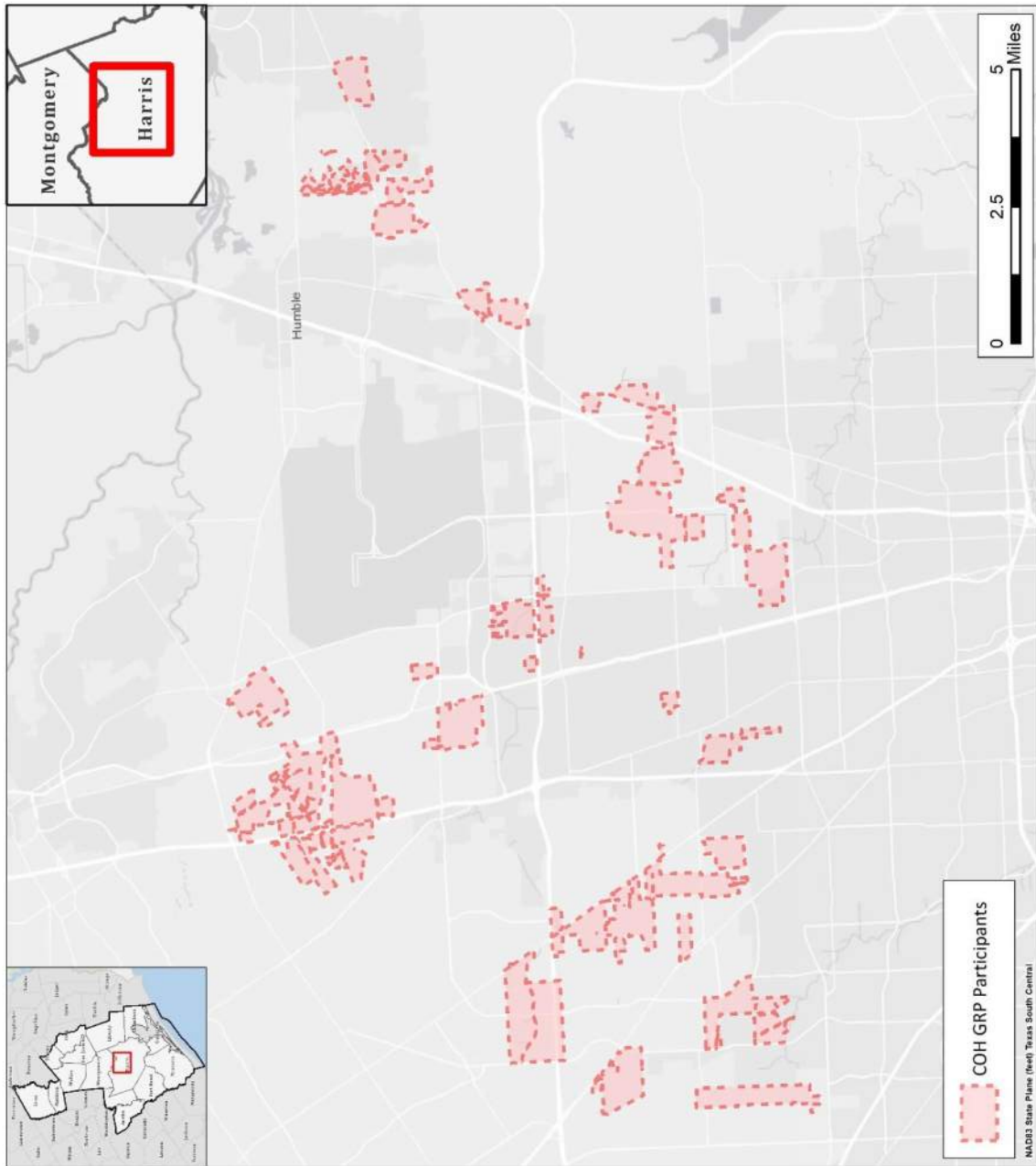
Water User Group Application

The COH GRP Transmission project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project is intended to provide water to participants in the COH GRP.
Size	The capacity of this project is based on needs projected by the project sponsor.
Water Quality	This project will convey treated surface water.

CRITERIA	WUG SUITABILITY
Unit Cost	The unit cost for this project is a reasonable price for transmission of treated water for municipal use.
Other Factors	This project is identified for a few specific potential customers of COH.

Location Map



City of Houston GRP Transmission Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	COH, NHCRWA, and CHCRWA Shared Transmission
Project ID:	CONV-004
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	154,575 ac-ft/yr (138.0 mgd)
Implementation Decade:	2030 (2023)
Development Timeline:	5 years
Project Capital Cost:	\$545,329,786 (Sept. 2018)
Unit Water Cost (Rounded):	\$282 per ac-ft (during loan period) \$24 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged heavy pumping from the Gulf Coast Aquifer. As demands are expected to grow with time, the allowable percentage of demands that may be supplied from groundwater is scheduled to decrease. In order to meet these requirements, the City of Houston (COH), North Harris County Regional Water Authority (NHCRWA), and Central Harris County Regional Water Authority (CHCRWA) are developing a large-diameter, shared pipeline to convey treated surface water from the COH Northeast Water Purification Plant (NEWPP), which is anticipated to be significantly expanded.

Strategy Analyses

The project analyses for the COH, NHCRWA, and CHCRWA Shared Transmission project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The project sponsors have already developed transmission and distribution infrastructure to meet their initial obligations for reducing groundwater demand and are utilizing COH treated surface water, which is reflected in the 2021 Region H Regional Water Plan (RWP) as an existing supply. In order to meet future water demands and regulatory conversion obligations, the sponsors have continued implementation of their Groundwater Reduction Plan (GRP) programs, including plans for increased surface water treatment capacity and expansions of transmission and distribution systems. COH, NHCRWA, and CHCRWA are jointly developing a major pipeline to convey treated water westward from the NEWPP. The pipeline follows the same corridor as an existing 84-inch shared COH and

NHCRWA pipeline until reaching Old Humble Road, after which it continues along a route primarily between Beltway 8 and Aldine Bender Road to a point slightly west of Interstate 45. NHCRWA and CHCRWA are developing additional transmission from this pipeline to their own distribution networks.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the project is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

NHCRWA and CHCRWA are subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Development of expanded transmission infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

Planning-level capital cost estimates for the COH, NHCRWA, and CHCRWA Shared Transmission project were based on project sponsor data summarizing design, construction, construction management, contingency, land acquisition, and other capital costs. Sponsor data was assumed to be inclusive of cost components for legal costs, survey, and environmental studies and mitigation. Capital costs were scaled to a September 2018 equivalent cost using the Producer Price Index in accordance with TWDB guidance. Other cost components, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard regional planning costing assumptions. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – COH, NHCRWA, and CHCRWA Shared Transmission Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$358,757,861	\$358,757,861	
1	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$101,711,383	\$101,711,383	
1	LAND AND EASEMENTS	1	LS	\$15,049,152	\$15,049,152	
1	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
1	INTEREST DURING CONSTRUCTION	1	LS	\$69,811,390	\$69,811,390	
PROJECT CAPITAL COST					\$545,329,786	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$38,369,991	\$38,369,991	\$0	\$0	\$0
1	OPERATION AND MAINTENANCE (O&M)	\$0	\$3,587,579	\$3,587,579	\$3,587,579	\$3,587,579	\$3,587,579
1	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
1	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$41,957,570	\$41,957,570	\$3,587,579	\$3,587,579	\$3,587,579

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$41,957,570	\$41,957,570	\$3,587,579	\$3,587,579	\$3,587,579
1	YIELD	0	148,826	148,826	148,826	148,826	148,826
1	UNIT COST	\$0	\$282	\$282	\$24	\$24	\$24
TOTAL UNIT COST							\$127

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$358,757,861	\$358,757,861	
PROJECT COST					\$358,757,861	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$358,757,861	\$3,587,579	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,587,579	

Water Management Strategy Evaluation

Based on the analysis provided above, the COH, NHCRWA, and CHCRWA Shared Transmission project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the RWP. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	The shared transmission pipeline, while not directly generating supply, provides conveyance at relatively low cost.
Location	4	Reflects conveyance infrastructure from treatment plant to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property follows existing corridors.
Development Timeline	5	Project to be developed within 5 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	5	Provides conveyance of treated water from the Northeast Water Purification Plant Expansion project to demand centers and to other major transmission projects.

The COH, NHCRWA, and CHCRWA Shared Transmission project includes approximately 16.6 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The COH, NHCRWA, and CHCRWA Shared Transmission project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from water treatment plant to demand centers and other major transmission pipelines.

CRITERIA	WUG SUITABILITY
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds small to moderate amount to unit cost of surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

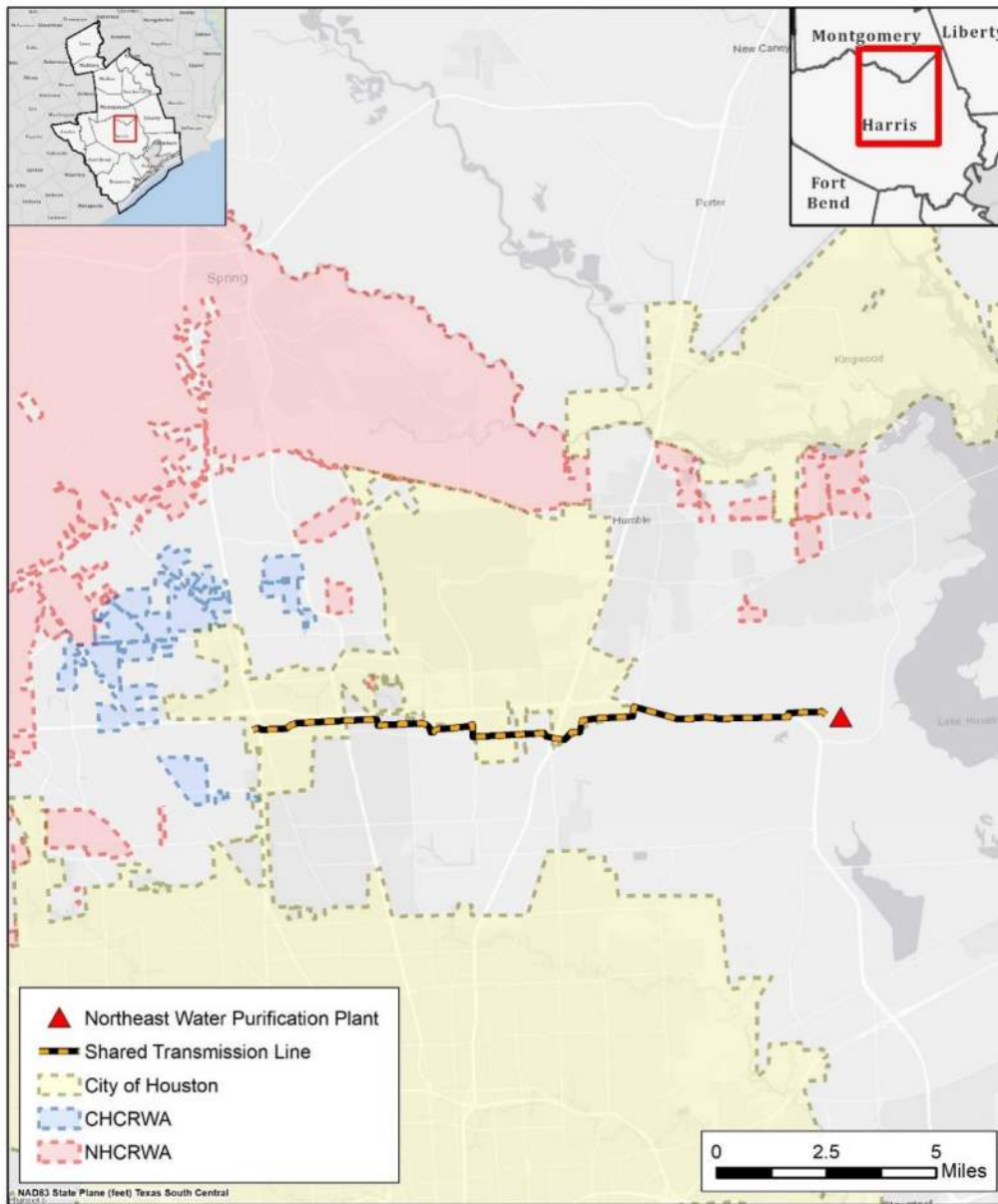
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Location Map



COH, NHCRWA, and CHCRWA Shared Transmission Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	CWA Transmission Expansion
Project ID:	CONV-005
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	454,720 ac-ft/yr peak capacity (406 mgd peak capacity)
Implementation Decade:	2040 (2035)
Development Timeline:	5-10 years
Project Capital Cost:	\$119,336,981 (Sept. 2018)
Unit Water Cost (Rounded):	\$43 per ac-ft (during loan period) \$19 per ac-ft (after loan period)

Strategy Description

The City of Houston (COH) operates three major surface water treatment plants in Harris County. Collectively, these facilities provide treated water to the COH distribution system as well as a number of regional partners and contract customers. The facilities provide an important tie between raw water supplies in the Trinity and San Jacinto River Basins to demands as far west as the Brazos River Basin in Fort Bend County.

The East Water Purification Plant (EWPP) is located in eastern Harris County and is currently rated for 350 MGD. The largest share of this capacity is introduced to the COH distribution system for service to the Houston area including contract customers in Harris County. In addition, this facility also provides for the first phases of conversion for the West Harris County Regional Water Authority (WHCRWA) and North Fort Bend Water Authority (NFBWA). The EWPP receives raw water from sources in the Trinity River Basin via pipelines owned and maintained by the Coastal Water Authority (CWA). The COH has identified a need for an additional pipeline to fully utilize supply sources in the Trinity River Basin.

Strategy Analyses

The project analyses for CWA Transmission Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Identification of potential capacity expansion in the CWA conveyance system was based on information provided by COH. The new transmission line is expected to follow the paths of one of the existing CWA pipelines and will be sized for a peak flow of 406 MGD. The pipeline size, which is larger than the existing lines, is sufficient to more fully utilize the available supplies in the Trinity Basin and

the available treatment capacity at the EWPP, while also providing some redundancy to the existing infrastructure.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the project is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Use of existing rights of way is expected to minimize permitting and mitigation efforts. This project provides conveyance for diversions permitted under existing water rights.

Cost Analysis

A preliminary planning-level cost estimate was developed for the CWA Transmission Expansion project based on standard regional planning assumptions for pipeline construction costs. Interest during construction, annualized debt service, pumping energy costs, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Unit cost estimates were based on estimated average flow assuming a typical peaking factor of 1.3. Costs are presented in September 2018 equivalent costs in *Table 1*.

Table 1 – CWA Transmission Expansion Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$84,798,813	\$84,798,813	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$25,439,644	\$25,439,644	
3	LAND AND EASEMENTS	1	LS	\$2,550,000	\$2,550,000	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$241,477	\$241,477	
5	INTEREST DURING CONSTRUCTION	1	LS	\$6,307,046	\$6,307,046	
PROJECT CAPITAL COST						\$119,336,981

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$8,396,678	\$8,396,678	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$847,988	\$847,988	\$847,988	\$847,988
3	PUMPING ENERGY COSTS	\$0	\$0	\$5,669,019	\$5,669,019	\$5,669,019	\$5,669,019
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$14,913,686	\$14,913,686	\$6,517,007	\$6,517,007

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$14,913,686	\$14,913,686	\$6,517,007	\$6,517,007
2	YIELD	-	-	349,785	349,785	349,785	349,785
3	UNIT COST	\$0	\$0	\$43	\$43	\$19	\$19
TOTAL UNIT COST							\$31

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$84,798,813	\$84,798,813	
PROJECT COST						\$84,798,813

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$84,798,813	\$847,988	
ANNUAL OPERATION AND MAINTENANCE COST						\$847,988

Water Management Strategy Evaluation

Based on the analysis provided above, the CWA Transmission Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Costs for the project are low compared to other strategies.

CRITERIA	RATING	EXPLANATION
Location	4	Project provides raw water conveyance from source location to an existing treatment facility.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	3	Expansion likely to be constructed along existing right of way, so impacts on habitat are expected to be limited and can be mitigated.
Environmental Flows	3	Project may reduce instream flows by providing conveyance for a larger portion of the permitted diversions.
Local Preference	3	No known significant opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project development could be completed in less than 10 years.
Sponsorship	4	Sponsor has identified project and is in preliminary planning phases.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	4	Provides conveyance of surface water to treatment facility to increase surface water supplies to entities served by the COH Groundwater Reduction Plan.

The CWA Transmission Expansion project includes up to 10 miles of pipelines. The majority of this impact will be in existing rights of way with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

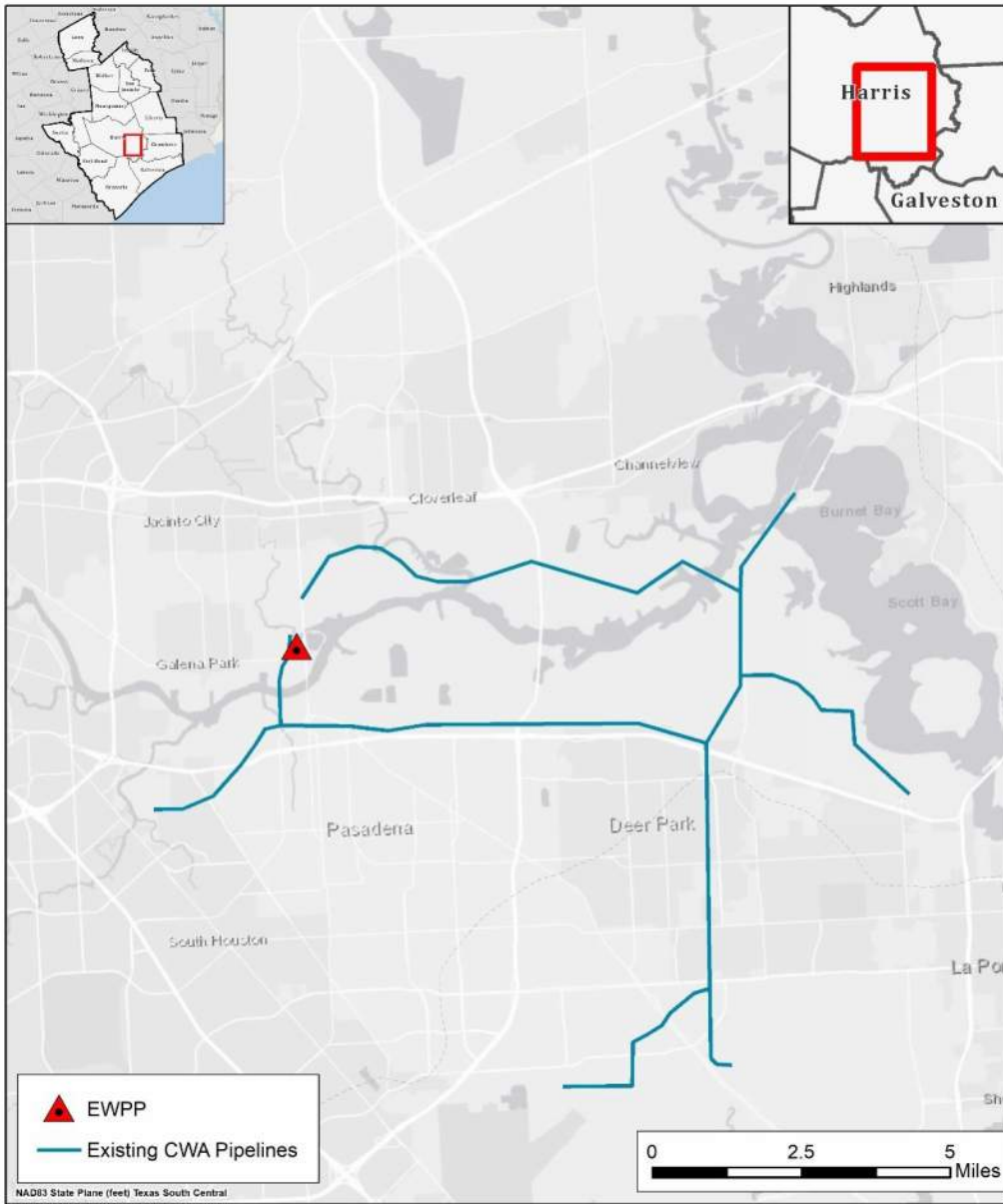
Water User Group Application

The CWA Transmission Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from raw water source to existing water treatment plant will increase supply availability in the existing service area of the EWPP.
Size	Conveyance is sized based on needs anticipated by project sponsor.

CRITERIA	WUG SUITABILITY
Water Quality	Project will provide raw water which will require treatment for some uses such as municipal supply.
Unit Cost	The project would have a low overall unit cost. However, additional costs may be added to treat and distribute water for municipal uses.

Location Map



CWA Transmission Expansion Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	East Texas Transfer
Project ID:	CONV-006
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	250,000 ac-ft/yr (223 mgd)
Implementation Decade:	2050
Development Timeline:	20 years
Project Capital Cost:	\$458,840,377 (Sept. 2018)
Unit Water Cost (Rounded):	\$146 per ac-ft (during loan period) \$17 per ac-ft (after loan period)

Strategy Description

After the development of identified, in-region projects throughout Region H, additional needs are identified that will require water from a newly developed or transmitted source. Development of water supplies within the Region H basins becomes increasingly difficult as competing water supply interests, along with environmental uses, utilize the remaining, developable supplies.

An alternative to this is the transfer and use of supplies that have already been developed in the eastern basins in the state. Specifically, developed water supplies in Toledo Bend Reservoir in the Sabine River Basin present a viable alternative for meeting future needs in Region H. Conveyance of these supplies to the Trinity River Basin allows for the use of this water through existing conveyance infrastructure. There are additional challenges in utilizing these supplies in the western portion of Region H where routes of transmission are inhibited by the development of the greater-Houston area.

This memorandum summarizes a high-level concept for the transmission of water from East Texas through canal and pipeline conveyance to diversion points in the Trinity and Brazos River Basins. The strategy, as applied in the 2021 Regional Water Plan (RWP), focuses on conveyance to the Trinity River. Information related to conveyance from the Trinity River to the Brazos River is included for informational purposes.

Strategy Analyses

The project analyses for the East Texas Transfer include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

A review of existing project concepts was conducted in order to develop the concept for transmission

from Toledo Bend Reservoir to Region H. This includes studies by the Sabine River Authority of Texas (SRA-TX) and Lower Neches Valley Authority (LNVA), as well as the existing Trans-Texas Water Program and a study developed in 2014 for the Gulf Coast Water Authority (GCWA). The conveyance route was divided into three distinct segments for consideration in this project.

- Sabine to Neches – Utilize an improved Gulf Coast Pump Station to convey water released from Toledo Bend along the Sabine River to the Neches River Basin.
- Neches to Trinity – Utilize two canal segment connections to convey water diverted from the Neches River from the LNVA main canal to the LNVA-Devers Canal and then on to the Trinity River near the Coastal Water Authority (CWA) Trinity River Pump Station.
- Trinity to Brazos – Develop a pipeline conveyance from Lake Livingston to convey water to the Brazos River Basin. This route will require a repump station that is located near the existing Lake Conroe Dam which allows for this conveyance to serve needs in the San Jacinto River Basin as well.

In order to execute the full scope of this project, water conveyed from eastern basins will be exchanged with water that will be conveyed farther west. For instance, water entering the Trinity at the Trinity River Pump Station will be utilized in lieu of water released from Lake Livingston in order for that water to be moved to the west and into the San Jacinto and Brazos River Basins. This arrangement requires not only significant infrastructure to accomplish but also cooperation of large water rights holders such as the City of Houston in order to make the exchanges possible.

Environmental Considerations

Any project of this magnitude will include environmental challenges to be resolved during planning, design, and construction. To the extent possible, existing canal conveyances are utilized in order to prevent the disturbance of surrounding habitat. Specific environmental obstacles would be identified during routing studies of the proposed alignments.

Particular focus on environmental impacts was assessed for the Trinity to Brazos River segment, as it crosses a section of the Sam Houston National Forest. Preliminary discussions with the United States Forest Service (USFS) indicate that there are opportunities to utilize existing corridors in the area in order to develop a project with minimal impacts. As with other segments, further study in the routing phase of the project will better identify the potential obstacles and approaches to mitigation in order to make this project successful. Further coordination with local, state, and national agencies, such as TPWD and USFWS, is necessary to prevent and mitigate potential environmental impacts.

Project development would also need to consider opportunities to address the potential for introduction of exotic or invasive species into additional basins. For instance, invasive aquatic species, including zebra mussels (*Dreissena polymorpha*), water hyacinth (*Eichhorcia crassipes*), giant salvinia (*Salvinia molesta*), and hydrilla (*Hydrilla verticillata*), have been discovered in Lake Livingston in the Trinity River Basin.

Environmental flows will be impacted through the movement of water from one basin to another. Actual impacts will be determined during the permitting process for the interbasin transfer of water outside of the terms currently granted under permit.

Permitting and Development

Although water rights are currently held for the storage and appropriation of water in the Sabine River Basin, amendments to these permits are required to allow for conveyance to western basins. Furthermore, additional, unappropriated flows may also be permitted in excess of these supplies and conveyed out of the basin for purpose of this project. These steps will require a permit process with the Texas Commission on Environmental Quality (TCEQ) to make water available for the project. Use of this water through interbasin transfer is administered under Section 11.085 of the Texas Water Code which includes several requirements in order to obtain necessary permits:

- Providing the cost of water, category of use, and cost of diverting and conveying water to proposed users.
- Conducting public meetings in the basin of origin and the receiving basin.
- Providing notice of an application to permit holders, county judges, city mayors, groundwater conservation districts, and state legislators associated with each basin.
- Publishing notice of application in newspapers of general circulation.
- Giving consideration to comments received through the permit application’s public process.

In granting the permit, consideration shall be given to:

- The need for water in the basin of origin and receiving basin.
- The availability of alternative water supplies to the receiving basin.
- The purpose of use for the water within the receiving basin.
- Methods for avoiding waste and implementing water conservation and also for putting the transferred water to beneficial use.
- The projected economic impacts.
- Impacts to existing rights, instream uses, water quality, aquatic and riparian habitat, and bays and estuaries.
- The proposed mitigation to the basin of origin.

Finally, the commission may grant the application only to the extent that:

- The detriments to the basin of origin are less than the benefits to the receiving basin.
- The applicant has prepared a drought contingency plan and has developed and implemented a water conservation plan that will result in the highest practicable level of conservation and efficiency.

Additional environmental permitting will also be required for the development of infrastructure critical to project development. This includes but is not limited to:

- U.S. Army Corps of Engineers Section 404 Permit and mitigation plan.
- National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS).
- Cultural Resources Survey and National Register of Historic Places (NRHP) testing.
- Ancillary studies as directed by Texas Parks and Wildlife (TPWD) and U.S. Fish and Wildlife Service (USFWS).

Cost Analysis

Costs were developed for the Sabine to Neches and Neches to Trinity segments of the project. These planning-level estimates are shown below in *Table 1*. It should be noted that these costs do not include the cost of purchasing the water since it is subject to negotiation between the seller (SRA) and future buyers.

Table 1 – East Texas Transfer Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$318,287,543	\$318,287,543	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$111,400,640	\$111,400,640	
3	LAND AND EASEMENTS, ENVIRONMENTAL FEES	1	LS	\$4,902,147	\$4,902,147	
4	INTEREST DURING CONSTRUCTION	1	LS	\$24,250,047	\$24,250,047	
PROJECT CAPITAL COST					\$458,840,377	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$32,284,503	\$32,284,503	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$3,477,247	\$3,477,247	\$3,477,247
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$791,719	\$791,719	\$791,719
TOTAL ANNUAL COST		\$0	\$0	\$0	\$36,553,468	\$36,553,468	\$4,268,965

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$36,553,468	\$36,553,468	\$4,268,965
2	YIELD	-	-	-	250,000	250,000	250,000
3	UNIT COST	\$0	\$0	\$0	\$146	\$146	\$17
TOTAL UNIT COST		\$103					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$19,624,750	\$19,624,750	
2	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1	LS	\$298,662,793	\$298,662,793	
PROJECT COST					\$318,287,543	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$19,624,750	\$490,619	
2	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1.0	%	\$298,662,793	\$2,986,628	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,477,247	

Water Management Strategy Evaluation

Based on the analysis provided above, the East Texas Transfer project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The project would have a low overall unit cost.
Location	1	Considerable interbasin transfer between various entities required to convey water from outside of Region H.
Water Quality	3	No known water quality issues identified.
Environmental Land and Habitat	2	Some environmental issues anticipated but may be mitigated through adequate planning and design.
Environmental Flows	2	Project alters environmental flows patterns in each basin although these impacts will be limited through prescribed environmental flows standards.
Local Preference	3	Currently no significant local support or opposition to the project.
Institutional Constraints	1	Significant challenges to pursue permits and acquire required right-of-way.
Development Timeline	3	Estimated development timeline of 20 years.
Sponsorship	3	Sponsors identified based on needs and the required mechanics of the project. Currently, these stakeholders are not actively committed to development.
Vulnerability	2	Substantial risk to infrastructure related to natural disasters along the Gulf Coast that may impact any portion of the project from the Sabine River Basin to Region H.
Impacts on Other WMS	4	Project enables the use of existing water supplies and may be combined with other projects such as TRA to SJRA Transfer to achieve comprehensive, regional goals.

The East Texas Transfer includes up to 34 miles of new canal construction. The East Texas Transfer will potentially reduce water within the Sabine River Basin below the proposed pump station by as much as 250,000 ac-ft/yr. This volume of water is already permitted for full consumptive use within the basin. The project may result in as much as 125,000 ac-ft/yr of additional flow in the receiving basins assuming 50 percent return flows through municipal effluent. Construction will require permanent impacts to agricultural lands in some areas along the corridor of conveyance, but actual impacts will be determined by final configuration.

Water User Group Application

The East Texas Transfer project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water

provided, and the unit cost of the project as well as other factors that may relate to the suitability of the project to the WUGs served.

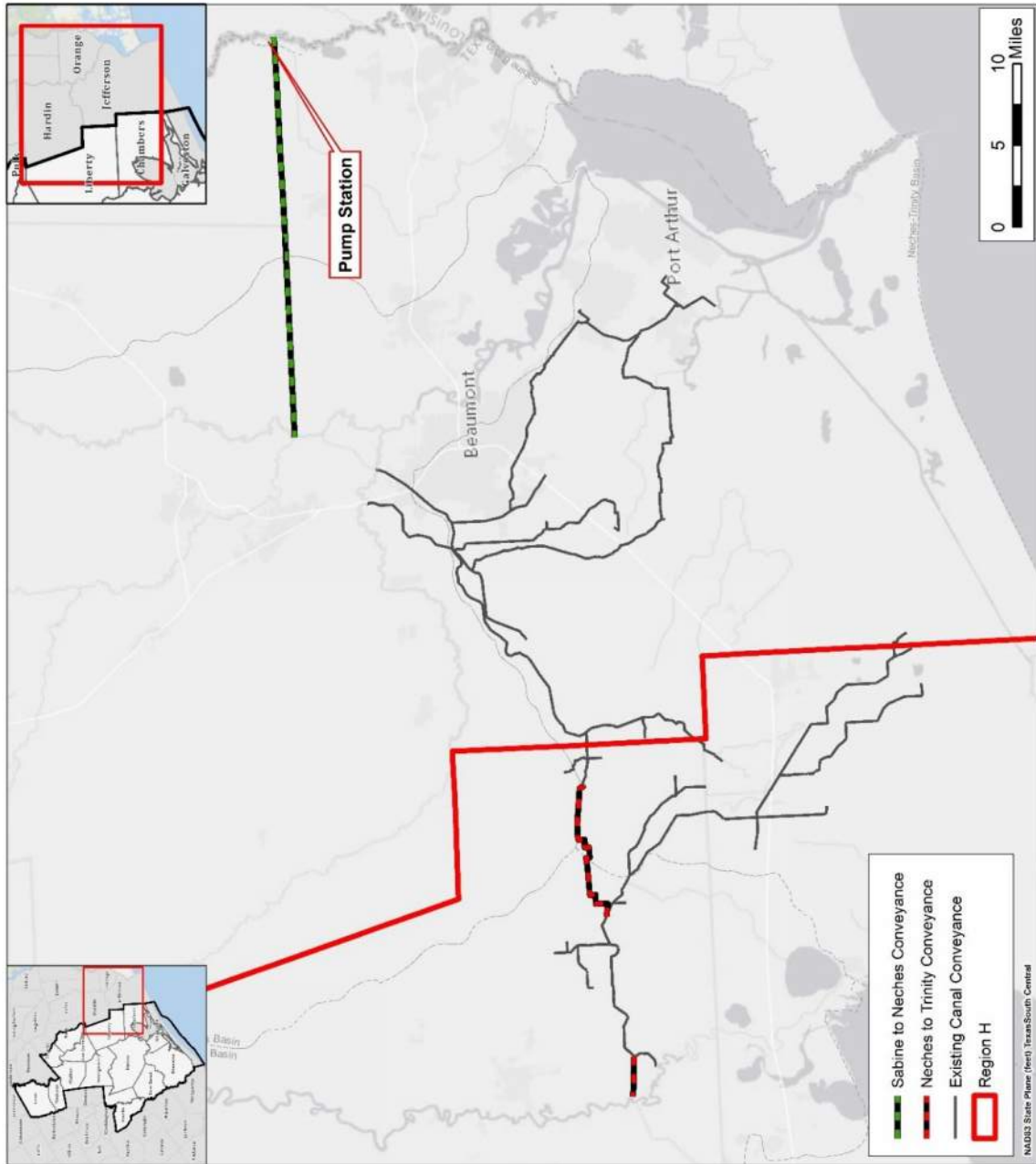
CRITERIA	WUG SUITABILITY
Proximity	This project will deliver water to locations where it may be utilized through existing take points in the Trinity and San Jacinto Basins. The Brazos River Basin may also receive supply through future expansions.
Size	The magnitude of this project dictates that it be accomplished by major water providers in response to large, growing demands among their many customers. In effect, this water may be utilized by WUGs of many sizes that receive water from these major providers.
Water Quality	Project will provide raw water which will require treatment for some uses such as municipal supply.
Unit Cost	The project would have a low overall unit cost. However, additional costs may be added (i.e. treatment costs) for some uses.
Other Factors	This project will be accomplished by specific, regional water providers based on strategic needs when current water supplies become inadequate to meet future needs. Projected needs in the basin of origin and in the receiving basins are summarized in Chapter 4. At the time the IBT is permitted, it will be necessary to demonstrate that permittees have implemented a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within their jurisdiction, per Texas Administrative Code §297.18 and Texas Water Code §11.085. Region H recommends advanced water conservation for all municipal WUGs prior to the application of any strategies, including IBT alternatives.

References

Freese and Nichols, Inc. for Gulf Coast Water Authority. 2014. *Long Range Water Supply Study – Detailed Evaluation of Selected Strategies*.

Sabine River Authority of Texas, Lower Neches Valley Authority, San Jacinto River Authority, City of Houston, Brazos River Authority, and Texas Water Development Board. 1998. *Trans-Texas Water Program, Southeast Area, Final Report*.

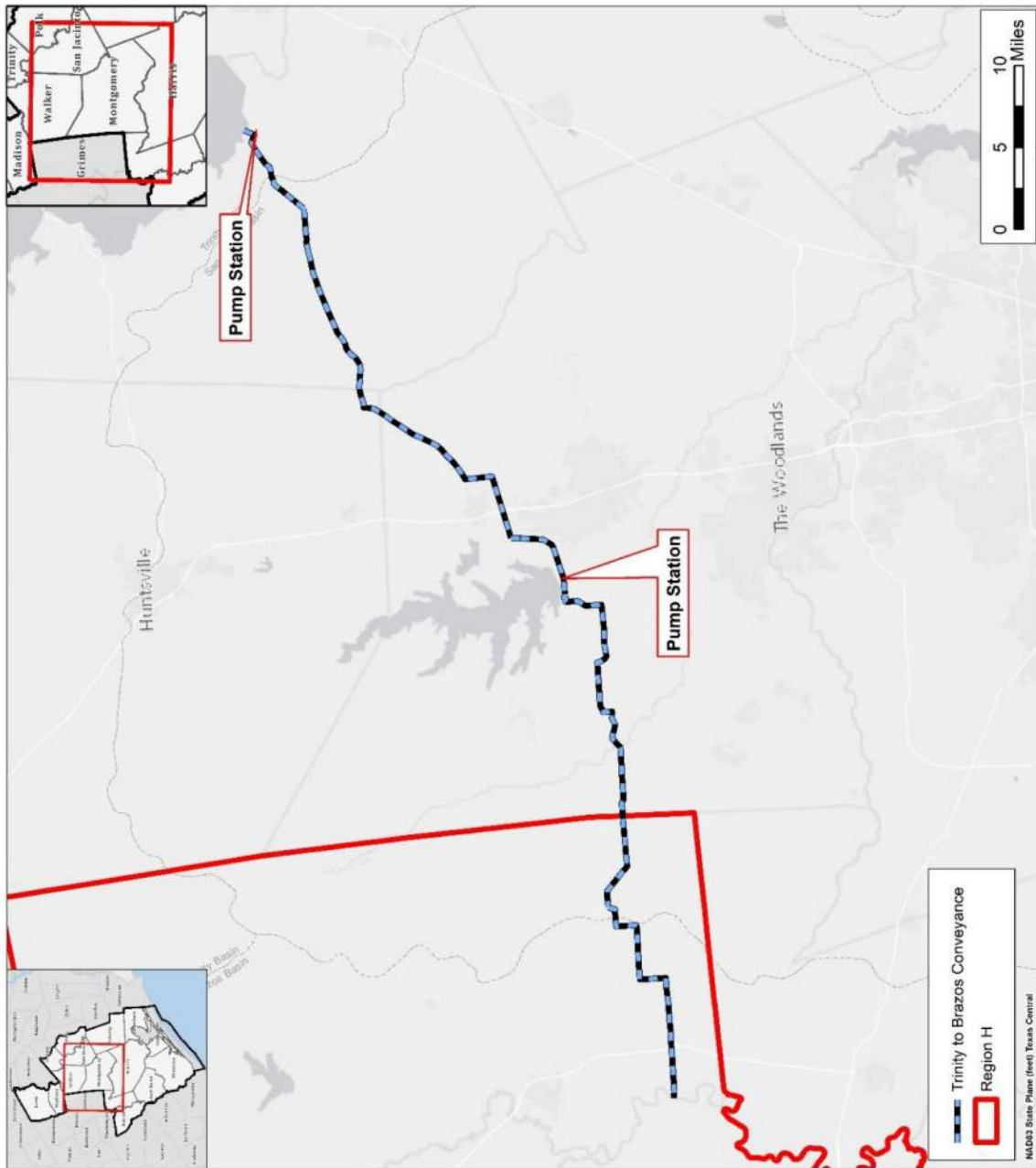
Location Map – Sabine to Trinity



East Texas Interbasin Transfer Sabine to Trinity Segments Location Map



Location Map – Trinity to Brazos



East Texas Interbasin Transfer Trinity to Brazos Segment Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Gulf Coast Water Authority Industrial Raw Water Line
Project ID:	CONV-007
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	33,600 ac-ft/yr (30 mgd)
Implementation Decade:	2020
Development Timeline:	<5 years
Project Capital Cost:	\$45,110,104 (Sept. 2018)
Unit Water Cost (Rounded):	\$104 per ac-ft (during loan period) \$9 per ac-ft (after loan period)

Strategy Description

Gulf Coast Water Authority (GCWA) supplies a number of industrial and agricultural customers in Galveston County with surface water from the Brazos River Basin and San Jacinto-Brazos Coastal Basin. GCWA holds several water rights in these basins and supplies its customers with surface water from these rights as well as contractual supplies purchased from the Brazos River Authority (BRA). In order to meet continually increasing customer demands, GCWA plans to develop a new raw water transmission line to deliver water from GCWA to industrial customers in Galveston County.

Strategy Analyses

The project analyses for the GCWA Industrial Raw Water Line include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The raw water transmission line is expected to convey 30 mgd (33,600 ac-ft/yr). The source water will be diverted from the Brazos River into GCWA's canal system. GCWA has recently constructed a new pump station near its Thomas Mackey Water Treatment Plant which is capable of providing 30 mgd to the transmission line. Additionally, GCWA is pursuing an amendment to existing run-of-river water rights to increase flexibility of diversion locations, which is expected to enhance the quantity of raw water available to this project.

Environmental Considerations

Infrastructure development may result in some construction disturbance. However, the transmission line is expected to follow existing easements in a developed area and is unlikely to impact habitat.

Permitting and Development

Because the supply source for this project is from existing water rights and will be delivered to the pump station through GCWA's canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Development of transmission infrastructure may require some permitting.

Cost Analysis

Planning-level construction and contingency cost estimates for the GCWA Industrial Raw Water Line were provided by the project sponsor and were assumed to be inclusive of engineering, land acquisition, legal costs, and environmental studies and mitigation. Construction costs are associated primarily with construction of approximately 4.35 miles of pipeline of various diameters serving multiple metered take points, along with associated meters, site work, and road crossing remediation. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Interest during construction, annualized debt service, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Estimated costs are presented in *Table 1*.

Table 1 – GCWA Industrial Raw Water Line Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$31,692,122	\$31,692,122	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$11,033,880	\$11,033,880	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$2,384,102	\$2,384,102	
PROJECT CAPITAL COST					\$45,110,104	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$3,173,995	\$3,173,995	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$316,921	\$316,921	\$316,921	\$316,921	\$316,921	\$316,921
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$3,490,917	\$3,490,917	\$316,921	\$316,921	\$316,921	\$316,921

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$3,490,917	\$3,490,917	\$316,921	\$316,921	\$316,921	\$316,921
2	YIELD	33,600	33,600	33,600	33,600	33,600	33,600
3	UNIT COST	\$104	\$104	\$9	\$9	\$9	\$9
TOTAL UNIT COST		\$41					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$31,692,122	\$31,692,122	
PROJECT COST					\$31,692,122	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$31,692,122	\$316,921	
ANNUAL OPERATION AND MAINTENANCE COST					\$316,921	

Water Management Strategy Evaluation

Based on the analysis provided above, the GCWA Industrial Raw Water Line project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	This project supplies raw surface water at a low cost.
Location	5	The project conveys raw water to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal mitigation of impacts is expected to be required.
Environmental Flows	3	Project does not directly impact flows. Increased diversions are associated with existing water rights.
Local Preference	4	No known opposition.
Institutional Constraints	3	Existing easements may be used for conveyance infrastructure, and minimal permitting problems are expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	4	Sponsor is identified and committed to the project.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The GCWA Industrial Raw Water Line is anticipated to include approximately 4.35 miles of pipeline. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project is not anticipated to affect endangered or vulnerable species or to impact agricultural land or production.

Water User Group Application

The GCWA Industrial Raw Water Line project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from existing canals to industrial demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys raw water of quality appropriate for industrial use.
Unit Cost	Project conveys raw water at a low cost.

Location Map



GCWA Industrial Raw Water Line Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Lake Livingston to SJRA Transfer
Project ID:	CONV-008
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	50,000 ac-ft/yr (45 mgd)
Implementation Decade:	2050
Development Timeline:	20 years
Project Capital Cost:	\$245,492,975 (Sept. 2018)
Unit Water Cost (Rounded):	\$437 per ac-ft (during loan period) \$92 per ac-ft (after loan period)

Strategy Description

The San Jacinto River Authority (SJRA) is a wholesale water provider for various municipal, industrial, and irrigation retail customers in the San Jacinto River Basin, including numerous customers in Montgomery County. In order to address demand growth and protect groundwater resources, the San Jacinto River Authority (SJRA) has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing conversion to surface water and other alternative sources besides the Gulf Coast aquifer. These customer needs are currently met using surface water from Lake Conroe. Supplies from Lake Conroe are adequate for initial phases of conversion, but future growth will require the introduction of additional water strategy alternatives.

In April 2013, SJRA secured an option agreement with the Trinity River Authority (TRA) for the purchase of up to 50,000 ac-ft/yr from Lake Livingston. The current option agreement essentially provides SJRA a right of first refusal to enter into a water supply contract with TRA for an initial contract term of not less than 50 years, with provisions in the contract to reserve water at a reservation fee rate for up to 15 years until an agreement must be negotiated for a reservation rate, with a take-or-pay rate being in effect within five years following that date. The option agreement requires SJRA and TRA to enter into a Service Area Agreement by April 2023 and a Water Supply Contract by April 2028.

Currently, under state regulations, this water supply is only permitted to be used within the Trinity River Basin; however, it can be permitted in the future through TCEQ for transfer out of the Trinity Basin to either the Montgomery County or the Highlands service area. During the development of the SJRA Raw Water Supply Master Plan (RWSMP, 2018), SJRA determined that the preferred pathway would utilize this source to serve its customers in Montgomery County. This technical memorandum provides details on the analysis of this strategy as a potential supply for Montgomery County only.

Strategy Analyses

The project analyses for Lake Livingston to SJRA Transfer include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Six options for delivery of the 50,000 ac-ft/yr from Lake Livingston to Lake Conroe were developed during a feasibility study as part of the development of the SJRA RWSMP. At this time, no single option has been identified as the preferred transmission route. Instead, all six options are presented in this memorandum, and the average cost of all options are applied in the 2021 Region H RWP.

Supply Development

The identified supply of 50,000 ac-ft/yr is allocated out of TRA’s existing rights associated with Lake Livingston and the Wallisville Saltwater Barrier. The firm availability of TRA’s existing rights in Lake Livingston ranges from 397,800 ac-ft in 2020 to 382,770 ac-ft in 2070 out of a permitted annual diversion of 403,200 ac-ft. However, the option contract, if exercised, is firm when considering the total availability of TRA supplies from Lake Livingston versus the total of contract commitments. Therefore, the full supply of 50,000 ac-ft/yr would be available in all decades to SJRA. Use of this water by SJRA will require the development of a new conveyance to divert water from the Trinity River Basin and deliver it to Montgomery County.

Six different potential transmission alternatives were evaluated in the SJRA RWSMP for transferring water from Lake Livingston to Lake Conroe. All six alternatives are considered viable options, and the difference in the transmission systems are reflected in the environmental issues associated with each route and the resulting cost estimates.

The location map shown in this technical memorandum identifies the six transmission routes considered for transferring supplies from Lake Livingston to Lake Conroe. Infrastructure details for each of the six options are summarized in *Table 1*.

Table 1. Infrastructure Details of Potential Transmission Routes

Transmission Route Option	Pipeline Length (Feet / [Miles])	Number of Booster Pump Stations
1	143,314/ [27]	1
1a	136,551/ [26]	1
2	129,929/ [25]	1
3	97,124/ [18]	None
4	204,576/ [39]	1
5	184,860/ [35]	1

All options include a 60-inch diameter pipeline and an intake pumping station. The need for booster pump stations along the pipeline was assessed and determined based on the topography along the pipeline alignment and the pipeline length. All routes except Option 4 are limited to discharging water

to Lake Conroe, whereas Option 4 provides the option of either discharging the supplies to Lake Conroe or feeding the water directly to SJRA’s treatment plant, depending on the supply volume being diverted and the need to treat the water or store it in Lake Conroe. However, direct introduction of Lake Livingston water to the treatment facility may present operational issues that require additional expense and effort to mitigate. Options 1, 1a, 2, and 3 divert supplies from the upper reaches of Lake Livingston and are thus limited to the availability of water at the diversion location. In addition to this, these options discharge flows into the northernmost tributaries to Lake Conroe. Options 4 and 5 divert water from Lake Livingston with access to stored water at deeper locations and are discharged at the Lake Conroe dam location or the northeast portions of Lake Conroe where the supplies are more immediately accessible from Lake Conroe.

All transmission routes were considered viable as of the completion of the SJRA RWSMP. Therefore, the environmental considerations, the permitting requirements, and cost details for all the alternatives are discussed in this technical memorandum.

Environmental Considerations

The inter-basin transfer of water from one basin to another is usually associated with potential impacts to water resources and the potential for transmission of undesirable species. Consideration should be given to impacts to both the source and receiving basins in developing a viable project.

A large portion of the pipeline alignment travels through the Sam Houston National Forest. One option for development would be through privately-owned lands within the forest. However, coordination with the United States Forest Service (USFS) indicated that it may be preferable to follow existing corridors through the forest in order to limit impacts to habitat associated with making additional cuts through forested land. This topic will require further consideration prior to development.

Table 2 lists federally and state protected species occurring within the general project area. Some of the species in Table 2 have potential to be affected by the proposed project and would require a presence/absence survey of the selected pipeline alignment prior to construction should the project require permitting through the USACE for anticipated impacts to regulated waters of the U.S. (WOTUS).

Table 2 - Protected Species in Project Area

BIRDS		FEDERAL STATUS	STATE STATUS
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Interior least tern	<i>Sternula antillarum athalassos</i>	LE	E
Piping plover	<i>Charadrius melodus</i>	LT	T
Red-cockaded woodpecker	<i>Picoides borealis</i>	LE	E
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Chub shiner	<i>Notropis potteri</i>		T
Western creek chubsucker	<i>Erimyzon claviformis</i>		T

MAMMALS		FEDERAL STATUS	STATE STATUS
Louisiana black bear	<i>Ursus americanus luteolus</i>		T
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Louisiana pigtoe	<i>Pleurobema riddellii</i>		T
Sandbank pocketbook	<i>Lampsilis satura</i>		T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Louisiana pine snake	<i>Pituophis ruthveni</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT - Federal Proposed for Listing; T - State Listed Endangered/Threatened; "blank" - Rare, but with no regulatory listing status.

Water transfer projects can act as a potential route by which exotic or invasive species are introduced into a basin. Lake Conroe has previously been impacted by invasive species such as water hyacinth (*Eichhorhia crassipes*), giant salvinia (*Salvinia molesta*), and hydrilla (*Hydrilla verticillata*). These species, along with zebra mussels (*Dreissena polymorpha*), have been discovered in Lake Livingston. Challenges presented by the potential introduction of invasive species are expected to be considered during the detailed project planning and design process. Development of interbasin water transfers also requires extensive permitting and coordination with state and federal agencies, such as the Texas Parks and Wildlife Department (TPWD) and USFWS, to address and mitigate potential project impacts.

A flow frequency analysis in the SJRA RWSMP confirmed that the receiving streams considered as potential discharge points are capable of receiving an additional 50,000 ac-ft/yr, but additional environmental evaluation will be required to ascertain any potential effects to the stream. Channel improvements may be required to mitigate the effects of increased flows, particularly for discharge points for upstream of Lake Conroe. Such improvements may require additional USACE and state-level permitting actions. The local floodplain management agency should also be consulted.

Permitting and Development

Although the TRA has an existing water right permit for the development of the Lake Livingston supply, additional permitting will be required to allow the supply to be used in the San Jacinto River Basin. The Lake Livingston to SJRA Transfer includes up to 39 miles of pipelines which will impact an

Basin. The Lake Livingston to SJRA Transfer includes up to 39 miles of pipelines which will impact an associated 100 to 250 acres of land (assuming a 50-ft-wide right-of-way needed for construction), possibly including some in use for agricultural purposes. A portion of this route is through the Sam Houston National Forest which will require coordination to limit impacts to habitat. The project will potentially reduce water within the Trinity River Basin below Lake Livingston by as much as 50,000 ac-ft/yr. However, this volume of water is already permitted for full consumptive use within the basin. The project may result in as much as 25,000 ac-ft/yr of additional flow in the receiving basins assuming 50 percent return flows through municipal effluent. Finally, an Inter-Basin Transfer (IBT) permit will be required to move the Lake Livingston supplies from the Trinity River Basin to the San Jacinto River Basin. Below is a brief discussion on the process of securing an IBT and the potential issues associated with this permit. An IBT can often represent a major permitting effort including:

- Notifications to all county judges in the basin of origin;
- Notifications to mayors of cities with a population over 1,000 (in both the transferring and the receiving basins);
- Notifications to all groundwater conservation districts and water right holders (in transferring and receiving basins);
- Notifications to all legislators (in transferring and receiving basins);
- Public meetings (in transferring and receiving basins);
- Notice in newspapers (in transferring and receiving basins);
- Demonstration of achieving the highest practicable levels of water conservation and efficiency achievable by the applicant; and
- Determination of environmental and social impacts.

Cost Analysis

Planning-level cost estimates were developed for each of the six transmission route options using standard regional planning assumptions. *Table 3* includes an overall summary of the estimated costs for all strategy alternatives evaluated, presented in September 2018 dollars. *Tables Table 4* through *Table 9* below include the overall cost estimates. Estimates do not include the purchase cost of water. For purposes of the RWP, the average estimated capital cost for the six transmission route options (\$245,492,975) was applied as the project capital cost in the RWP.

Table 3. Summary of Capital and Annual Costs

	Capital Cost	Annual Cost During Loan Period (\$/yr)	Annual Cost After Loan Period (\$/yr)	Unit Cost During Loan Period (\$/ac ft)	Unit Cost After Loan Period (\$/ac ft)
Average	\$245,492,975	\$21,855,114	\$4,581,964	\$437	\$92
Minimum	\$141,136,685	\$12,336,825	\$2,406,296	\$247	\$48
Maximum	\$318,363,195	\$28,170,622	\$5,770,245	\$563	\$115

Table 4. Transmission Option 1

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$155,697,861	\$155,697,861	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$50,131,092	\$50,131,092	
3	LAND AND EASEMENTS	1	LS	\$8,960,056	\$8,960,056	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$743,380	\$743,380	
5	INTEREST DURING CONSTRUCTION	1	LS	\$31,642,552	\$31,642,552	
PROJECT CAPITAL COST					\$247,174,941	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$17,391,495	\$17,391,495	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$2,603,499	\$2,603,499	\$2,603,499
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$2,139,469	\$2,139,469	\$2,139,469
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$22,134,463	\$22,134,463	\$4,742,968

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$22,134,463	\$22,134,463	\$4,742,968
2	YIELD	-	-	-	50,000	50,000	50,000
3	UNIT COST	\$0	\$0	\$0	\$443	\$443	\$95
TOTAL UNIT COST		\$327					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$68,434,674	\$68,434,674	
2	PIPELINES	1	LS	\$86,093,769	\$86,093,769	
3	PIPELINE CROSSINGS	1	LS	\$1,169,418	\$1,169,418	
PROJECT COST					\$155,697,861	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$68,434,674	\$1,710,867	
2	PIPELINES	1.0	%	\$86,093,769	\$860,938	
3	PIPELINE CROSSINGS	1.0	%	\$1,169,418	\$11,694	
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000	
ANNUAL OPERATION AND MAINTENANCE COST					\$2,603,499	

Table 5. Transmission Option 1a

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$150,334,853	\$150,334,853
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$48,454,827	\$48,454,827
3	LAND AND EASEMENTS	1	LS	\$8,587,209	\$8,587,209
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$711,358	\$711,358
5	INTEREST DURING CONSTRUCTION	1	LS	\$30,549,669	\$30,549,669
PROJECT CAPITAL COST					\$238,637,917

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$16,790,821	\$16,790,821	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$2,529,660	\$2,529,660	\$2,529,660
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$2,086,166	\$2,086,166	\$2,086,166
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$21,406,646	\$21,406,646	\$4,615,825

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$21,406,646	\$21,406,646	\$4,615,825
2	YIELD	-	-	-	50,000	50,000	50,000
3	UNIT COST	\$0	\$0	\$0	\$428	\$428	\$92
TOTAL UNIT COST							\$316

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$67,087,426	\$67,087,426
2	PIPELINES	1	LS	\$82,078,009	\$82,078,009
3	PIPELINE CROSSINGS	1	LS	\$1,169,418	\$1,169,418
PROJECT COST					\$150,334,853

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$67,087,426	\$1,677,186
2	PIPELINES	1.0	%	\$82,078,009	\$820,780
3	PIPELINE CROSSINGS	1.0	%	\$1,169,418	\$11,694
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000
ANNUAL OPERATION AND MAINTENANCE COST					\$2,529,660

Table 6. Transmission Option 2

OPINION OF PROBABLE CONSTRUCTION COST	September 2018
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ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$145,024,641	\$145,024,641
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$46,795,265	\$46,795,265
3	LAND AND EASEMENTS	1	LS	\$8,174,338	\$8,174,338
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$680,004	\$680,004
5	INTEREST DURING CONSTRUCTION	1	LS	\$29,461,212	\$29,461,212
PROJECT CAPITAL COST					\$230,135,461

ITEM	DESCRIPTION	ANNUAL TOTAL					
		2020	2030	2040	2050	2060	2070
ANNUAL COST SUMMARY							
1	DEBT SERVICE	\$0	\$0	\$0	\$16,192,579	\$16,192,579	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$2,456,608	\$2,456,608	\$2,456,608
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$2,032,862	\$2,032,862	\$2,032,862
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$20,682,049	\$20,682,049	\$4,489,470

ITEM	DESCRIPTION	ANNUAL TOTAL						
		2020	2030	2040	2050	2060	2070	
ANNUAL COST SUMMARY								
1	ANNUAL COST	\$0	\$0	\$0	\$20,682,049	\$20,682,049	\$4,489,470	
2	YIELD	-	-	-	50,000	50,000	50,000	
3	UNIT COST	\$0	\$0	\$0	\$414	\$414	\$90	
TOTAL UNIT COST								\$306

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$65,757,457	\$65,757,457
2	PIPELINES	1	LS	\$78,097,767	\$78,097,767
3	PIPELINE CROSSINGS	1	LS	\$1,169,418	\$1,169,418
PROJECT COST					\$145,024,641

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$65,757,457	\$1,643,936
2	PIPELINES	1.0	%	\$78,097,767	\$780,978
3	PIPELINE CROSSINGS	1.0	%	\$1,169,418	\$11,694
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000
ANNUAL OPERATION AND MAINTENANCE COST					\$2,456,608

Table 7. Transmission Option 3

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$92,165,270	\$92,165,270	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$29,580,852	\$29,580,852	
3	LAND AND EASEMENTS	1	LS	\$830,419	\$830,419	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$492,272	\$492,272	
5	INTEREST DURING CONSTRUCTION	1	LS	\$18,067,871	\$18,067,871	
PROJECT CAPITAL COST					\$141,136,685	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$9,930,529	\$9,930,529	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$1,521,034	\$1,521,034	\$1,521,034
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$885,262	\$885,262	\$885,262
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$12,336,825	\$12,336,825	\$2,406,296

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$12,336,825	\$12,336,825	\$2,406,296
2	YIELD	-	-	-	50,000	50,000	50,000
3	UNIT COST	\$0	\$0	\$0	\$247	\$247	\$48
TOTAL UNIT COST							\$181

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$38,625,426	\$38,625,426	
2	PIPELINES	1	LS	\$53,072,078	\$53,072,078	
3	PIPELINE CROSSINGS	1	LS	\$467,767	\$467,767	
PROJECT COST					\$92,165,270	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$38,625,426	\$965,636	
2	PIPELINES	1.0	%	\$53,072,078	\$530,721	
3	PIPELINE CROSSINGS	1.0	%	\$467,767	\$4,678	
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000	
ANNUAL OPERATION AND MAINTENANCE COST					\$1,521,034	

Table 8. Transmission Option 4

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$200,006,916	\$200,006,916	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$63,737,142	\$63,737,142	
3	LAND AND EASEMENTS	1	LS	\$12,829,843	\$12,829,843	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$1,033,446	\$1,033,446	
5	INTEREST DURING CONSTRUCTION	1	LS	\$40,755,847	\$40,755,847	
PROJECT CAPITAL COST					\$318,363,195	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$22,400,377	\$22,400,377	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$3,140,589	\$3,140,589	\$3,140,589
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$2,629,656	\$2,629,656	\$2,629,656
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$28,170,622	\$28,170,622	\$5,770,245

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$28,170,622	\$28,170,622	\$5,770,245
2	YIELD	-	-	-	50,000	50,000	50,000
3	UNIT COST	\$0	\$0	\$0	\$563	\$563	\$115
TOTAL UNIT COST		\$414					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$74,701,338	\$74,701,338	
2	PIPELINES	1	LS	\$122,966,743	\$122,966,743	
3	PIPELINE CROSSINGS	1	LS	\$2,338,836	\$2,338,836	
PROJECT COST					\$200,006,916	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$74,701,338	\$1,867,533	
2	PIPELINES	1.0	%	\$122,966,743	\$1,229,667	
3	PIPELINE CROSSINGS	1.0	%	\$2,338,836	\$23,388	
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,140,589	

Table 9. Transmission Option 5

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$187,078,515	\$187,078,515
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$59,804,757	\$59,804,757
3	LAND AND EASEMENTS	1	LS	\$11,600,043	\$11,600,043
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$940,094	\$940,094
5	INTEREST DURING CONSTRUCTION	1	LS	\$38,086,242	\$38,086,242
PROJECT CAPITAL COST					\$297,509,651

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$20,933,099	\$20,933,099	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$2,995,146	\$2,995,146	\$2,995,146
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$2,471,834	\$2,471,834	\$2,471,834
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$26,400,080	\$26,400,080	\$5,466,980

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$26,400,080	\$26,400,080	\$5,466,980
2	YIELD	-	-	-	50,000	50,000	50,000
3	UNIT COST	\$0	\$0	\$0	\$528	\$528	\$109
TOTAL UNIT COST							\$388

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$73,624,047	\$73,624,047
2	PIPELINES	1	LS	\$111,115,633	\$111,115,633
3	PIPELINE CROSSINGS	1	LS	\$2,338,836	\$2,338,836
PROJECT COST					\$187,078,515

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$73,624,047	\$1,840,601
2	PIPELINES	1.0	%	\$111,115,633	\$1,111,156
3	PIPELINE CROSSINGS	1.0	%	\$2,338,836	\$23,388
4	CONNECTION, ADDITION OF LIME AND CARBON DIOXIDE	1.0	LS	\$20,000	\$20,000
ANNUAL OPERATION AND MAINTENANCE COST					\$2,995,146

Water Management Strategy Evaluation

Based on the analysis provided above, the Lake Livingston to SJRA Transfer project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

Criteria	Rating	Explanation
Cost	4	Relatively low-cost project for delivery of raw water. Total cost will also include contract cost of water.
Location	2	Project development requires IBT.
Water Quality	3	No known impacts to water quality.
Environmental Land and Habitat	2	Some environmental issues to address related to conveyance route.
Environmental Flows	2	Project will reduce flows within the Trinity Basin in the terms of existing permit but will provide increased return flows in the San Jacinto Basin.
Local Preference	3	Some local support as well as local opposition to development of a surface water supply in addition to Lake Conroe in Montgomery County.
	2	Property acquisition required in order to provide for pump station site and pipeline corridor.
Development Timeline	4	Project development within 10 years.
Sponsorship	4	SJRA views this project as a key major strategy in an approach to reduce Montgomery County's dependence on groundwater.
Vulnerability	4	Slight risk from natural or man-made disasters related to infrastructure.
Impacts on Other WMS	4	This project takes advantage of an existing water source by making it available to demand centers.

Water User Group Application

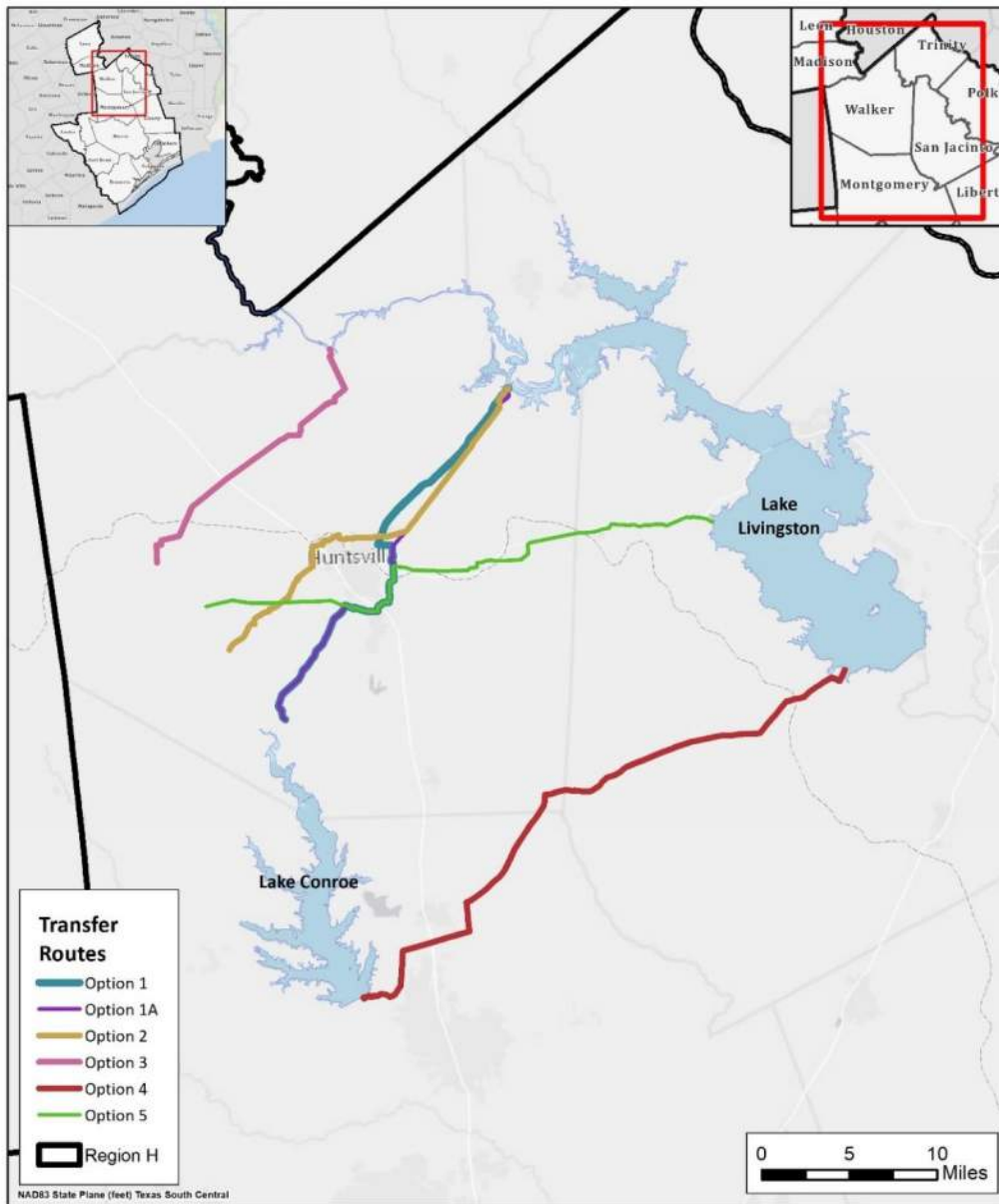
The Lake Livingston to SJRA Transfer project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Criteria	WUG Suitability
Proximity	The project provides water for the SJRA service area by delivering water to tributaries of Lake Conroe and/or the SJRA water treatment plant.
Size	The magnitude of this project provides for a significant additional supply to Montgomery County and may serve a large and flexible demand base throughout the county.
Water Quality	This project provides raw water that may be treated through existing infrastructure in order to provide water for municipal and other uses.
Unit Cost	The costs for this project make it suited to providing for municipal and industrial needs.
Other Factors	The project is associated with water supplies that have already been obtained by SJRA through agreement with TRA. At the time the IBT is permitted, it will be necessary to demonstrate that permittees have implemented a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within their jurisdiction, per Texas Administrative Code §297.18 and Texas Water Code §11.085. Region H recommends advanced water conservation for all municipal WUGs prior to the application of any strategies, including IBT alternatives. Projected needs in the basin of origin and in the receiving basins are summarized in Chapter 4.

References

San Jacinto River Authority. 2018. *Raw Water Supply Master Plan*.

Location Map



Lake Livingston to SJRA Transfer Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	LNVA Neches-Trinity Basin Interconnect
Project ID:	CONV-009
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	67,000 ac-ft/yr (60 MGD)
Implementation Decade:	2040
Development Timeline:	15 years
Project Capital Cost:	\$103,316,000 (Sept. 2018)
Unit Water Cost (Rounded):	\$135 per ac-ft (during loan period) \$27 per ac-ft (after loan period)

Strategy Description

As a part of its long-term strategic water plan, the Lower Neches Valley Authority (LNVA) is planning to construct an approximately 13-mile, 84-inch diameter pipeline and a 62,000 gpm pump station connecting the Freeman Lateral of the LNVA system with the Devers 3rd Main Canal of the Devers system. The connection point to the Freeman Lateral is located within the Neches-Trinity Coastal Basin; however, the intake for this canal is on Pine Island Bayou within the Neches River Basin. The proposed pipeline enables the movement of Neches River water westward toward the upper reaches of the Devers Canal system and potentially back into the Trinity River. The water from this strategy will enable LNVA to provide water for irrigation customers in Region H, as well as to serve new industries as they emerge along the IH-10 corridor.

The cost for this project includes infrastructure and operational costs related to water conveyance. Ultimately, individual water users will make contracts with LNVA to purchase the water supply created by this project. The cost for raw water will need to be negotiated with LNVA and will reflect the wholesale water rates of this entity at the time a contract is made.

Strategy Analyses

The project analyses for the LNVA Neches-Trinity Basin Interconnect project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The quantity of supply from this strategy represents the estimated average volume of water that could be conveyed through the pipeline and was estimated by LNVA as part of its long-term planning. This equates to approximately 67,000 ac-ft/yr beginning in 2040 and continuing through the planning period. The reliability of this water supply is considered high due to the availability of water from the Neches River.

Environmental Considerations

The impact to the environment due to pipeline and pump station construction is expected to be moderate, and the conveyance of water from the Neches River to Liberty County should have minimal impact to environmental water needs in Jefferson County, no impact to the surrounding habitat, and a low impact to cultural resources in the area. Water transfers may also act as a potential route by which exotic or invasive species are introduced into a basin. Potential species impacts and examination of opportunities to avoid or mitigate impacts would be expected to be considered during the detailed project planning and design process. There are no bays or estuaries in close proximity to the project area located in Jefferson and Liberty Counties. Further study in the design phase of the project would identify in greater detail the potential obstacles and approaches to mitigation in order to make the project successful.

Permitting and Development

The development of this strategy is dependent on the long-term planning goals of LNVA and customers in Liberty County. Development of transmission infrastructure may require some permitting.

Cost Analysis

Planning level cost estimates for the LNVA Neches-Trinity Basin Interconnect project are included in the table below. Projected capital cost estimates were provided by LNVA. Capital costs include planning, design, real estate, environmental and permitting, and construction of conveyance infrastructure. The annual cost was estimated assuming a debt service of 3.5% for 20 years, in accordance with standard TWDB regional water planning cost assumptions. Costs are presented in September 2018 equivalent costs in *Table 1*.

Table 1 – LNVA Neches-Trinity Basin Interconnect Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$53,500,000	\$53,500,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$20,790,000	\$20,790,000	
3	PLANNING, DESIGN, AND REAL ESTATE	1	LS	\$11,800,000	\$11,800,000	
4	ENVIRONMENTAL AND PERMITTING	1	LS	\$4,000,000	\$4,000,000	
5	INTEREST DURING CONSTRUCTION	1	LS	\$13,226,000	\$13,226,000	
PROJECT CAPITAL COST						\$103,316,000

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$7,269,000	\$7,269,000	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$752,000	\$752,000	\$752,000	\$752,000
3	PUMPING ENERGY COSTS	\$0	\$0	\$1,045,000	\$1,045,000	\$1,045,000	\$1,045,000
TOTAL ANNUAL COST		\$0	\$0	\$9,066,000	\$9,066,000	\$1,797,000	\$1,797,000

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$9,066,000	\$9,066,000	\$1,797,000	\$1,797,000
2	YIELD	-	-	67,000	67,000	67,000	67,000
3	UNIT COST	\$0	\$0	\$135	\$135	\$27	\$27
TOTAL UNIT COST							\$81

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$13,746,349	\$13,746,349	
2	PIPELINES	1	LS	\$39,753,651	\$39,753,651	
PROJECT COST						\$53,500,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$13,746,349	\$343,659	
2	PIPELINES	1.0	%	\$39,753,651	\$397,537	
3	MOWING EXPENSES	1.0	LS	\$10,500	\$10,500	
ANNUAL OPERATION AND MAINTENANCE COST						\$751,695

Water Management Strategy Evaluation

This LNVA Neches-Trinity Basin Interconnect project benefits irrigators and industrial water users who may become customers of LNVA. This strategy is expected to have a positive impact on the water supply security of these future customers. This project will reduce the demands on other water resources located in Liberty County. From a social and economic perspective, this voluntary redistribution of water will be beneficial because it provides water for economic growth. Based on the analysis provided above, the LNVA Neches-Trinity Basin Interconnect project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table

below.

Criteria	Rating	Explanation
Cost	5	The project would have a relatively low overall unit cost. Total costs for customers will also include the contract cost of water.
Location	3	Interbasin transfer between entities is required to convey water from outside of Region H.
Water Quality	3	No known water quality issues identified.
Environmental Land and Habitat	3	Environmental concerns are limited and impacts along the pipeline route can be mitigated during development.
Environmental Flows	2	Project may reduce instream flows within the Neches River Basin, with diversions made within the terms of an existing permit.
Local Preference	3	Currently no significant local support or opposition to the project.
Institutional Constraints	3	Permitting and development expected with minimal problems. Rural property along route is available.
Development Timeline	4	Project to be developed within 15 years.
Sponsorship	5	LNVA is identified as a sponsor and is actively pursuing development.
Vulnerability	5	Minimal risk from natural or man-made disasters related to infrastructure.
Impacts on Other WMS	3	Project is not anticipated to impact other management strategies.

The LNVA Neches-Trinity Basin Interconnect will include approximately 13 miles of pipeline. The project is not anticipated to affect endangered or vulnerable species or to impact agricultural land or production. This strategy is expected to have a positive impact on the water supply security of agriculture.

Water User Group Application

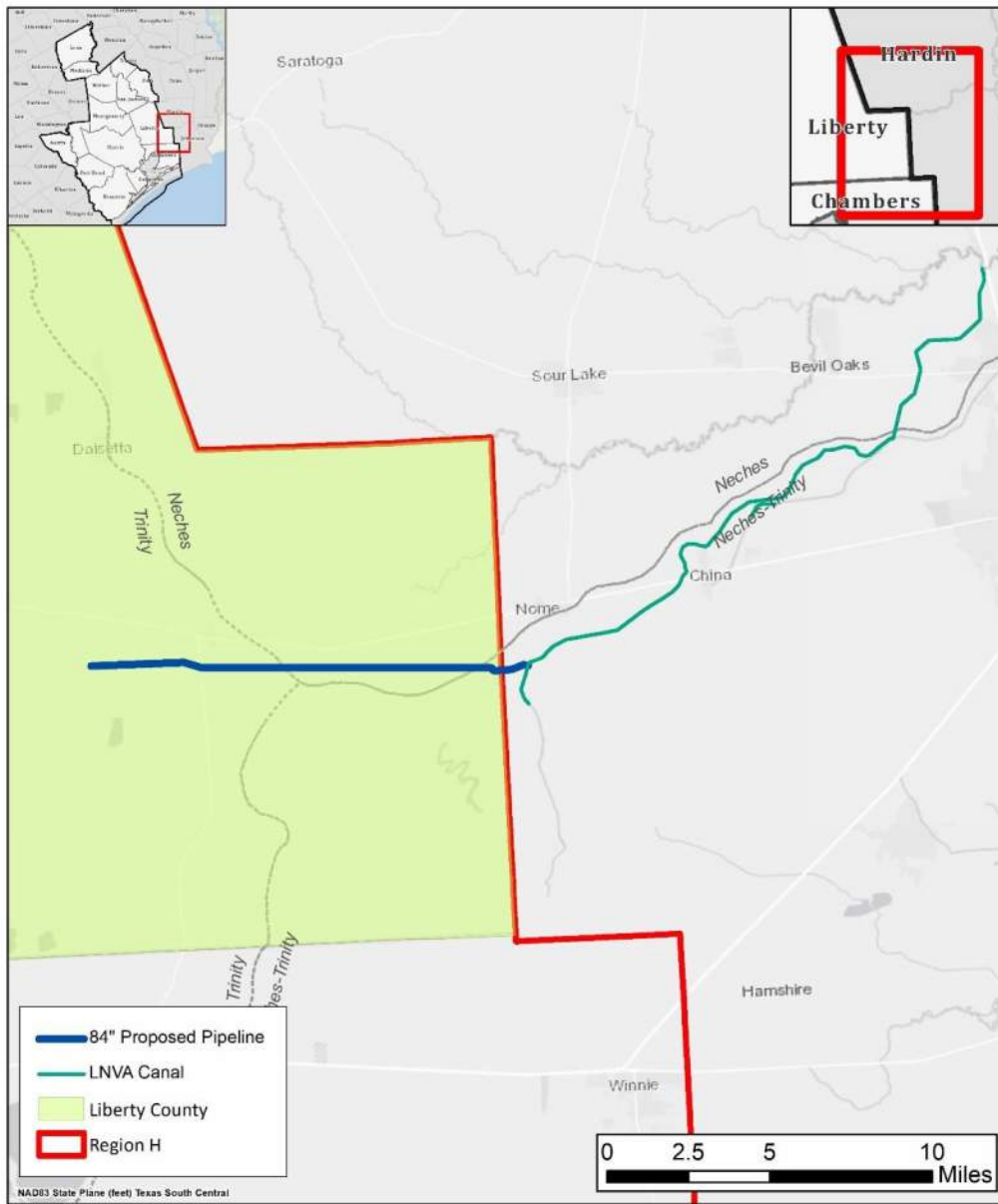
The LNVA Neches-Trinity Basin Interconnect project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

Criteria	WUG Suitability
Proximity	The proposed pipeline enables the transfer of water in Jefferson County (Region I) to Liberty County (Region H). This will enable LNVA to provide water for irrigation customers in Region H, as well as to serve industries along the IH-10 corridor.
Size	The capacity of this project provides supply to meet LNVA’s irrigation customer demands, as well as to potentially supply other industries in Region H in Liberty County.
Water Quality	This project will convey raw water, which is suitable for irrigation use. If the water will be used for other industries, treatment may be required.
Unit Cost	The costs of this project are low compared to many other infrastructure projects in the RWP.
Other Factors	This project is identified primarily for irrigation customers in Liberty County but could also potentially supply other customers with future needs. Projected needs in the basin of origin and in the receiving basins are summarized in Chapter 4. At the time the project is permitted, it will be necessary to demonstrate that permittees have implemented a water conservation plan that will result in the highest practicable levels of water conservation and efficiency achievable within their jurisdiction, per Texas Administrative Code §297.18 and Texas Water Code §11.085. Region H recommends advanced water conservation for all municipal WUGs prior to the application of any strategies.

References

Lower Neches Valley Authority. 2020. *30-Year Long Term Strategic Plan*.

Location Map



LNVA Neches-Trinity Basin Interconnect Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Fort Bend Water Authority Phase 2 Distribution Segments
Project ID:	CONV-010
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	62,496 ac-ft/yr (55.8 mgd) (conveyance only – supply generated by other projects)
Implementation Decade:	2030 (2024)
Development Timeline:	5 years
Project Capital Cost:	\$83,859,522 (Sept. 2018)
Unit Water Cost (Rounded):	\$104 per ac-ft (during loan period) \$9 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Fort Bend Water Authority (NFBWA) and West Harris County Regional Water Authority (WHCRWA) have contracted with the City of Houston (COH) to receive treated surface water. Both Authorities have already developed transmission and distribution infrastructure to meet their initial obligations for reducing groundwater demand and are receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, NFBWA must expand the distribution infrastructure network through which it supplies its member districts.

Strategy Analyses

The project analyses for the NFBWA Phase 2 Distribution Segments include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The NFBWA will deliver surface water to the majority of the MUDs and the City of Fulshear within the Authority to meet the requirements of its Groundwater Reduction Plan (GRP) approved by the FBSD. The NFBWA Phase 2 Distribution Segments will allow for greater overall volume to be conveyed and conversion of additional districts to surface water.

Environmental Considerations

The NFBWA has engaged in a variety of activities and investigations for projects within the Authority, as summarized below. Note that the following descriptions are not limited to studies of the NFBWA Phase 2 Distribution Segments and also include studies related to NFBWA and WHCRWA's proposed future shared transmission infrastructure. The Authority relies on COH and WHCRWA to address the environmental considerations of projects for which those entities are primarily responsible.

- Threatened and Endangered Species Study - There were no threatened and/or endangered species identified at the time of field investigation. This does not eliminate the possibility of threatened and/or endangered species inhabiting the proposed route area at the time of construction. Further, reconnaissance did identify some habitats conducive for threatened and/or endangered species. At the time of final design and construction, an additional investigation of the area will be required to verify these species have not inhabited the construction area.
- Cultural Resources Study – Investigation revealed limited potential for cultural/archeological resources within the portion along Buffalo Bayou. The majority of this route lies within residential development where any cultural/archeological resources have been previously handled by the landowner. It is anticipated that the Texas Historical Commission will require field investigations prior to construction to verify no archeological sites exist along the proposed route.
- Reconnaissance of Potential Wetlands and Waters of the United States - Historical aerial photography and National Wetland Inventory (NWI) maps identified areas displaying characteristics consistent with potential wetland habitats. Field reconnaissance identified these areas and verified that in the opinion of the environmental consultant, the landscape does not appear to contain any potential wetlands. Depending on the amount of time between the investigation and construction, the Authority may reconfirm this assessment. If conditions have changed, then permitting or avoidance (trenchless construction) of these aquatic resources would be decided at that time. Given that the on-site investigation did not reveal any obvious wetland features, any subtle or smaller wetlands determined to be in the construction zone will most likely be avoided via trenchless construction.
- Limited Phase 1 Environmental Site Assessment (ESA) - The Phase 1 ESA investigation documented environmental conditions that could impact future land use or planned development, including installation of water line segments. No known hazardous material sites or oil and gas sites were identified. The proposed alignments are within the vicinity of gas stations; however, the alignment is located to avoid close proximity to these gas stations. Segments have a low potential for presence of hazardous materials or substances based on research conducted for this report.

Permitting and Development

The North Fort Bend Water Authority is subject to requirements imposed by COH as well as the State of Texas. Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property. As indicated above, the Authority relies on the COH and WHCRWA to address the permitting and development requirements of projects for which those entities are primarily responsible.

Cost Analysis

NFBWA’s engineering consultant provided Region H with estimated capital costs for the NFBWA Phase 2 Distribution Expansion, including costs associated with engineering, acquisition, and construction. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Environmental study and mitigation costs, which were not included in the preliminary estimate, were assumed using standard Regional Planning costing assumptions to be equal to land acquisition costs. Debt service and annual operations and maintenance costs were also calculated using standard Regional Planning procedures. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – NFBWA Phase 2 Distribution Segments Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$59,006,248	\$59,006,248	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$10,132,140	\$10,132,140	
3	LAND AND EASEMENTS	1	LS	\$1,992,852	\$1,992,852	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$1,992,852	\$1,992,852	
5	INTEREST DURING CONSTRUCTION	1	LS	\$10,735,430	\$10,735,430	
PROJECT CAPITAL COST					\$83,859,522	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$5,900,446	\$5,900,446	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$590,062	\$590,062	\$590,062	\$590,062	\$590,062
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
5	OTHER (HIDE IF INACTIVE)						
TOTAL ANNUAL COST		\$0	\$6,490,509	\$6,490,509	\$590,062	\$590,062	\$590,062

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$6,490,509	\$6,490,509	\$590,062	\$590,062	\$590,062
2	YIELD	-	62,496	62,496	62,496	62,496	62,496
3	UNIT COST	\$0	\$104	\$104	\$9	\$9	\$9
TOTAL UNIT COST							\$47

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$59,006,248	\$59,006,248	
PROJECT COST					\$59,006,248	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$59,006,248	\$590,062	
ANNUAL OPERATION AND MAINTENANCE COST					\$590,062	

Water Management Strategy Evaluation

Based on the analysis provided above, the NFBWA Phase 2 Distribution Segments project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The NFBWA Phase 2 Distribution Segments, while not directly generating supply, allow conveyance with small additional cost.
Location	4	Reflects conveyance infrastructure from major transmission pipelines to demand centers.
Water Quality	3	
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	5	Project to be developed within 5 years.
Sponsorship		Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS		No known significant impacts to other projects.

The NFBWA Phase 2 Distribution Segments include up to 30 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The NFBWA Phase 2 Distribution Segments project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality

of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve NFBWA and any entities that it provides with water supply.

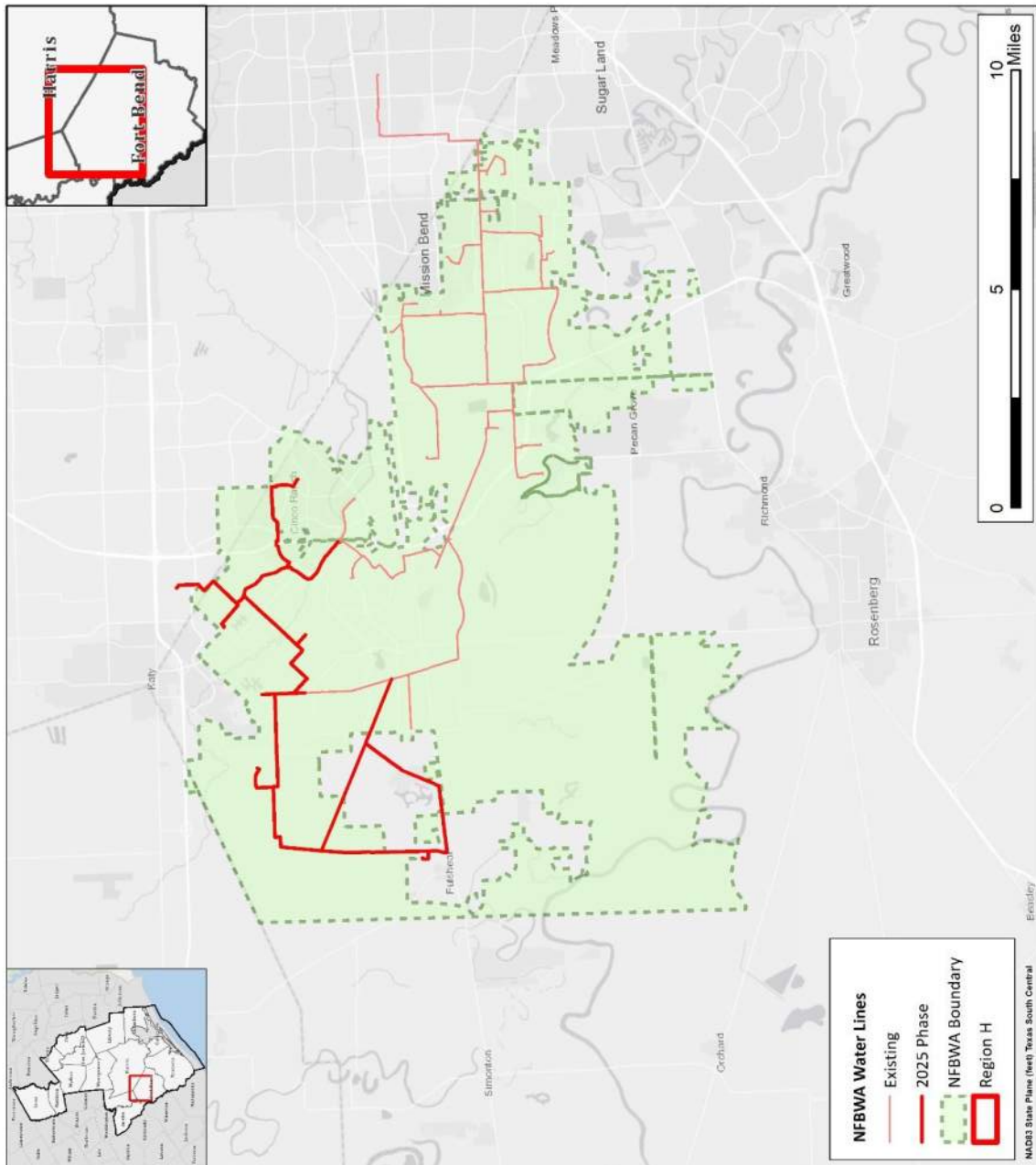
CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds small amount to unit cost of NFBWA’s surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

North Fort Bend Water Authority Groundwater Reduction Plan. 2008. Brown and Gay, Inc.

Location Map



NFBWA Phase 2 Distribution Segments Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Harris County Regional Water Authority Distribution Expansion
Project ID:	CONV-011
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	143,360 ac-ft/yr (128 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	<10 years (per phase)
Project Capital Cost:	\$919,703,916 (Sept. 2018)
Unit Water Cost (Rounded):	\$489 per ac-ft (during loan period) \$44 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged heavy pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Harris County Regional Water Authority (NHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to its initial obligations for reducing groundwater demand and are receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, NHCRWA is developing a phased expansion of the distribution infrastructure network through which it supplies its member districts, allowing for greater overall volume conveyed and conversion of additional districts to surface water.

Strategy Analyses

The project analyses for NHCRWA Distribution Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its

Groundwater Reduction Plan (GRP) program, increasing its supply reservation and planning for large scale transmission to its service area. NHCRWA will engage in a phased expansion of the distribution infrastructure network through which it supplies its member districts, allowing for greater overall volume conveyed and conversion of additional districts to surface water. The ongoing year 2025 expansion will include development an expanded distribution pipeline network and two new pump station facilities, one near the Hardy Toll Road and Richey Road, and the other west of SH 249 near the Heron Lakes subdivision. The existing Louetta Regional Water Plant will be expanded, and two groundwater wells will be added to the system. The year 2025 expansion will bring the total number of districts in the NHCRWA surface water service area to 105. A subsequent 2035 expansion of the distribution pipeline system will allow surface water to be conveyed to an additional 36 districts. Other infrastructure measures implemented in this phase will include three additional wells, a new West Regional Water Plant, and enhancements to the Spears Road Pump Station and Louetta Regional Water Plant. The 2045 conversion phase will involve limited expansion of infrastructure and add an additional wholesale customer receiving surface water.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

NHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

Detailed estimates of capital costs for the 2025 phase of the NHCRWA Distribution Expansion were provided by the project sponsor in their associated SWIFT funding application. Construction costs associated with 36-inch and 84-inch transmission lines, which were included in the SWIFT funding application, are not reflected in this cost estimate but are instead included in the costs associated with the NHCRWA Transmission Line project. For 2035 and 2045 phases of the NHCRWA Distribution Expansion, estimates of capital cost from the NHCRWA GRP were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Other cost components not included in the GRP, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard Regional Planning costing assumptions. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – NHCRWA Distribution Expansion Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$463,988,431	\$463,988,431	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$282,316,021	\$282,316,021	
3	LAND AND EASEMENTS	1	LS	\$81,529,284	\$81,529,284	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$436,490	\$436,490	
5	INTEREST DURING CONSTRUCTION	1	LS	\$91,433,690	\$91,433,690	
PROJECT CAPITAL COST						\$919,703,916

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2025 PHASE)	\$0	\$35,315,080	\$35,315,080	\$0	\$0	\$0
2	DEBT SERVICE (2035 PHASE)	\$0	\$0	\$28,480,030	\$28,480,030	\$0	\$0
3	DEBT SERVICE (2045 PHASE)	\$0	\$0	\$0	\$916,248	\$916,248	\$0
4	OPERATION AND MAINTENANCE (2025 PHASE)	\$0	\$3,210,133	\$3,210,133	\$3,210,133	\$3,210,133	\$3,210,133
5	OPERATION AND MAINTENANCE (2035 PHASE)	\$0	\$0	\$3,071,951	\$3,071,951	\$3,071,951	\$3,071,951
6	OPERATION AND MAINTENANCE (2045 PHASE)	\$0	\$0	\$0	\$66,276	\$66,276	\$66,276
7	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
8	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$38,525,213	\$70,077,194	\$35,744,637	\$7,264,607	\$6,348,360

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$38,525,213	\$70,077,194	\$35,744,637	\$7,264,607	\$6,348,360
2	YIELD	-	143,360	143,360	143,360	143,360	143,360
3	UNIT COST	\$0	\$269	\$489	\$249	\$51	\$44
TOTAL UNIT COST							\$220

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS (2035 PHASE)	1	LS	\$60,429,004	\$60,429,004	
2	PIPELINES (2025 PHASE)	1	LS	\$231,897,727	\$231,897,727	
3	PIPELINES (2035 PHASE)	1	LS	\$149,725,948	\$149,725,948	
4	PIPELINES (2045 PHASE)	1	LS	\$6,627,591	\$6,627,591	
5	WATER TREATMENT PLANTS (2025 PHASE)	1	LS	\$8,911,558	\$8,911,558	
6	WELL FIELDS (2035 PHASE)	1	LS	\$6,396,602	\$6,396,602	
PROJECT COST						\$463,988,431

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS (2035 PHASE)	2.5	%	\$60,429,004	\$1,510,725	
2	PIPELINES (2025 PHASE)	1.0	%	\$231,897,727	\$2,318,977	
3	PIPELINES (2035 PHASE)	1.0	%	\$149,725,948	\$1,497,259	
4	PIPELINES (2045 PHASE)	1.0	%	\$6,627,591	\$66,276	
5	WATER TREATMENT PLANTS (2025 PHASE)	10.0	%	\$8,911,558	\$891,156	
6	WELL FIELDS (2035 PHASE)	1.0	%	\$6,396,602	\$63,966	
ANNUAL OPERATION AND MAINTENANCE COST						\$6,348,360

The NHCRWA Distribution Expansion includes up to 155 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The NHCRWA Distribution Expansion will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water Management Strategy Evaluation

Based on the analysis provided above, the NHCRWA Distribution Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	The project unit cost is moderately low during each phase of debt service and declines after debt service completion.
Location	4	Reflects distribution infrastructure from major transmission pipelines to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project to be developed within 10 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The NHCRWA Distribution Expansion includes up to 155 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The NHCRWA Distribution Expansion will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The NHCRWA Distribution Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

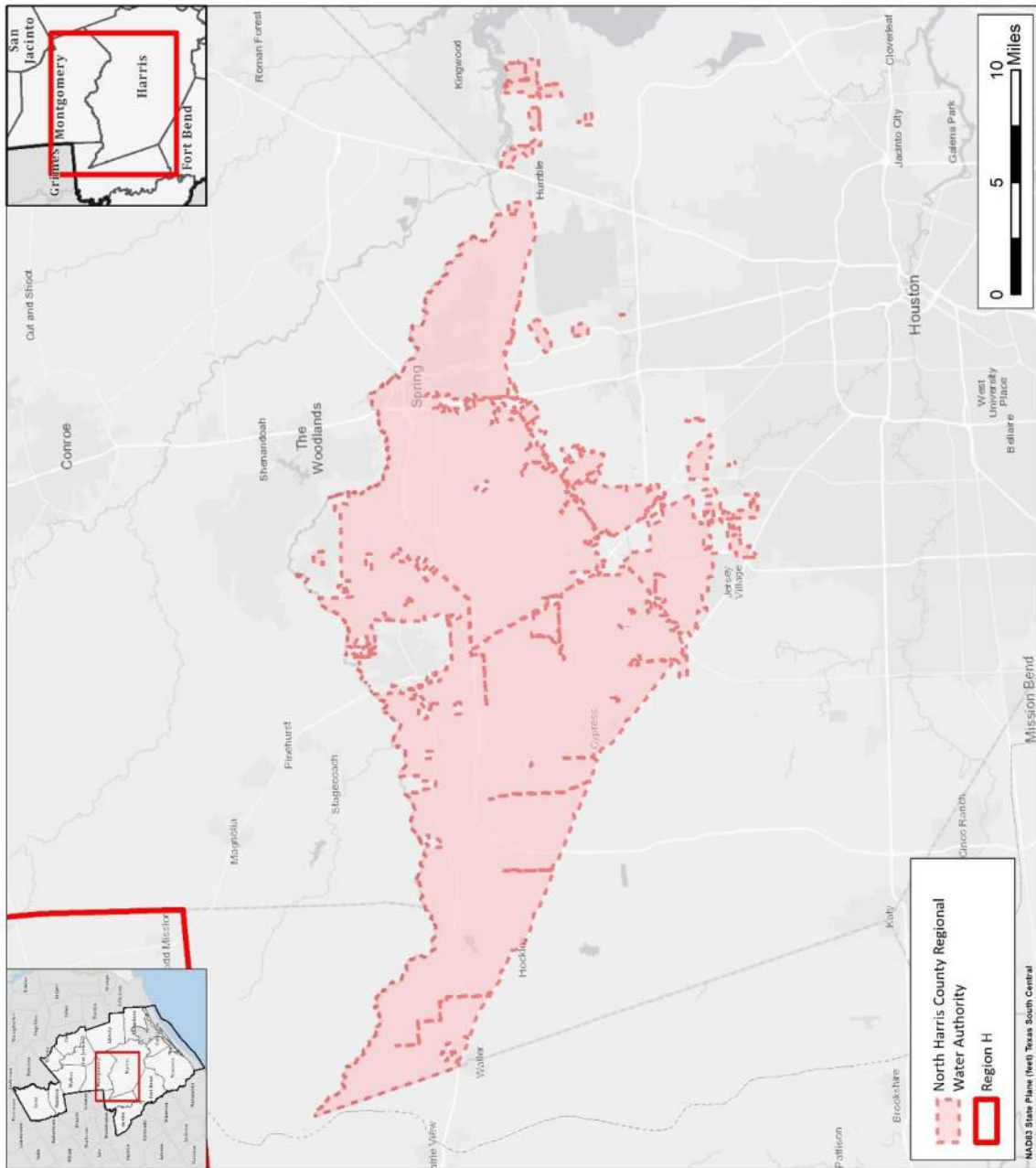
CRITERIA	WUG SUITABILITY
Proximity	Distribution infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Reflects a portion of the overall cost to implement NHCRWA’s surface water conversion.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

AECOM. *2014 North Harris County Regional Water Authority Groundwater Reduction Plan*, prepared for NHCRWA, June 2014.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



NHCRA Distribution Expansion Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Harris County Regional Water Authority Transmission Lines
Project ID:	CONV-012
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	143,360 ac-ft/yr (128 mgd)
Implementation Decade:	2030
Development Timeline:	10 years
Project Capital Cost:	\$327,910,960 (Sept. 2018)
Unit Water Cost (Rounded):	\$185 per ac-ft (during loan period) \$24 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Harris County Regional Water Authority (NHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to its initial obligations for reducing groundwater demand and are receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, NHCRWA is developing transmission infrastructure to convey additional treated surface water to its service area from connections with a large pipeline developed jointly by COH, NHCRWA, and the Central Harris County Regional Water Authority (CHCRWA).

Strategy Analyses

The project analyses for NHCRWA Transmission Lines include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its Groundwater Reduction Plan (GRP) program, increasing its supply reservation and planning for large

scale transmission to its service area. A major 84-inch pipeline jointly sponsored by and serving COH, NHCRWA, and CHCRWA is planned to convey water from the COH Northeast Water Purification Plant (NEWPP) westward to a point just west of Interstate 45 along a route roughly parallel to Beltway 8. The NHCRWA Transmission Lines will convey this water to the Authority service area in several segments. A 54-inch line will run north from the shared transmission along the Hardy Toll Road to a pump station near Richey Road. Another line of 84-inch diameter will run westward from the terminus of the shared pipeline to a proposed pump station near the Heron Lakes subdivision slightly west of SH 249. A smaller 36-inch line will branch off at TC Jester Blvd and connect to the existing Spears Road Pump Station.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the project is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

NHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Development of expanded transmission infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

Planning-level capital cost estimates for the SH 249 pump station and 84-inch pipeline were provided by the project sponsor and were assumed to be inclusive of cost components such as contingency, engineering, land acquisition, legal costs, and environmental studies and mitigation. Construction costs associated with 36-inch and 84-inch transmission lines were included in the sponsor's SWIFT funding application in 2018 and have been included in the estimated cost of the NHCRWA Transmission Lines project; however, other capital costs associated with these pipelines were also associated with distribution infrastructure and are instead reflected as part of the total cost of the NHCRWA Distribution Expansion project in the Regional Plan. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Other cost components not included in the GRP, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard regional planning costing assumptions. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – NHCRWA Transmission Lines Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$285,932,839	\$285,932,839	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$0	\$0	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$41,978,121	\$41,978,121	
PROJECT CAPITAL COST					\$327,910,960	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$23,072,168	\$23,072,168	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$3,503,777	\$3,503,777	\$3,503,777	\$3,503,777	\$3,503,777
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$26,575,945	\$26,575,945	\$3,503,777	\$3,503,777	\$3,503,777

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$26,575,945	\$26,575,945	\$3,503,777	\$3,503,777	\$3,503,777
2	YIELD	-	143,360	143,360	143,360	143,360	143,360
3	UNIT COST	\$0	\$185	\$185	\$24	\$24	\$24
TOTAL UNIT COST							\$89

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$42,963,220	\$42,963,220	
2	PIPELINES	1	LS	\$242,969,619	\$242,969,619	
PROJECT COST					\$285,932,839	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$42,963,220	\$1,074,081	
2	PIPELINES	1.0	%	\$242,969,619	\$2,429,696	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,503,777	

Water Management Strategy Evaluation

Based on the analysis provided above, the NHCRWA Transmission Lines project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The NHCRWA Transmission Lines, while not directly generating supply, allow conveyance with small additional cost.
Location	4	Reflects conveyance infrastructure from major transmission pipelines to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project to be fully developed within 10 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The NHCRWA Transmission Lines will include up to 14 miles of large-diameter pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and are not anticipated to impact agricultural land or production.

Water User Group Application

The NHCRWA Transmission Lines project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

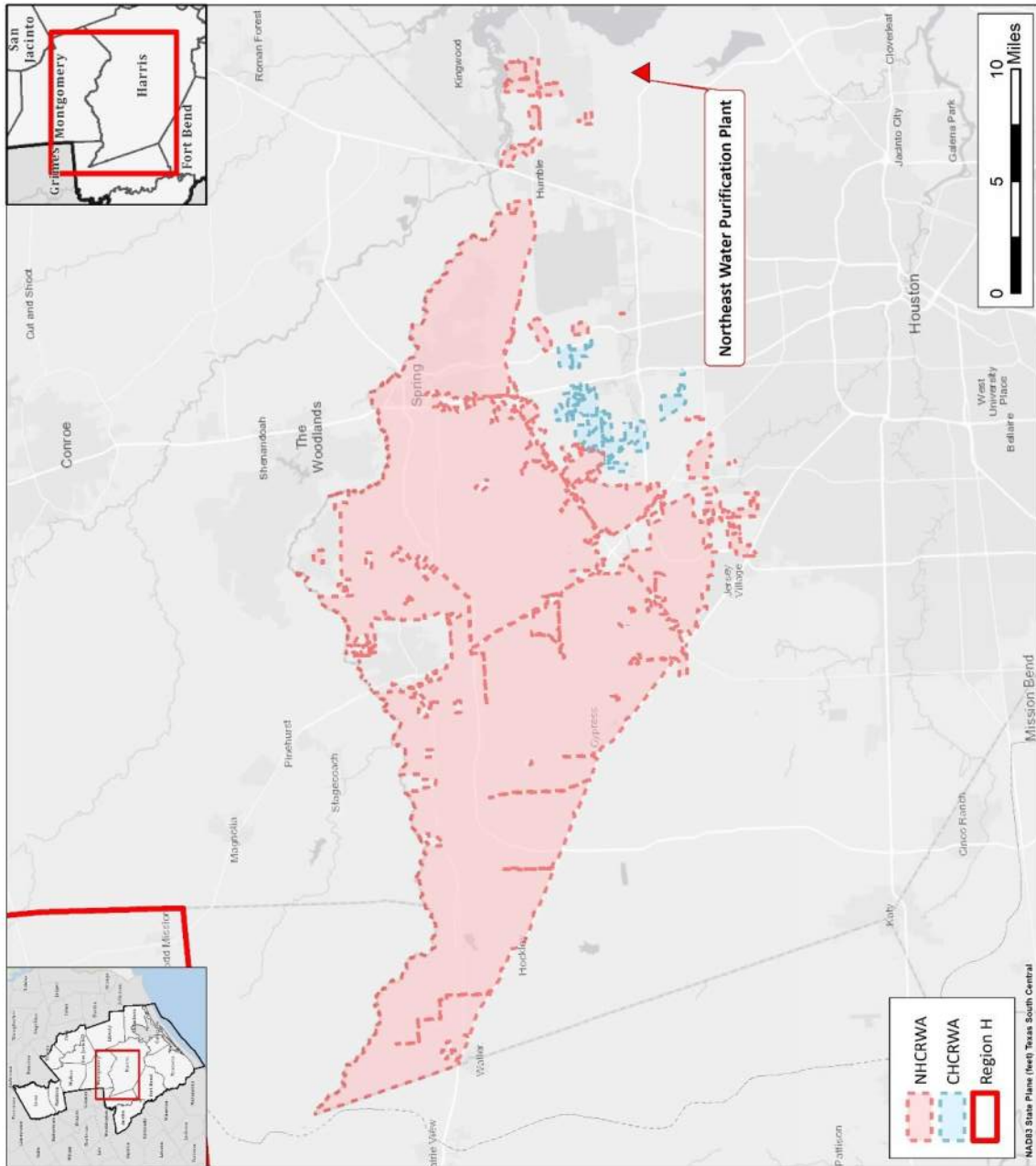
CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds small amount to unit cost of NHCRWA's surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

AECOM. *2014 North Harris County Regional Water Authority Groundwater Reduction Plan*, prepared for NHCRWA, June 2014.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



NHCRWA Transmission Lines Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Southeast Transmission Line Improvements
Project ID:	CONV-013
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	39,928 ac-ft/yr (35.65 mgd)
Implementation Decade:	2030
Development Timeline:	5 years
Project Capital Cost:	\$119,413,067 (Sept. 2018)
Unit Water Cost (Rounded):	\$229 per ac-ft (during loan period) \$19 per ac-ft (after loan period)

Strategy Description

The existing Southeast Transmission Line (formerly called the Old Galveston Road line) transmits water from the Southeast Water Purification Plant (SEWPP) to customers of the plant in southeastern Harris County and northwestern Galveston County. In recent years, existing customers have expressed an interest in expanding capacity in the pipeline during a rehabilitation project to be carried out in upcoming years.

Strategy Analyses

The project analyses for Southeast Transmission Line Improvements include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The concept for the project presented here is adapted from information from the City of Houston (COH) and the co-participants in the project. It should be noted that the proposed project is in early stages of development and project details are subject to significant revision.

COH and the co-participants are currently considering future needs for water from the pipeline. The project is expected to increase available capacity of the pipeline by approximately 34 mgd. The Southeast Transmission Line Improvements will be constructed as 13 segments ranging from 16 to 54 inches in diameter. A 54-inch transmission line begins slightly west of the SEWPP at a connection with an existing line, runs southwest and south for almost 2 miles, then turns southeast and continues for approximately 6.5 miles to the City of Webster. Segments have decreasing diameters along the route as the line reaches delivery points to various customers. Additional 36-inch segments branch off to the west at a point slightly over a mile from the end of the northwest-to-southeast route. Approximate alignments are shown in the Location Map included with this memorandum.

Environmental Considerations

Environmental issues are expected to be minimal due to the use of existing corridors for development. Further environmental study will be conducted as part of the ongoing study of alternatives and configurations.

Permitting and Development

Permitting issues related to the project will be examined more closely during further phases of study. Infrastructure development may result in some construction disturbance which could require mitigation. However, the development of the project primarily within existing right-of-way in an urbanized setting minimizes potential permitting obstacles.

Cost Analysis

Project costs were provided by COH, including estimated capital costs for engineering, design, real estate acquisition, construction, and contingency. Environmental mitigation costs were assumed to be included in the costs provided by COH. Standard assumptions for regional planning were applied to determine interest during construction, annualized debt service, and annual operating and maintenance costs. Estimated project costs for the Southeast Transmission Line Improvements project are shown in *Table 1* in September 2018 dollars.

Table 1 – Southeast Transmission Line Improvements Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$75,476,390	\$75,476,390	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$30,237,610	\$30,237,610	
3	LAND AND EASEMENTS	1	LS	\$7,388,000	\$7,388,000	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$6,311,067	\$6,311,067	
PROJECT CAPITAL COST						\$119,413,067

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$8,402,032	\$8,402,032	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$754,764	\$754,764	\$754,764	\$754,764	\$754,764
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$9,156,796	\$9,156,796	\$754,764	\$754,764	\$754,764

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$9,156,796	\$9,156,796	\$754,764	\$754,764	\$754,764
2	YIELD	0	39,928	39,928	39,928	39,928	39,928
3	UNIT COST	\$0	\$229	\$229	\$19	\$19	\$19
TOTAL UNIT COST							\$103

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PIPELINES	1	LS	\$75,476,390	\$75,476,390
PROJECT COST					\$75,476,390

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PIPELINES	1.0	%	\$75,476,390	\$754,764
ANNUAL OPERATION AND MAINTENANCE COST					\$754,764

Water Management Strategy Evaluation

Based on the analysis provided above, the Southeast Transmission Line Improvements project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The Southeast Transmission Line Improvements, while not directly generating supply, allow conveyance with small additional cost.
Location	4	Reflects conveyance infrastructure from supply to demand centers.
Water Quality	3	No impacts to water quality.
Environmental Land and Habitat	5	Limited impacts associated with construction within existing corridors.
Environmental Flows	3	No impact to environmental flows.
Local Preference	5	Significant support from co-participants.
Institutional Constraints	3	Property available and limited permitting efforts.
Development Timeline	5	Projected may be implemented within five years.
Sponsorship	5	Sponsors identified and in the process of developing project.
Vulnerability	5	Minimal risk associated with pipeline infrastructure.
Impacts on Other WMS	5	Project helps to facilitate the use of treated surface water from the SEWPP.

The Southeast Transmission Line Improvements will include approximately 11.2 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will

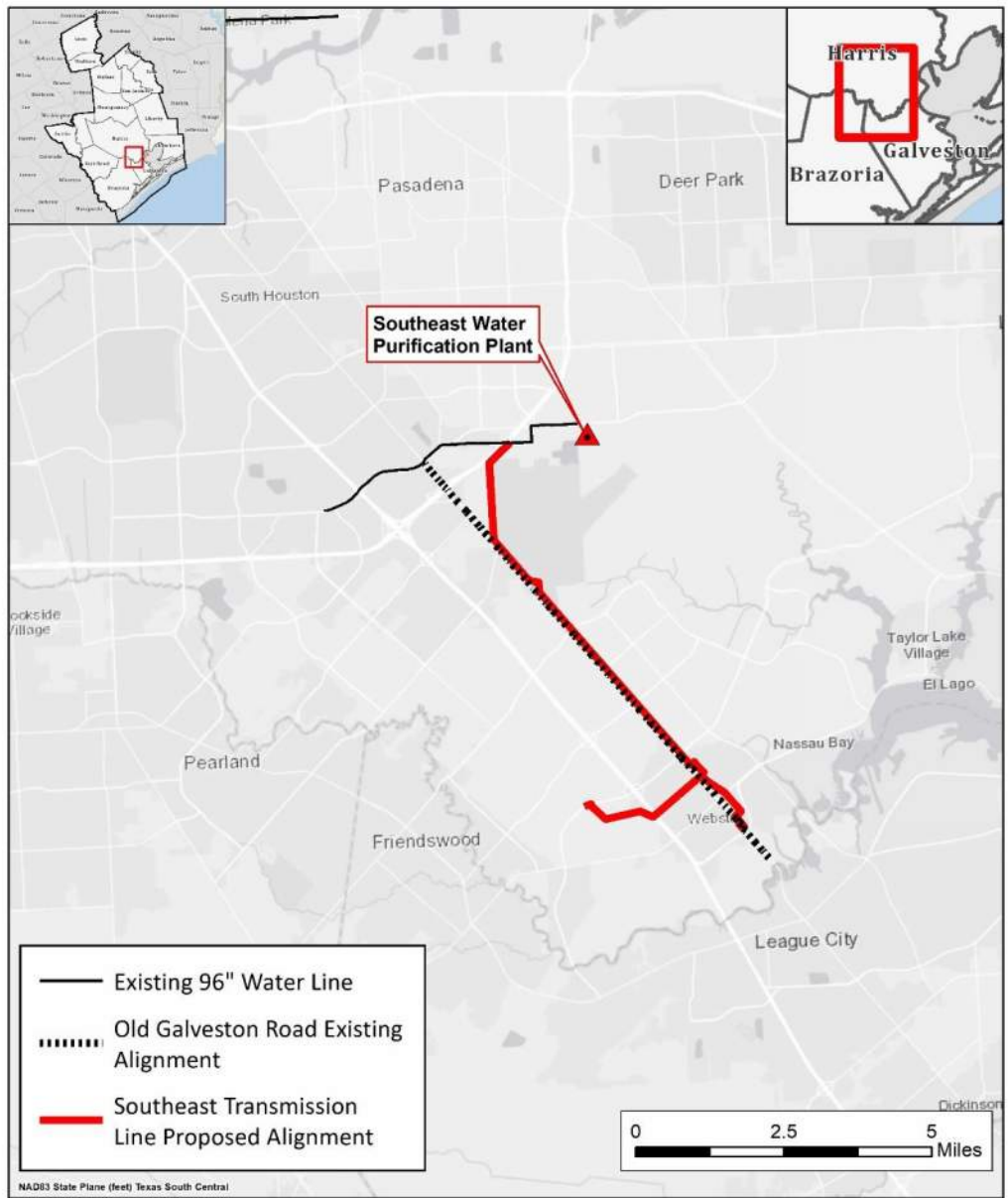
not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The Southeast Transmission Line Improvements project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project is intended to provide water to customers in Harris and Galveston Counties along the Interstate 45 corridor.
Size	The capacity of this project is based on projected need of its specific stakeholders.
Water Quality	This project will convey treated surface water.
Unit Cost	The unit cost for this project is a reasonable price for transmission of treated water for municipal, commercial, or industrial uses.
Other Factors	This project is identified for a few specific co-participants in the vicinity of the SEWPP.

Location Map



Southeast Transmission Line Improvements Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Surfside Beach Supply Infrastructure
Project ID:	CONV-014
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	323 ac-ft/yr (0.29 mgd)
Implementation Decade:	2020
Development Timeline:	24 months
Project Capital Cost:	\$1,900,440 (Sept. 2018)
Unit Water Cost (Rounded):	\$450 per ac-ft (during loan period) \$36 per ac-ft (after loan period)

Strategy Description

The Village of Surfside Beach currently meets all of its water demands with groundwater from wells within its city limits. Due to increasing demands, as well as concerns regarding the quality of the existing groundwater supply, Surfside Beach has contracted with the City of Freeport to purchase treated surface water and is developing infrastructure to connect to the City of Freeport distribution system. The City of Freeport purchases treated potable water from the Brazosport Water Authority. The project is being designed to provide a maximum of approximately 300 gpm (484 ac-ft/yr) of instantaneous flow rate from Freeport to Surfside Beach. The water from Freeport will be blended with existing well water from Surfside Beach to provide a high-quality supply for municipal use.

Strategy Analyses

The project analyses for the Surfside Beach Supply Infrastructure include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

An assumed peaking factor of 1.5 has been applied to the maximum contracted flow rate of 300 gpm, so that the estimated annual volume of available supply provided by this project is 323 ac-ft/yr. The water from Freeport will be blended with existing well water from Surfside Beach at a ratio of approximately 75% surface water to 25% groundwater, which will generate a maximum potential volume of blended water of approximately 430 acre-feet per year. The proposed project will include tying into the City of Freeport's water main and boring a water line under the Gulf Intracoastal Waterway to bring treated surface water from the City of Freeport into Surfside Beach. The Freeport water will be discharged into a ground storage tank, where it will be blended with water from Surfside

Beach wells. A disinfection system for Surfside Beach’s groundwater will be upgraded to provide chloramine disinfection for compatibility with the chloramine disinfected water received from the City of Freeport. A booster pump station will be constructed to pump water from the ground storage tank into Surfside’s distribution system.

Environmental Considerations

The development of infrastructure for this project may result in some construction disturbance along the Intracoastal Waterway or near the municipal distribution system(s), which could require mitigation.

Permitting and Development

Surfside Beach is subject to contractual requirements established with the City of Freeport, as well as relevant permitting required by the State of Texas. Development of infrastructure may cause some degree of disturbance, which may require permitting and mitigation. Infrastructure development will also likely require the acquisition of additional land or easements.

A crossing of the Gulf Intracoastal Waterway to install the transmission line would be subject to a Section 10 permit from the U.S. Army Corps of Engineers. These issues may be covered under Nationwide Permit (NWP) 39 assuming certain conditions are met such as limitation of disturbance to no more than 0.5 acres.

Cost Analysis

Detailed estimates of capital costs for the Surfside Beach Supply Infrastructure were provided by the project sponsor in the associated TWDB funding application. The primary infrastructure components of the project include the construction of the connection to the existing City of Freeport main, boring under the Intracoastal Waterway, a ground storage tank, booster pumps, and disinfection facilities and controls. Additional costs for engineering, contingency, fiscal services, land acquisition, and environmental studies and mitigation were also provided by Surfside Beach. Other cost components not included, such as interest during construction, annualized debt service, and annualized operation and maintenance costs, were assumed using standard Regional Planning cost assumptions. The costs presented in this memorandum do not include the purchase cost of the water from Freeport. Estimated costs are presented in *Table 1*.

Table 1 – Surfside Beach Supply Infrastructure Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$1,169,000	\$1,169,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$503,300	\$503,300	
3	LAND AND EASEMENTS	1	LS	\$5,000	\$5,000	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$122,700	\$122,700	
5	INTEREST DURING CONSTRUCTION	1	LS	\$100,440	\$100,440	
PROJECT CAPITAL COST					\$1,900,440	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$133,717	\$133,717	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$11,690	\$11,690	\$11,690	\$11,690	\$11,690	\$11,690
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$145,407	\$145,407	\$11,690	\$11,690	\$11,690	\$11,690

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$145,407	\$145,407	\$11,690	\$11,690	\$11,690	\$11,690
2	YIELD	323	323	323	323	323	323
3	UNIT COST	\$450	\$450	\$36	\$36	\$36	\$36
TOTAL UNIT COST		\$174					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	CONNECTION AND TREATMENT UPGRADES	1	LS	\$1,169,000	\$1,169,000	
PROJECT COST					\$1,169,000	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	CONNECTION AND TREATMENT UPGRADES O&M	1.0	%	\$1,169,000	\$11,690	
ANNUAL OPERATION AND MAINTENANCE COST					\$11,690	

Water Management Strategy Evaluation

Based on the analysis provided above, the Surfside Beach Supply Infrastructure project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Reasonably low-cost project for development of treated water supplies for potable use.
Location	4	Water supply originates near the point of demand.
Water Quality	5	Blending the current water supply with Freeport’s water will improve water quality for users in the service area.
Environmental Land and Habitat	3	Environmental impacts associated with the project can be mitigated.
Environmental Flows	3	No changes in river diversions directly associated with project.
Local Preference	4	Local support for the project.
Institutional Constraints	3	Permitting and land acquisition required for project development. Supply is dependent upon water contract negotiations between Surfside Beach and Freeport.
Development Timeline	5	Project can be implemented in a relatively short time period (approximately 24 months).
Sponsorship	5	Surfside Beach has applied for funding to initiate the project.
Vulnerability	4	Minor risks from natural and man-made disasters associated with infrastructure.
Impacts on Other WMS	3	No known impact to other projects.

The Surfside Beach Supply Infrastructure project includes the construction of a water line under the Gulf Intracoastal Waterway. This is anticipated to have a minimal effect on acreage and vulnerable species. The project will not directly impact environmental flows or agricultural land and production.

Water User Group Application

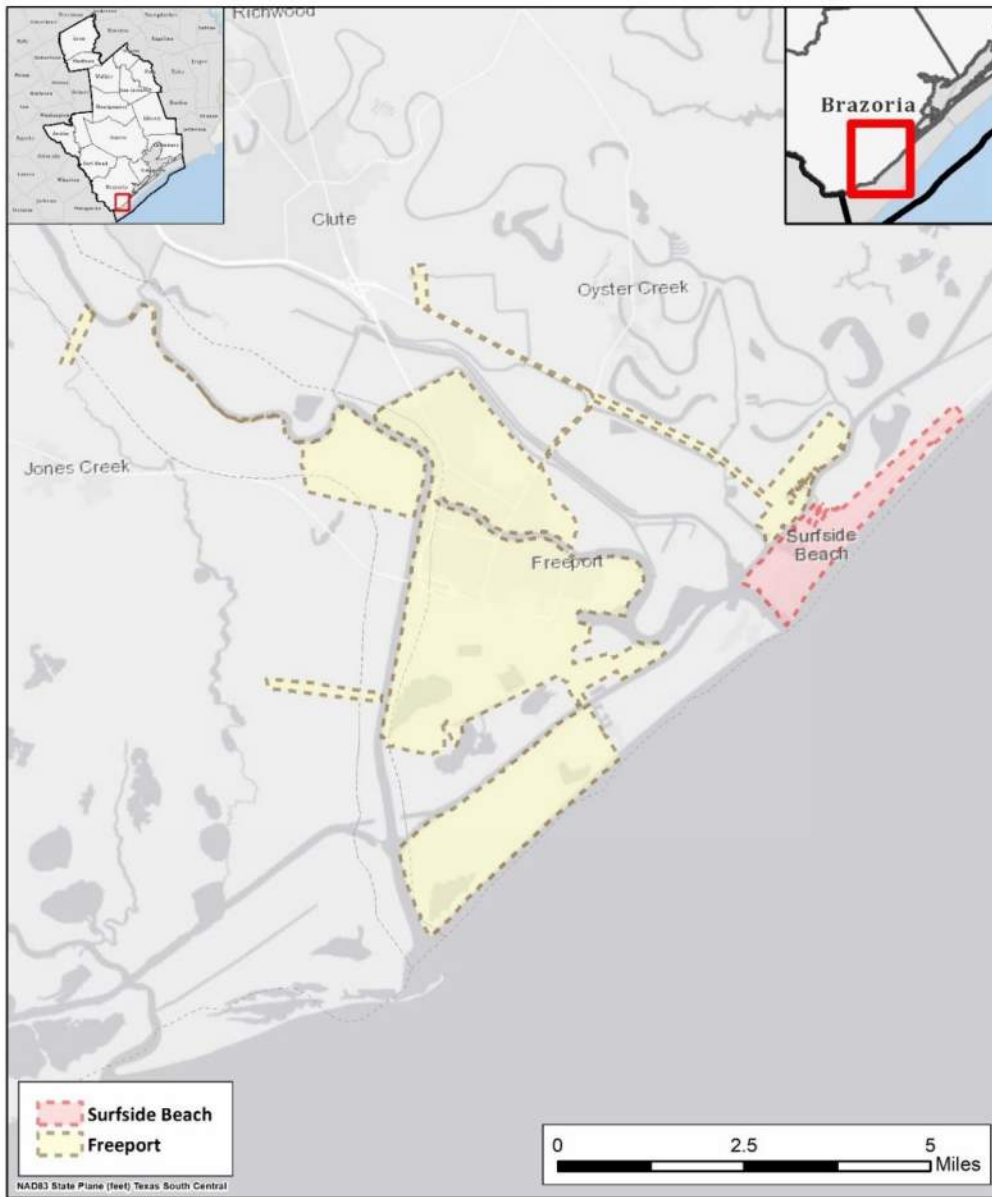
The Surfside Beach Supply Infrastructure project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project provides supply near its intended user, Surfside Beach.
Size	The volume of water this project is designed for is adequate to serve the projected population growth and increasing water demands of the Village of Surfside Beach.
Water Quality	This project will acquire treated water that will be blended with compatible, treated groundwater to provide treated potable water.
Unit Cost	The unit costs for this project are appropriate for municipal water supply.
Other Factors	Blending and further treatment of Surfside Beach’s well water may increase the overall potable water quality.

References

Village of Surfside Beach. *Surfside Beach Tie to Freeport, Texas Water Development Board Form WRD-253d*. September 2018.

Location Map



Surfside Beach Supply Infrastructure Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	West Harris County Regional Water Authority Distribution Expansion
Project ID:	CONV-015
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	92,288 ac-ft/yr (82.4 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	<10 years
Project Capital Cost:	\$276,977,822 (Sept. 2018)
Unit Water Cost (Rounded):	\$237 per ac-ft (during loan period) \$26 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the West Harris County Regional Water Authority (WHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, WHCRWA must expand the distribution infrastructure network through which it supplies its member districts, allowing for greater overall volume to be conveyed and conversion of additional districts to surface water.

Strategy Analyses

The project analyses for WHCRWA Distribution Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP

program by increasing its supply reservation from COH and planning for large scale transmission to its service area. WHCRWA will expand its distribution network by 2025, allowing it to provide a greater volume of treated surface water and to convert additional member districts to surface water supply. As with the currently implemented stage of conversion, some entities will remain on groundwater, while others will rely solely on surface water or utilize groundwater only to meet peak demands. WHCRWA anticipates additional conversion of additional districts by 2035.

Environmental Considerations

Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

WHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

WHCRWA'S engineering consultant provided Region H with estimated capital costs for the 2025 and 2035 phases of the WHCRWA Distribution Expansion project. Non-construction capital costs (engineering, land acquisition, and environmental components) were not called out separately and for purposes of the Regional Plan are assumed to be included in the values provided. Interest during construction, debt service, and annual operations and maintenance costs were calculated using standard regional planning procedures, and costs were scaled to a September 2018 equivalent cost in accordance with TWDB guidance. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 - WHCRWA Distribution Expansion Project Costs

OPINION OF PROBABLE CONSTRUCTION COST					September 2018	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$241,520,000	\$241,520,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$0	\$0	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$35,457,822	\$35,457,822	
PROJECT CAPITAL COST					\$276,977,822	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2025 PHASE)	\$0	\$11,205,541	\$11,205,541	\$0	\$0	\$0
2	DEBT SERVICE (2035 PHASE)	\$0	\$0	\$8,282,917	\$8,282,917	\$0	\$0
3	OPERATION AND MAINTENANCE (2025 PHASE)	\$0	\$1,388,700	\$1,388,700	\$1,388,700	\$1,388,700	\$1,388,700
4	OPERATION AND MAINTENANCE (2035 PHASE)	\$0	\$0	\$1,026,500	\$1,026,500	\$1,026,500	\$1,026,500
5	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$12,594,241	\$21,903,658	\$10,698,117	\$2,415,200	\$2,415,200

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$12,594,241	\$21,903,658	\$10,698,117	\$2,415,200	\$2,415,200
2	YIELD	-	92,288	92,288	92,288	92,288	92,288
3	UNIT COST	\$0	\$136	\$237	\$116	\$26	\$26
TOTAL UNIT COST							\$108

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES (2025 PHASE)	1	LS	\$138,870,000	\$138,870,000	
2	PIPELINES (2035 PHASE)	1	LS	\$102,650,000	\$102,650,000	
PROJECT COST					\$241,520,000	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES (2025 PHASE)	1.0	%	\$138,870,000	\$1,388,700	
2	PIPELINES (2035 PHASE)	1.0	%	\$102,650,000	\$1,026,500	
ANNUAL OPERATION AND MAINTENANCE COST					\$2,415,200	

Water Management Strategy Evaluation

Based on the analysis provided above, the WHCRWA Distribution Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	The project, while not directly generating supply, allows conveyance with small additional cost.
Location	4	Reflects conveyance infrastructure from major transmission pipelines to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project to be developed within 10 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The WHCRWA Distribution Expansion includes the construction of several pipeline segments. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The WHCRWA Distribution Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve WHCRWA, participants of the GRP, and any other wholesale customers that WHCRWA provides with water supply.

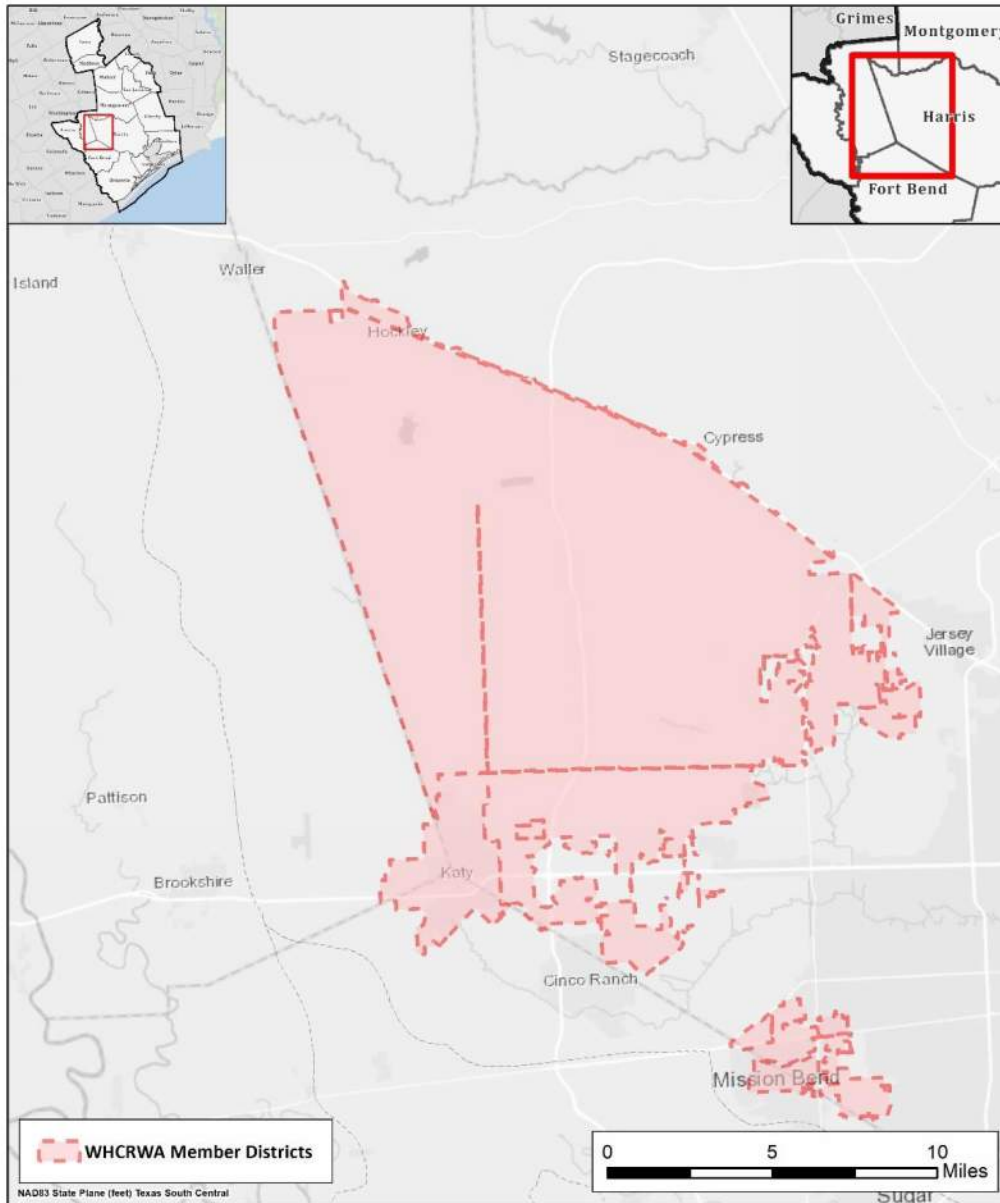
CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds small amount to unit cost of WHCRWA's surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Dannenbaum Engineering Corporation. *West Harris County Regional Water Authority Groundwater Reduction Plan*, prepared for WHCRWA, June 2014.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



WHCRWA Distribution Expansion Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	WHCRWA/NFBWA Transmission Line
Project ID:	CONV-016
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	169,030 ac-ft/yr (150.9 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	<10 years
Project Capital Cost:	\$1,310,701,901 (Sept. 2018)
Unit Water Cost (Rounded):	\$613 per ac-ft (during loan period) \$67 per ac-ft (after loan period)

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Fort Bend Water Authority (NFBWA) and West Harris County Regional Water Authority (WHCRWA) have contracted with the City of Houston (COH) to receive treated surface water. Both Authorities have already developed transmission and distribution infrastructure to meet their initial obligations for reducing groundwater demand and are receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, the Authorities are jointly sponsoring the development of additional large-scale transmission infrastructure referred to by the sponsors as the Surface Water Supply Project (formerly the Second Source Transmission Line) from the COH Northeast Water Purification Plant (NEWPP) to the Authority distribution areas.

Strategy Analyses

The project analyses for WHCRWA/NFBWA Transmission Line include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

WHCRWA and NFBWA have acquired capacity in the COH Luce Bayou Interbasin Transfer Project and Northeast Water Purification Plant (NEWPP) Expansion to provide treated surface water supply which will be conveyed through the WHCRWA/NFBWA Transmission Line project infrastructure to the Authority service areas. WHCRWA has increased its contracted supply reservation with COH from an

original amount of 28.25 mgd (31,640 ac-ft/yr) currently applied in the Regional Plan as existing supply to 110.65 mgd (123,940 ac-ft/yr). NFBWA has increased from an original reservation of 19.5 mgd (21,840 ac-ft/yr) currently applied in the Regional Plan as existing supply to 88.0 mgd (98,570 ac-ft/yr). In order to convey these supplies, the Authorities are jointly developing shared transmission pipeline infrastructure to convey treated surface water supplies from the NEWPP to the Authority distribution areas. The transmission infrastructure consists of various pipeline segments, beginning with a 96-inch pipeline running from the NEWPP to a repump station just east of Highway 290, where the transmission line transitions to an 84-inch pipeline which continues west to a central pump station in the vicinity of Fry Road. A 66-inch segment continues from the central pump station to a meter station near Katy, TX to serve the southwest portion of WHCRWA and the northern portion of NFBWA. A smaller pipeline, primarily 42-inch diameter, also branches from the 84-inch line slightly west of Beltway 8 and travels south to the NFBWA Bellaire pump station. Construction of the shared transmission project infrastructure is anticipated to be completed by 2025.

Environmental Considerations

The WHCRWA/NFBWA Transmission Line project is required under a nationwide permit to obtain a mitigation site, primarily due to the destruction of forested wetlands. The most significant impact associated with the project is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The project sponsors have sought funding through the State Water Implementation Fund for Texas (SWIFT) program. SWIFT loan obligations require that environmental clearance for this project be obtained from appropriate regulatory agencies including the United States Army Corps of Engineers, Texas Parks and Wildlife Department, local floodplain managers, Harris County, Texas Historical Commission, and others. Development of expanded transmission infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Infrastructure development is also likely to require acquisition of additional easements or property.

Cost Analysis

Planning level cost estimates were developed for the Region H Plan based on available information from WHCRWA, including costs of program management, easements, environmental mitigation, design, and construction. WHCRWA and NFBWA plan to cover approximately 55% and 45% of the total project cost, respectively. Capital costs were scaled to a September 2018 equivalent cost in accordance with TWDB guidance. Other cost components not included in the available data, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard Regional Planning costing assumptions. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – WHCRWA/NFBWA Transmission Line Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$896,040,000	\$896,040,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$227,440,000	\$227,440,000
3	LAND AND EASEMENTS	1	LS	\$15,510,000	\$15,510,000
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$3,920,000	\$3,920,000
5	INTEREST DURING CONSTRUCTION	1	LS	\$167,791,901	\$167,791,901
PROJECT CAPITAL COST					\$1,310,701,901

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$92,222,397	\$92,222,397	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$11,398,950	\$11,398,950	\$11,398,950	\$11,398,950	\$11,398,950
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$103,621,347	\$103,621,347	\$11,398,950	\$11,398,950	\$11,398,950

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$103,621,347	\$103,621,347	\$11,398,950	\$11,398,950	\$11,398,950
2	YIELD	-	169,030	169,030	169,030	169,030	169,030
3	UNIT COST	\$0	\$613	\$613	\$67	\$67	\$67
TOTAL UNIT COST							\$286

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$162,570,000	\$162,570,000
2	PIPELINES	1	LS	\$719,870,000	\$719,870,000
3	OTHER	1	LS	\$13,600,000	\$13,600,000
PROJECT COST					\$896,040,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$162,570,000	\$4,064,250
2	PIPELINES	1.0	%	\$719,870,000	\$7,198,700
3	OTHER	1.0	%	\$13,600,000	\$136,000
ANNUAL OPERATION AND MAINTENANCE COST					\$11,398,950

Water Management Strategy Evaluation

Based on the analysis provided above, the WHCRWA/NFBWA Transmission Line project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	The shared transmission pipeline will provide conveyance at a moderate additional cost which will decrease substantially after completion of debt services.
Location	4	Reflects conveyance infrastructure from major transmission pipelines to demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	4	Project to be developed within 10 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	5	Provides conveyance of treated water from the Northeast Water Purification Plant Expansion project to demand centers and to other major transmission projects.

WHCRWA/NFBWA Transmission Line improvements include up to 57 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat or agricultural land or production. The project will not directly impact environmental flows.

Water User Group Application

The WHCRWA/NFBWA Transmission Line project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

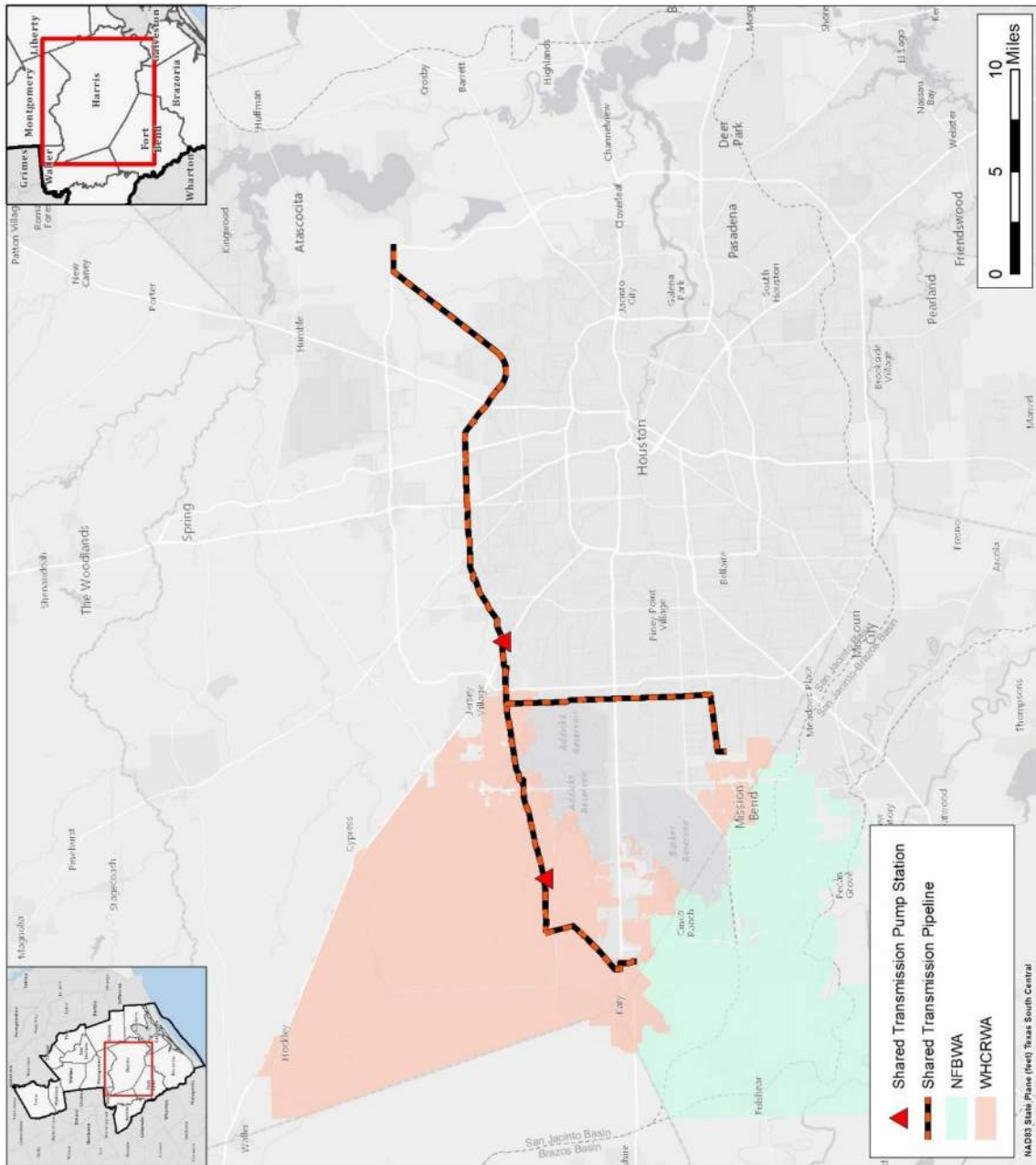
CRITERIA	WUG SUITABILITY
Proximity	Conveyance infrastructure from major transmission pipelines to demand centers.
Size	Conveyance is sized to convey the requisite amount of source water.
Water Quality	Conveys treated water of quality appropriate for municipal use.
Unit Cost	Adds a moderate amount to unit cost of surface water conversion process.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Dannenbaum Engineering Corporation. *WHCRWA Groundwater Reduction Plan*, prepared for WHCRWA, June 2014.

Harris-Galveston Subsidence District. *HGSD 2013 District Regulatory Plan*, May 2013.

Location Map



WHCRWA/NFBWA Shared Transmission Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Aquifer Storage and Recovery
Project ID:	GWDV-001
Project Type:	Existing Groundwater Source
Potential Supply Quantity (Rounded):	Approximately 9,426 ac-ft/yr (varies by application) (8.4 mgd)
Implementation Decade:	2070 (2063)
Development Timeline:	20-25 years
Project Capital Cost:	\$222,907,186 (Sept. 2018; varies by application)
Unit Water Cost (Rounded):	\$2,551 per ac-ft (during loan period) \$887 per ac-ft (after loan period)

Strategy Description

Hydrology in southeast Texas is defined by intervals of high rainfall and extended periods of drought. Traditionally, storage solutions such as reservoirs have been used to capture flows during high-flow events, store water for prolonged periods, and convert what would be an interruptible flow to a reliable, firm water supply that can be utilized throughout periods of drought. However, reservoirs often pose difficulties in development due to their substantial cost and project footprint. Additionally, evaporation from a reservoir can reduce yield, especially in the wide, shallow basins that are typical in this part of the state.

One alternative to the development of a reservoir is the use of aquifer storage and recovery (ASR) to provide firm yield storage. In an ASR concept, water from a variety of sources including surface water, reclaimed water, stormwater, or even other sources of groundwater, may be captured, treated to an appropriate extent to meet the standards of local groundwater, and injected into a groundwater formation for storage. Later, this water can be recovered from the aquifer and used to meet water demands. This approach provides similar benefits to a reservoir by utilizing underground storage.

The concept of ASR has been implemented in a number of locations throughout Texas including the San Antonio Water System (SAWS) Twin Oaks ASR Facility and the City of Kerrville. These projects utilize storage in the Carrizo-Wilcox and Trinity Aquifers, respectively. To date, no successful project has been implemented in the Gulf Coast Aquifer, which is the principal groundwater-bearing formation within Region H. A test well was constructed in Texas City to examine the potential for such a strategy, but this effort was discontinued when the project was met with water quality challenges related to blending of water sources.

A study recently completed by the Harris-Galveston Subsidence District (HGSD), *Assessment of Subsidence and Regulatory Considerations for Aquifer Storage and Recovery in the Evangeline and Chicot Aquifers*, examined two potential alternatives for implementing an ASR project in the Gulf Coast Aquifer: (1) a project to provide industrial water supply during a drought of record (DOR) and (2) a project to provide for an annual municipal summer peaking water supply. Each scenario was

modeled using MODFLOW to estimate subsidence that may occur as a result of the injection and withdrawal operations of these conceptual projects located in the Gulf Coast Aquifer. The results of this modeling study indicated the potential for compaction resulting from the withdrawal of water during the production phases of ASR well operation, although the rate of compaction was lower than for projects producing an equivalent volume of water without injection. The study then recommended ways in which impacts of a project could be minimized including maximizing well spacing, decreasing recovery rates, decreasing recovery duration prior to the next recharge cycle, and targeting layers with low clay content and high transmissivity for development.

Strategy Analyses

The Region H Water Planning Group (RHWP) has designated a value of 25,000 ac-ft/yr as the threshold for significant identified water needs across the region in any given planning decade. This threshold was exceeded in all decades on a region-wide level, as described in **Chapter 4**. Thus, as required by Texas Water Code §16.053(e)(10), the RHWP has conducted a concept-level analysis of ASR. For this cycle of regional planning, environmental and cost aspects of this high-level analysis were focused on a specific project location due to the presence of high need, unappropriated interruptible surface water availability, and potentially viable subsurface conditions. A project site adjacent to Lake Conroe in Montgomery County was chosen to represent the ASR project proposed in the San Jacinto River Authority (SJRA) Raw Water Supply Master Plan (RWSMP). This location benefits from interruptible surface water supplies available at Lake Conroe and from Lake Creek, south of Lake Conroe, as well as the opportunity to expand treatment capacity at the SJRA Surface Water Facility (SWF) to prepare water for injection into the groundwater system. Although concepts and costs were analyzed specifically for this alternative, this example provides a range of costs that may represent the potential for such strategies in other similar locations in Region H. The project analyses for Aquifer Storage and Recovery include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

A study was performed to evaluate aquifer characteristics within the vicinity of the proposed project, chiefly in the area east of Lake Conroe and northwest of the City of Conroe. Aquifer parameters from existing large capacity public supply wells were used to estimate the transmissivity and pumping rates utilized in the ASR analytical simulations. Based on this analysis, average transmissivity values for the Jasper and Catahoula Aquifers were found to be 37,500 and 22,500 gpd/ft, respectively. The coefficient of storage in the Jasper formation was adapted from the Houston Area Groundwater Model and was found to be 0.00040. In the Catahoula formation, the coefficient of storage was found to be approximately 0.00030 based on a separate evaluation specific to Montgomery County. Well spacings were determined to be 2,000 feet for a pattern layout or 1,500 feet for a line layout within the Jasper, while a line spacing of 5,280 feet was assumed for the Catahoula. The resulting injection rates for the Jasper and Catahoula aquifers based on these parameters were estimated to be 1,125 gpm (1.6 mgd) and 375 gpm (0.5 mgd), respectively. It should be noted that this modeling was focused on operation of the potential ASR project and did not consider the risk of subsidence related to long-term injection and withdrawal from the aquifers. However, based on this analysis, the Jasper Aquifer was identified as the most likely target formation for development of an ASR project in this area.

A conceptual model was developed to examine the potential firm supply made available through an ASR project. This is based on availability of source water such as an interruptible surface water supply,

the capacity of infrastructure to temporarily store, treat, and inject the source water into the aquifer, losses associated with aquifer storage, and the recovery schedule for supply. Environmental flow needs were considered through the use of the Texas Commission on Environmental Quality (TCEQ) WAM Run 3 scenario, which includes Senate Bill 3 environmental flow criteria, as the basis for interruptible supply availability for input to the ASR conceptual model. The model is capable of projecting the growth of the available storage “bubble” over time and how this supply might be drawn down over the historic drought of record. The firm yield for the proposed project was considered to be the annual depletions that could be made during the historic hydrology that did not result in either the depletion of storage or the inability of the project to end with an equal or greater level of storage than the beginning of the simulation period. Various concepts were considered with the following assumptions and variations:

- Lake Conroe Diversions
 - Alternatives considered with and without source water from excess flows from Lake Conroe
- Lake Creek Diversions
 - Alternatives considered with and without source water from excess flows from Lake Creek
 - Pump station capacities to divert excess flows from Lake Creek of 10, 20, 50, 75, 100, 150, and 200 MGD
 - Off-channel reservoir for temporary storage of diverted surface water prior to treatment and injection with 1,000, 2,000, and 4,000 acre-feet of storage capacity
- ASR Concept and Operation
 - Injection well capacity of 1.6 mgd based on evaluation of the Jasper Aquifer in the vicinity of Lake Conroe Dam
 - Total number of injection wells numbering either 10 or 20
 - Annual loss from ASR storage of 1% of the total volume injected
 - Total number of years of storage developed before ASR operation of either 10 or 20 years

A total of 109 separate simulations were conducted to evaluate the sensitivity of the project cost per unit volume of supply. From this analysis, no clear trends emerged related to the effect of various assumptions on project costs. This implies the scalability of the strategy based on the investment in infrastructure as well as the sensitivity of the concept to its operation. The most significant factor identified was the volume of temporary storage provided to capture interruptible flows from Lake Creek prior to treatment and injection, with larger capacities supporting a larger volume of injectable water. However, this benefit drops when temporary storage greatly exceeds the capacity of the ASR system to convert this water to underground storage. Additional information related to cost development is included below.

The concept selected for incorporation in the Region H Regional Water Plan (RWP) utilizes captured interruptible surface water supplies from both Lake Conroe and Lake Creek to produce firm supply. A 100-mgd pump station and a 4,000-acre-foot reservoir are used to make water available from Lake Creek. This water is treated using a surface water treatment facility and the water injected through ten 1.6-mgd wells. The resulting firm yield of this concept was estimated to be 9,426 ac-ft/yr.

Environmental Considerations

Environmental impacts related to the proposed ASR concept include the diversion of surface water for injection and the footprint of pump station, storage, pipeline, treatment, and well infrastructure required to execute the project. Unlike surface water reservoirs, ASR does not require a substantial footprint related to the inundation of land for water storage.

Permitting and Development

Since the enactment of House Bill 655 by the Texas Legislature in 2015, permitting for ASR projects is conducted through the TCEQ. This is conducted through TCEQ's Class V Underground Injection Control (UIC) Program and can be performed through general permit, individual permit, or permit-by-rule. The decision to authorize an ASR well depends upon:

- Compliance with the Safe Drinking Water Act,
- The ability to recover the injected volume,
- Impacts on existing wells, and
- Impacts on native groundwater quality.

Local Groundwater Conservation Districts (GCDs) do not have authority to regulate production from ASR wells unless production exceeds the volume of water deemed recoverable from the injected volume. For the purpose of this strategy concept, it is assumed that production from the project is limited to recoverable injected volumes.

In addition to the permitting of the ASR well, local registration of the well must be conducted through the local GCD or subsidence district even in the absence of production of native groundwater. Furthermore, the unique mission of the subsidence districts may require specific consideration of subsidence factors in TCEQ's decision to grant an ASR permit in Fort Bend, Harris, or Galveston County. It would be expected that this will involve careful coordination between TCEQ and HGSD or Fort Bend Subsidence District (FBS) throughout the process.

Cost Analysis

Costs were developed for the proposed ASR configuration consisting of a 100-mgd pump station at Lake Creek, a 4,000-ac-ft off-channel reservoir for temporary surface water storage, and ten 1.6-mgd ASR wells. Pipeline and treatment infrastructure were sized appropriately to accommodate the key surface water development and ASR infrastructure required. These costs are shown below in *Table 1*.

Table 1 – Aquifer Storage and Recovery Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$161,424,565	\$161,424,565
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$54,877,277	\$54,877,277
3	LAND AND EASEMENTS	1	LS	\$331,264	\$331,264
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$339,196	\$339,196
5	INTEREST DURING CONSTRUCTION	1	LS	\$5,934,884	\$5,934,884
PROJECT CAPITAL COST					\$222,907,186

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$0	\$0	\$15,683,990
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$0	\$0	\$6,031,859
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$2,325,439
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$0	\$0	\$24,041,287

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$0	\$0	\$24,041,287
2	YIELD	-	-	-	-	-	9,426
3	UNIT COST	\$0	\$0	\$0	\$0	\$0	\$2,551
TOTAL UNIT COST							\$2,551

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$41,298,450	\$41,298,450
2	PIPELINES	1	LS	\$32,426,411	\$32,426,411
3	WATER TREATMENT PLANTS	1	LS	\$62,226,921	\$62,226,921
4	OFF-CHANNEL RESERVOIRS	1	LS	\$12,904,180	\$12,904,180
5	WELL FIELDS	1	LS	\$12,568,603	\$12,568,603
PROJECT COST					\$161,424,565

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$41,298,450	\$1,032,461
2	PIPELINES	1.0	%	\$32,426,411	\$324,264
3	WATER TREATMENT PLANTS	1.0	LS	\$4,355,884	\$4,355,884
4	OFF-CHANNEL RESERVOIRS	1.5	%	\$12,904,180	\$193,563
5	WELL FIELDS	1.0	%	\$12,568,603	\$125,686
ANNUAL OPERATION AND MAINTENANCE COST					\$6,031,859

Water Management Strategy Evaluation

Based on the analysis provided above, the Aquifer Storage and Recovery project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Costs are generally high but decline after debt service.
Location	5	Project can provide supply in close proximity to identified needs.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Limited environmental impacts expected.
Environmental Flows	2	Project develops water from excess surface water.
Local Preference	3	Project has local interest.
Institutional Constraints	2	Project requires a permitting process that is relatively untested. Some property acquisition required.
Development Timeline	3	Project will require 10-15 years of development and 10 years to develop storage volume.
Sponsorship	4	Project is included in SJRA Raw Water Supply Master Plan.
Vulnerability	4	Some risks associated with this project.
Impacts on Other WMS	3	No major impacts to other projects identified.

Aquifer Storage and Recovery is not anticipated to affect vulnerable species or to impact agricultural land or production. This project may reduce instream flows during periods of excess flow availability.

Water User Group Application

The Aquifer Storage and Recovery project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project located near center of significant future water needs.
Size	Project provides a significant water supply.
Water Quality	It is intended that this strategy will provide water of quality similar to native groundwater.
Unit Cost	Costs are high but comparable for many late-term water strategies.
Other Factors	Availability dependent upon future hydrology.

References

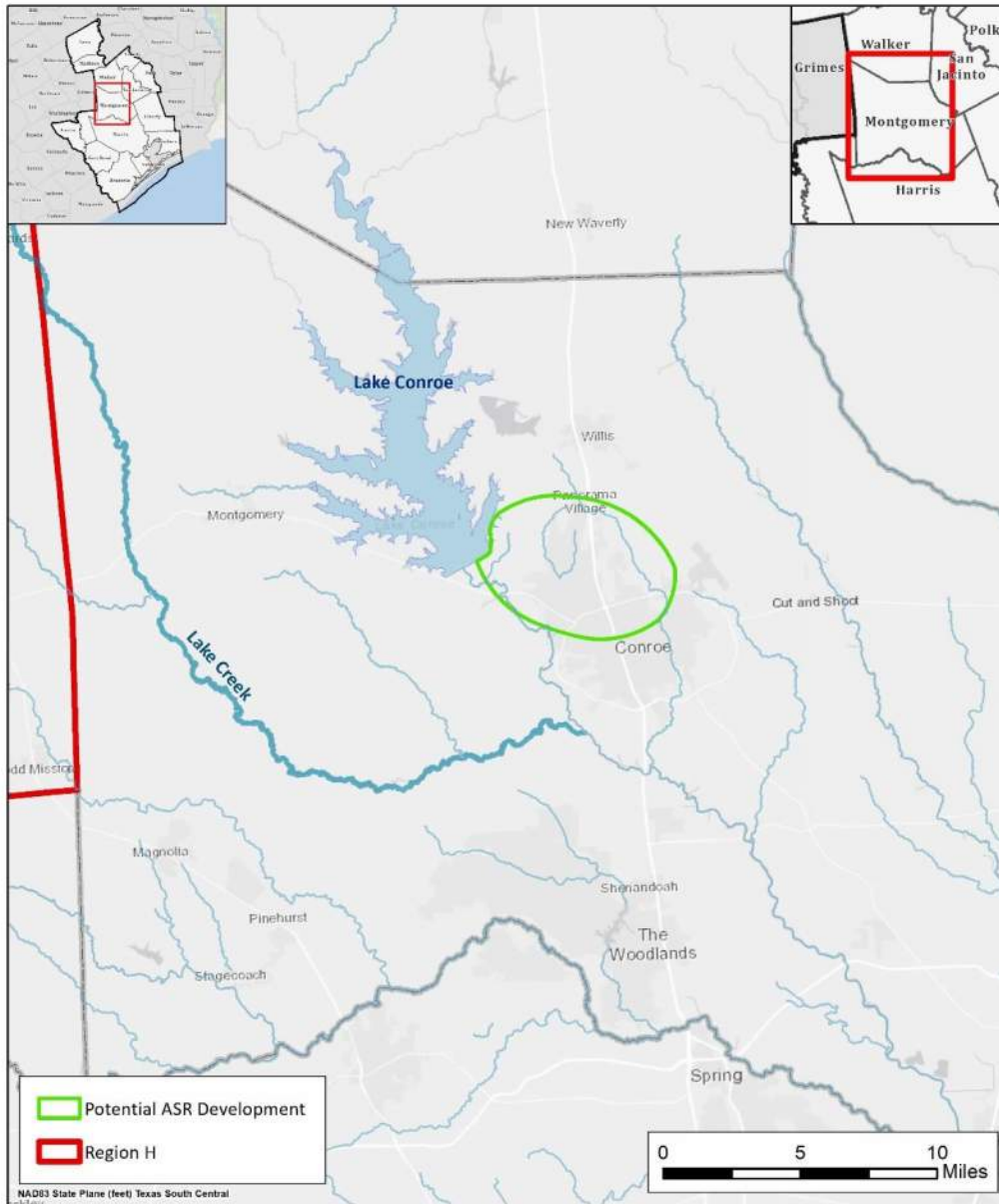
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Location Map



Aquifer Storage and Recovery Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Brackish Groundwater Development and Groundwater Blending
Project ID:	GWDV-002
Project Type:	Existing Groundwater Source
Potential Supply Quantity	Varies
Implementation Decade:	Varies
Development Timeline:	1-2 years
Project Capital Cost:	Varies by specific project
Unit Water Cost (Rounded):	\$523 to 2,970 per ac-ft (during loan period) \$276 to 1,850 per ac-ft (after loan period)

Strategy Description

As growth occurs throughout Region H there is a need to provide alternative supplies to a number of WUGs that may not be within close proximity to conventional water supply sources. In addition, regulatory requirements by groundwater conservation districts (GCD) and subsidence districts in Region H restrict the use of fresh groundwater in some areas, encouraging the development of unconventional sources of water. Brackish groundwater may be a viable source of water in some areas. In Montgomery County, the Catahoula Aquifer is considered by the Lone Star GCD to be an acceptable alternative water supply source to the commonly developed aquifers in the Gulf Coast Aquifer System. Studies have also shown potential for brackish groundwater development in Brazoria, Fort Bend, and Harris Counties. Additionally, the cost of brackish groundwater desalination is far less than seawater desalination. In some cases, raw brackish groundwater may be blended with conventional supplies to produce an acceptable supply without advanced treatment. Within Region H, several communities within Montgomery County have successfully employed this project for water supplies and it is also being investigated in other parts of the region. This memorandum describes the potential for Brackish Groundwater Development and Groundwater Blending as water supply strategies in Region H. However, due to regulatory constraints and limited interest by potential sponsors, this water management strategy (WMS) is currently only recommended to meet needs of water user groups (WUGs) that have already developed supplies in fresh to slightly brackish aquifers.

Strategy Analyses

The project analyses for Brackish Groundwater Development and Groundwater Blending include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The 2016 Region H Regional Water Plan (RWP) included a review of aquifer conditions within Region

H in order to identify potential areas of brackish groundwater development. Water of quality ranging from 1,000 to 3,000 mg/l of Total Dissolved Solids (TDS) is generally considered slightly brackish, and water of 3,000 to 10,000 mg/l of TDS is considered brackish water. An update to the study of brackish groundwater development and a review of the potential for groundwater blending has primarily focused on the Gulf Coast Aquifer System, which includes the Chicot, Evangeline, Jasper, and Catahoula Aquifers. Water quality varies with depth and geography within the same geologic formations, so brackish groundwater sources are typically found in the deeper portions of a formation that is also used for freshwater supplies in other areas. In the Gulf Coast Aquifer System, which is a major source of fresh groundwater in Region H, as individual formations dip from outcrops in the northwest toward the coast in the southeast, these formations increase in depth, thickness, and generally in TDS. Thus, more brackish or slightly brackish water typically occurs in the southeastern extent of individual Gulf Coast aquifers. The estimated extent of brackish groundwater availability in each aquifer is illustrated in the exhibits attached to this memorandum. Available information on potential brackish groundwater supplies are provided below, based on the studies by the Region H Water Planning Group (RHWPG) in the previous and current regional planning cycles.

Simsboro Aquifer: The Simsboro outcrops north of Region H. Brackish water supplies may be found in the downdip extent of this aquifer across Madison County where the quality ranges from 1,000 mg/l of TDS to 10,000 mg/l.

Carrizo-Wilcox Aquifer: The outcrop of the Carrizo Wilcox in Region H occurs in the northwestern portion of Leon County. The downdip portion approaches saline conditions in southern Madison County with quality transitioning to approximately 3,000 mg/l of TDS at the Madison and Walker County line. A thin band of water between 3,000 and 10,000 mg/l of TDS can be found extending approximately five miles into northwestern Walker County.

Sparta Aquifer: The outcrop of the Sparta Aquifer in Region H occurs in Leon County. Saline portions of the aquifer occur in Walker County north of Huntsville and central Trinity County along a line between the cities of Trinity and Groveton.

Chicot Aquifer of the Gulf Coast Aquifer System: The Chicot Aquifer is the shallowest aquifer within the Gulf Coast Aquifer System and outcrops in a wide band from Austin County toward southern Polk County. Supplies are generally fresh except close to the coast where water quality quickly declines from fresh water to brackish within a span of approximately 10 miles. Future wells in the brackish zone of the Chicot Aquifer are estimated to be capable of producing from 500 gpm to more than 1,000 gpm. Current development of brackish supplies in the Chicot Aquifer is limited to an ongoing project by the Brazosport Water Authority, which is detailed in a separate technical memorandum.

Evangeline Aquifer of the Gulf Coast Aquifer System: The Evangeline Aquifer lies beneath the Chicot Aquifer and outcrops in Montgomery, Walker, San Jacinto, and Polk Counties within Region H. Water quality remains fresh throughout most of the region. However, water from the aquifer is slightly brackish to brackish except in these areas: the northern portion of Brazoria County, most of Galveston County, the northwest portion of Chambers County, and the southeastern portion of Liberty County. This segment contains water of varying salinity until reaching the coast, where TDS climbs well above 10,000 mg/l. Little to no development has occurred in the brackish portion of the Evangeline Aquifer. It is estimated that well production rates in the slightly brackish and brackish zones could range from 500 to more than 1,200 gpm.

Jasper Aquifer of the Gulf Coast Aquifer System: The outcrop of the Jasper Aquifer in Region H crosses northern Austin County and cuts through central Walker County and around the junction of Trinity, Polk, and San Jacinto Counties. This aquifer lies beneath the Evangeline and is a source of fresh water for Austin and Waller Counties, northern Harris County, and northward. A band of

brackish water reaches its greatest width across almost the entirety of Fort Bend County with the majority of that supply being in the 3,000 to 10,000 mg/l of TDS range. Brackish groundwater in the Jasper Aquifer is also found in the southern portions of Harris County and the central portion of Liberty County. A public water supplier in northern Fort Bend County has drilled a test well in the slightly brackish zone of the Jasper Aquifer and plans to blend this water with an existing fresh groundwater source. Otherwise, development of brackish water from the Jasper has been limited, and a 2018 study has indicated that such development could pose a subsidence risk. Although pumping rates are highly dependent on local conditions, it is estimated that pumping rates of approximately 1,000 to 1,500 gpm could be obtained in the slightly brackish and brackish zones of the Jasper Aquifer in Fort Bend County.

Catahoula Aquifer of the Gulf Coast Aquifer System: The outcrop of the Catahoula Aquifer in Region H occurs in Walker, Trinity, and Polk Counties, and water quality in the downdip maintains freshwater conditions as far south as central Montgomery, San Jacinto, and Polk Counties. Water of slightly brackish to brackish quality extends southward in a band that reach the Woodlands in Montgomery County, crosses south of Coldspring and Livingston to the northeast and south of Hempstead and Bellville to the southwest, making it available as a potential supply in Austin, Waller, Montgomery, San Jacinto, and Polk Counties. This aquifer is currently being developed as a supply in Montgomery County, and a study by the RHWPG indicates that additional wells in that county could likely produce between 1,000 and 2,000 gpm in the slightly brackish zone of the aquifer.

Typically, the depth of the brackish portions of these aquifers is far greater than the more commonly developed aquifers. However, these confined systems often have shallow static water levels that are far above the top of the aquifer, making pumping costs more consistent with other groundwater supplies, although capital costs to develop deep wells are correspondingly higher than for typical groundwater applications.

The brackish supplies identified in these areas are relatively undocumented compared to the typical supply aquifers in Region H. Therefore, the question of long-term availability will remain uncertain until the level of use increases to the point that adequate information can be collected to fully evaluate these resources. However, it is known that pumpage in these aquifers may alter the geographic distribution of brackish water. For example, four public supply wells in the freshwater portion of the Catahoula Aquifer in Montgomery County have experienced increases in the TDS of produced water over a relatively short lifetime of less than 10 years, such that produced water is approaching the slightly brackish threshold of 1,000 mg/l of TDS. Therefore, the location of waters of various qualities may change over time. Developed groundwater supplies in these aquifers that are initially fresh or only slightly brackish may eventually need additional treatment or even be deemed unreliable as a long-term supply without adequate blending or treatment.

Direct use of brackish or slightly brackish groundwater as a supply source requires treatment through a reverse osmosis (RO) process to reduce TDS to at least the TCEQ-defined secondary contaminant level (SCL) of 1,000 mg/l. Some utilities which have begun producing water from the Catahoula Aquifer or Jasper Aquifer have experienced high levels of customer complaints for TDS levels above 500 mg/l. To alleviate treatment costs, water providers may also consider a blending strategy, in which a slightly brackish source water is blended with a higher quality water source to increase total supply volume without exceeding the TCEQ drinking water standard. For source waters with TDS concentrations only slightly over 1,000 mg/L, this strategy has the potential to provide a supply of acceptable quality without additional treatment. Alternately, blending fresh water with a lower quality brackish water may produce a blended supply that requires some treatment but is still more economical to treat than a strictly brackish supply.

Environmental Considerations

In general, environmental concerns for development of brackish groundwater are site-specific and similar to the concerns associated with conventional groundwater projects. Additional concern may arise from the disposal of brine concentrate from RO treatment processes, which are used to lower the levels of TDS in the produced water stream. Disposal may be performed through deep well injection, which forces the brine into deep aquifers away from environmentally sensitive features, such as fish and wildlife habitat resources. In some cases, conditions permitting, this disposal may be alternately be discharged into a natural water course. However, surface water discharge may only be performed in cases where the receiving water body already experiences high levels of TDS (such as in coastal areas) or where species and habitat would not be impacted.

In the Gulf Coast area and particularly in Region H, concerns regarding subsidence are critical to all decisions made in groundwater development. A 2018 study by the Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) found that substantial groundwater development in the Jasper Aquifer, which contains brackish water in most of Harris and Fort Bend Counties, would likely result in subsidence. While additional studies and data collection have been recommended, this study indicates that pumpage from deeper aquifers of the Gulf Coast Aquifer System may pose a similar risk for subsidence as that of over-pumping in the shallower aquifers, which may limit the potential for the development of brackish groundwater projects in this part of the region.

Permitting and Development

In Region H, permitting of groundwater supplies may be managed by a Groundwater Conservation District (GCD) or one of the subsidence districts. Each of these entities has a different means to address the availability and development of brackish groundwater, so it is important to address these issues on a project by project basis. Furthermore, many brackish groundwater resources are encompassed within the extent of traditional supply aquifers throughout the region. For those aquifers which have a Desired Future Condition (DFC) adopted by the local Groundwater Management Area (GMA), availability for the purposes of regional water planning is limited to the Modeled Available Groundwater (MAG) for that aquifer, plus any additional availability provided by the application of a MAG Peak Factor. If the current use of fresh groundwater from these aquifers is already equal to the defined source availability, the regional plan may not allocate any additional brackish groundwater supplies from that aquifer.

Currently, the Catahoula Aquifer does not have a DFC in any county, and the Lone Star GCD in Montgomery County permits pumping from this aquifer as an alternative water source. Groundwater development in Fort Bend, Galveston, and Harris Counties is subject to subsidence district regulations, which currently limit pumping from any aquifer to a percentage of demand. Thus, brackish groundwater is a feasible supply option in these counties but must still be used in conjunction with non-groundwater sources. In Brazoria County, pumping is not currently limited by Brazoria County GCD rules; however, source availability for regional planning purposes is limited due to the existence of DFCs for both readily accessible aquifers in this county (Chicot and Evangeline Aquifers).

In addition to the production well, permitting is also required for the development of an injection well typically used for brined disposal associated with the RO treatment process. In most cases, this is a matter of permitting a Class I non-hazardous injection well with the Texas Commission on Environmental Quality (TCEQ). This process typically takes a year to complete.

Cost Analysis

In addition to well construction and development, it may be necessary to treat water from fresh to slightly brackish aquifers in order to reduce the TDS to a level considered acceptable by end users. This may be performed through RO desalination. In addition to the cost of treatment, the cost of brine disposal must also be considered. This is typically performed through deep well injection which deposits the concentrated brine in a deep layer that is safely separated from water sources. Alternatively, disposal to surface water may be performed when conditions warrant such an arrangement.

Unit cost analyses were based on the development of a single 1,000-gpm production well. Three cost scenarios were developed to pump and treat brackish groundwater of 1,000, 2,000, and 3,000 mg/l TDS. RO treatment was assumed to remove 99 percent of the influent TDS and reject 25 percent of the overall input stream as concentrated brine. A blending approach was employed such that a portion of the brackish water supply would be treated and then blended with the remaining brackish water to produce a finished water with a TDS concentration of 500 mg/l. These planning level cost estimates assume the development of one brackish well and one injection well for disposal of RO concentrate.

In addition, a planning level cost estimate was developed for a scenario in which blending with existing fresh water sources was a viable alternative. This option only included the cost for development of a single well in a brackish aquifer and the construction of collection lines to receive water from the well site. This scenario assumes that the freshwater source is of sufficient quality and quantity that no RO treatment would be required for the blended supply.

Costs for all four scenarios assume drilling a 2,000-ft deep supply well that would be in operation 80% of the year and would have a peak factor of 1.5. All cost estimates are based on standard regional planning cost estimation assumptions. A summary of costs is shown below in *Table 1*. *Table 2*, *Table 3*, and *Table 4* contain detailed cost information for the three scenarios requiring treatment, and the blending option is shown in *Table 5*. Costs for these scenarios are intended to be representative of a typical well at various potential TDS levels. RWP costing for individual WUG-level brackish groundwater projects applies a similar methodology for WUG-specific TDS and well sizing. For WUG-specific brackish groundwater projects utilizing blending without RO treatment, costs are calculated in the same manner as the Region H Expanded Use of Groundwater WMS and vary by WUG type and size of project.

Table 1 – Cost Summary for Brackish Groundwater Development and Groundwater Blending Options

Supply Well Capacity (gpm)	Brackish Water Quality (mg/l TDS)	Percent Treated in RO Process	Finished Water Quality (mg/l TDS)	Capital Cost (Sept. 2018 \$)	Unit Cost During Debt Service (Sept. 2018 \$)	Long Term Unit Cost (Sept. 2018 \$)
1,000	1,000	50.0%	504	\$8,771,073	\$2,105	\$1,283
1,000	2,000	75.5%	501	\$10,638,148	\$2,598	\$1,600
1,000	3,000	84.0%	499	\$11,939,505	\$2,970	\$1,850
1,000				\$2,636,942	\$523	\$276

Table 2 – One Well and Treatment at 1,000 mg/l Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
PROJECT CAPITAL COST SUMMARY							
1	CONSTRUCTION COST	1	LS	\$6,307,852	\$6,307,852		
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$2,204,607	\$2,204,607		
3	LAND AND EASEMENTS	1	LS	\$11,439	\$11,439		
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$13,646	\$13,646		
5	INTEREST DURING CONSTRUCTION	1	LS	\$233,529	\$233,529		
PROJECT CAPITAL COST					\$8,771,073		
ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$617,142	\$617,142	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$726,505	\$726,505	\$726,505	\$726,505	\$726,505	\$726,505
3	PUMPING ENERGY COSTS	\$235,373	\$235,373	\$235,373	\$235,373	\$235,373	\$235,373
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$1,579,020	\$1,579,020	\$961,878	\$961,878	\$961,878	\$961,878
ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$1,579,020	\$1,579,020	\$961,878	\$961,878	\$961,878	\$961,878
2	YIELD	750	750	750	750	750	750
3	UNIT COST	\$2,105	\$2,105	\$1,283	\$1,283	\$1,283	\$1,283
TOTAL UNIT COST		\$1,557					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
CONSTRUCTION COST SUMMARY							
1	PIPELINES	1	LS	\$62,820	\$62,820		
2	WATER TREATMENT PLANTS	1	LS	\$3,777,438	\$3,777,438		
3	WELL FIELDS	1	LS	\$2,467,594	\$2,467,594		
PROJECT COST					\$6,307,852		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
OPERATION AND MAINTENANCE (O&M) COST SUMMARY							
1	PIPELINES	1.0	%	\$62,820	\$628		
2	WATER TREATMENT PLANTS	1.0	LS	\$701,201	\$701,201		
3	WELL FIELDS	1.0	%	\$2,467,594	\$24,676		
ANNUAL OPERATION AND MAINTENANCE COST					\$726,505		

Table 3 – One Well and Treatment at 2,000 mg/l Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$7,652,787	\$7,652,787
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$2,675,335	\$2,675,335
3	LAND AND EASEMENTS	1	LS	\$12,330	\$12,330
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$14,456	\$14,456
5	INTEREST DURING CONSTRUCTION	1	LS	\$283,240	\$283,240
PROJECT CAPITAL COST					\$10,638,148

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$748,512	\$748,512	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$942,541	\$942,541	\$942,541	\$942,541	\$942,541	\$942,541
3	PUMPING ENERGY COSTS	\$257,531	\$257,531	\$257,531	\$257,531	\$257,531	\$257,531
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$1,948,583	\$1,948,583	\$1,200,072	\$1,200,072	\$1,200,072	\$1,200,072

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$1,948,583	\$1,948,583	\$1,200,072	\$1,200,072	\$1,200,072	\$1,200,072
2	YIELD	750	750	750	750	750	750
3	UNIT COST	\$2,598	\$2,598	\$1,600	\$1,600	\$1,600	\$1,600
TOTAL UNIT COST		\$1,933					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PIPELINES	1	LS	\$62,820	\$62,820
2	WATER TREATMENT PLANTS	1	LS	\$4,828,645	\$4,828,645
3	WELL FIELDS	1	LS	\$2,761,323	\$2,761,323
PROJECT COST					\$7,652,787

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PIPELINES	1.0	%	\$62,820	\$628
2	WATER TREATMENT PLANTS	1.0	LS	\$914,300	\$914,300
3	WELL FIELDS	1.0	%	\$2,761,323	\$27,613
ANNUAL OPERATION AND MAINTENANCE COST					\$942,541

Table 4 – One Well and Treatment at 3,000 mg/l Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
PROJECT CAPITAL COST SUMMARY							
1	CONSTRUCTION COST	1	LS	\$8,589,829	\$8,589,829		
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$3,003,299	\$3,003,299		
3	LAND AND EASEMENTS	1	LS	\$13,221	\$13,221		
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$15,266	\$15,266		
5	INTEREST DURING CONSTRUCTION	1	LS	\$317,888	\$317,888		
PROJECT CAPITAL COST					\$11,939,505		
ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$840,076	\$840,076	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$1,122,975	\$1,122,975	\$1,122,975	\$1,122,975	\$1,122,975	\$1,122,975
3	PUMPING ENERGY COSTS	\$264,638	\$264,638	\$264,638	\$264,638	\$264,638	\$264,638
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$2,227,689	\$2,227,689	\$1,387,612	\$1,387,612	\$1,387,612	\$1,387,612
ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$2,227,689	\$2,227,689	\$1,387,612	\$1,387,612	\$1,387,612	\$1,387,612
2	YIELD	750	750	750	750	750	750
3	UNIT COST	\$2,970	\$2,970	\$1,850	\$1,850	\$1,850	\$1,850
TOTAL UNIT COST		\$2,224					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
CONSTRUCTION COST SUMMARY							
1	PIPELINES	1	LS	\$62,820	\$62,820		
2	WATER TREATMENT PLANTS	1	LS	\$5,667,627	\$5,667,627		
3	WELL FIELDS	1	LS	\$2,859,383	\$2,859,383		
PROJECT COST					\$8,589,829		
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
OPERATION AND MAINTENANCE (O&M) COST SUMMARY							
1	PIPELINES	1.0	%	\$62,820	\$628		
2	WATER TREATMENT PLANTS	1.0	LS	\$1,093,753	\$1,093,753		
3	WELL FIELDS	1.0	%	\$2,859,383	\$28,594		
ANNUAL OPERATION AND MAINTENANCE COST					\$1,122,975		

Table 5 – One Well for Blending Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$1,893,850	\$1,893,850
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$659,707	\$659,707
3	LAND AND EASEMENTS	1	LS	\$5,201	\$5,201
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$7,975	\$7,975
5	INTEREST DURING CONSTRUCTION	1	LS	\$70,208	\$70,208
PROJECT CAPITAL COST					\$2,636,942

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$185,538	\$185,538	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$18,939	\$18,939	\$18,939	\$18,939	\$18,939	\$18,939
3	PUMPING ENERGY COSTS	\$188,131	\$188,131	\$188,131	\$188,131	\$188,131	\$188,131
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$392,608	\$392,608	\$207,070	\$207,070	\$207,070	\$207,070

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$392,608	\$392,608	\$207,070	\$207,070	\$207,070	\$207,070
2	YIELD	750	750	750	750	750	750
3	UNIT COST	\$523	\$523	\$276	\$276	\$276	\$276
TOTAL UNIT COST		\$359					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PIPELINES	1	LS	\$62,820	\$62,820
2	WELL FIELDS	1	LS	\$1,831,031	\$1,831,031
PROJECT COST					\$1,893,850

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PIPELINES	1.0	%	\$62,820	\$628
2	WELL FIELDS	1.0	%	\$1,831,031	\$18,310
ANNUAL OPERATION AND MAINTENANCE COST					\$18,939

Water Management Strategy Evaluation

Based on the analysis provided above, the Brackish Groundwater Development and Groundwater Blending project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	The costs of this project vary greatly from one application to another. Cost is primarily dependent upon the quality of local supplies and the opportunity to blend with fresh sources.
Location	5	Where water is available, it may be developed in the immediate vicinity of demand.
Water Quality	3	When treated or blended responsibly, there are no known issues related to water quality.
Environmental Land and Habitat	4	Minimal impacts related to development of well sites and treatment facilities.
Environmental Flows	4	The project produces return flows from deep groundwater supplies.
Local Preference	3	No local preference identified.
Institutional Constraints	3	Regulation varies by specific application. However, where supply development is within the limits of the regulating authority, pathways are available for development.
Development Timeline	5	Projects may be identified and implemented in a short period of time.
Sponsorship	3	Sponsorship varies by specific application. Some WUGs are proceeding with development and others have had the project applied through the planning process.
Vulnerability	4	Supplies are generally more drought-tolerant than surface water resources and have limited risk from human impacts.
Impacts on Other WMS	4	Slight increase in return flows associated with groundwater development.

Brackish Groundwater Development and Groundwater Blending projects are not anticipated to affect acreage or vulnerable species. However, certain approaches to brine disposal, should they be pursued, may impact water quality. The projects may increase return flows to streams by approximately 50 percent of the project yield through municipal return flows. This strategy is not anticipated to impact agricultural land or production.

Water User Group Application

The Brackish Groundwater Development and Groundwater Blending project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project may be developed as a supply in the vicinity of brackish groundwater zones identified in this technical memorandum.
Size	This project is scalable to fit local demands. However, little is known regarding the long-term sustainability of these brackish supplies and availability may be limited through physical constraints or regulation in the future.
Water Quality	Supplies from this project can be developed in such a way to provide water at a number of quality levels.
Unit Cost	The unit cost for the project varies based on magnitude and the specifics of each application. Generally, the range of costs limit the application of brackish groundwater development projects to municipal and industrial applications, but the use of brackish groundwater in a blended supply may be an affordable option.
Other Factors	Brackish groundwater supplies are currently in use from the Catahoula Aquifer in Montgomery County and are being developed in the Chicot Aquifer in Brazoria County.

References

Harris-Galveston Subsidence District and Fort Bend Subsidence District. (2018). *Investigation of the Brackish Groundwater Resources in the Gulf Coast Aquifer and the Determination of Potential Subsidence Risk Due to Resource Development*. Prepared by INTERA, Ewing, T. E., Banerji, D., LBG-Guyton & Associates / WSP, Sheng, Z., and HDR.

Lone Star Groundwater Conservation District. (2019). *Montgomery County Catahoula Aquifer Pumping and Permitting Data*.

Smith, David K. *Brazosport Water Authority Brackish Groundwater Development*. Texas Desalination Association, Texas Desal 2017 Conference, 23 September 2017, Hyatt Regency, Austin, TX.

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<http://www.twdb.texas.gov/groundwater/data/gwdbbrpt.asp>

Texas Water Development Board. (2016). *Final Report: Identification of Potential Brackish Groundwater Production Areas – Gulf Coast Aquifer System*. Prepared by TWDB, INTERA, Ewing, T. E., and Banerji, D.

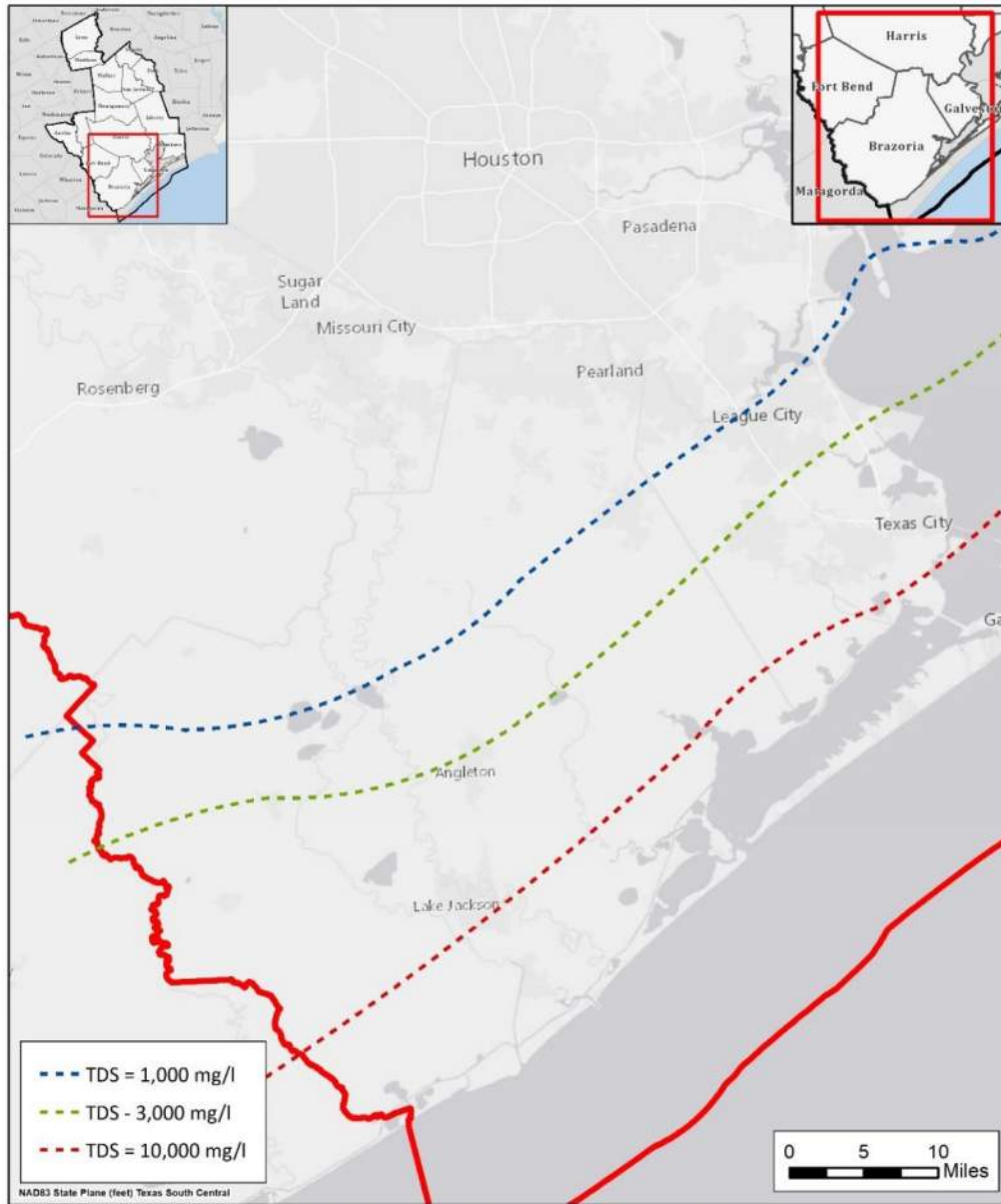
United States Geological Survey. *USGS Groundwater Data for Texas*.
<https://waterdata.usgs.gov/tx/nwis/gw>

Exhibits



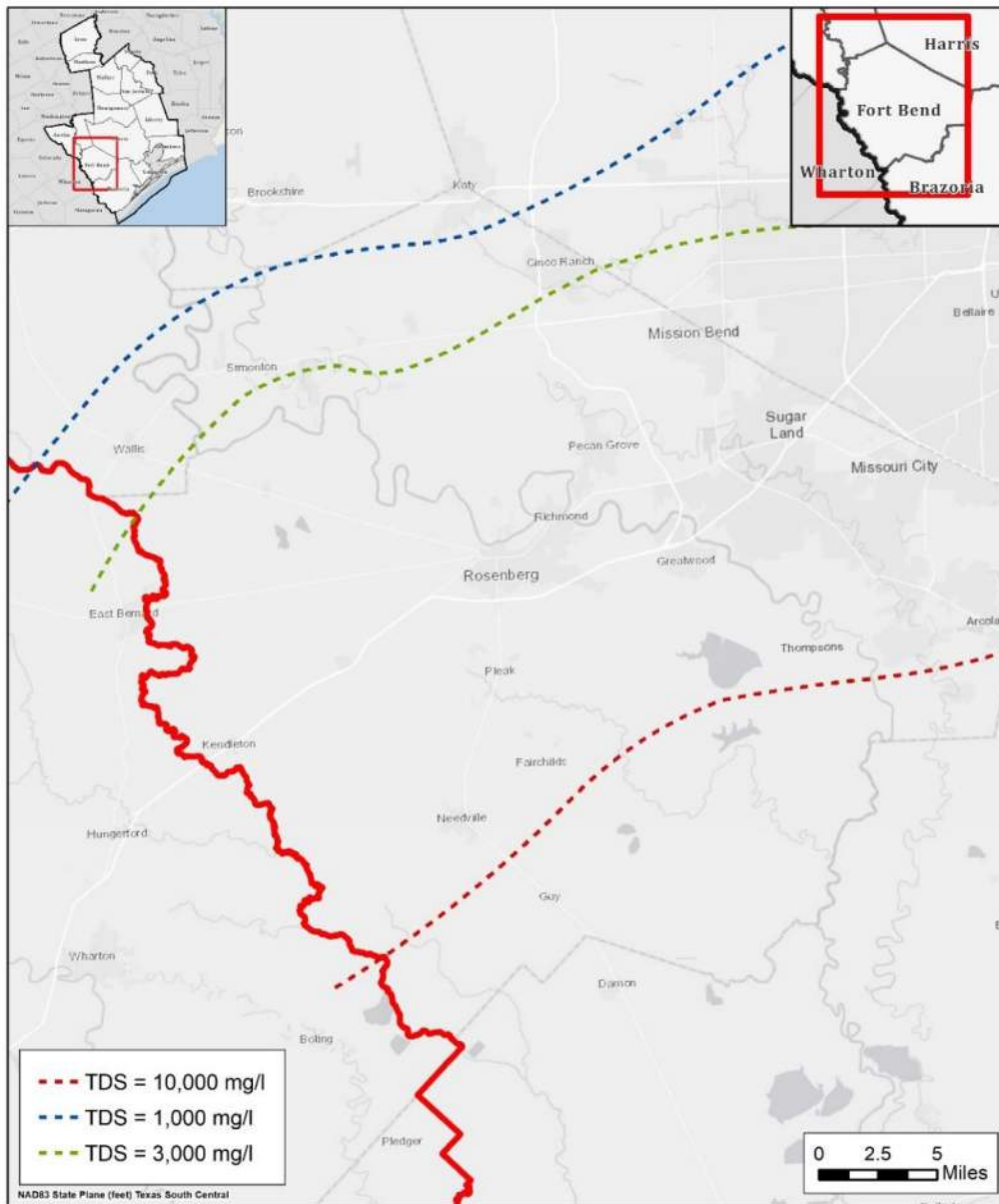
Chicot Aquifer Estimated Delineation of Fresh to Brackish Groundwater





Evangeline Aquifer Estimated Delineation of Fresh to Brackish Groundwater

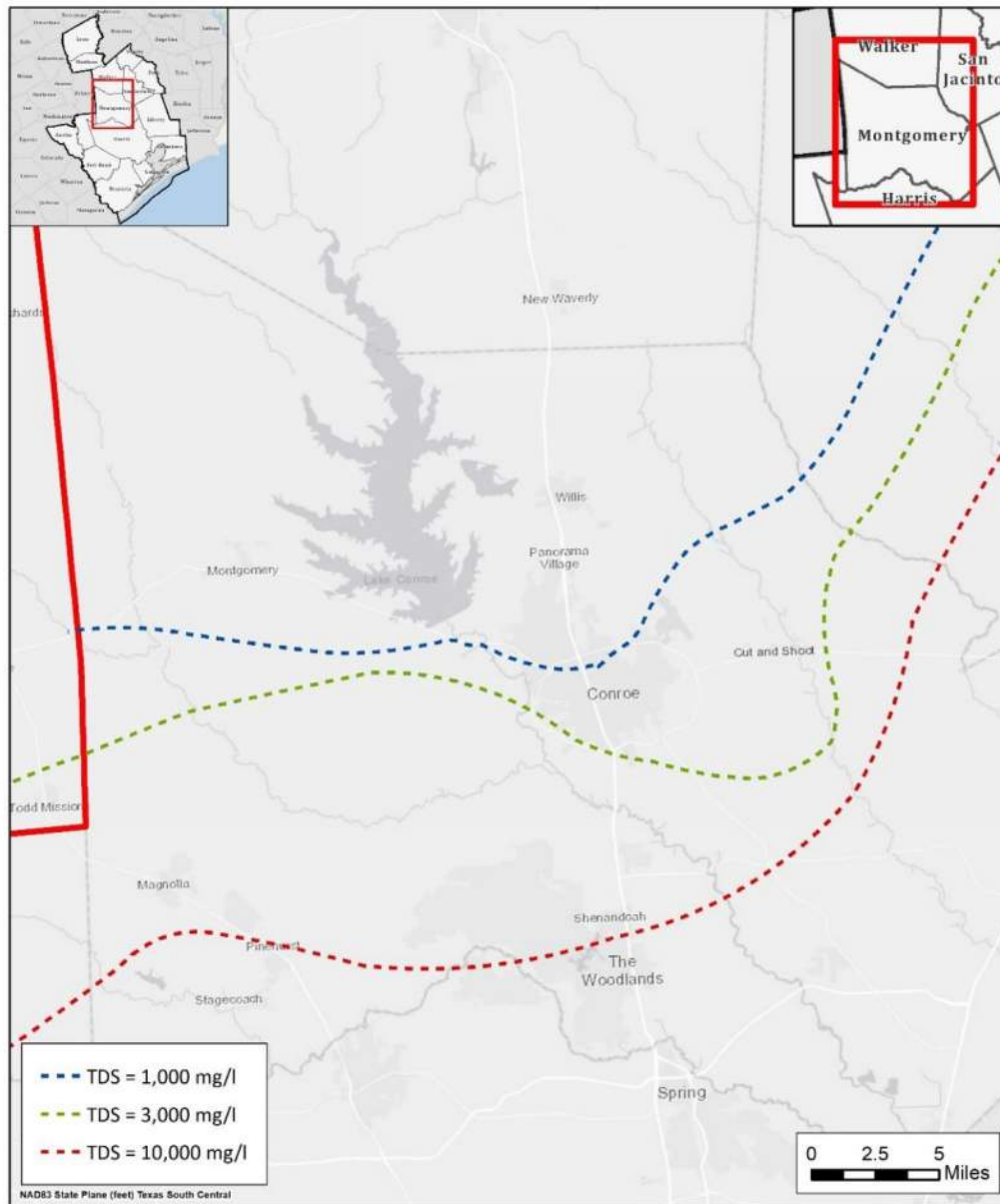




Jasper Aquifer Fort Bend County Estimated Delineation of Fresh to Brackish Groundwater



Texas



Catahoula Aquifer Estimated Delineation of Fresh to Brackish Groundwater



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Brazosport Water Authority Brackish Groundwater Development
Project ID:	GWDV-003
Project Type:	New Groundwater Source
Potential Supply Quantity (Rounded):	11,200 ac-ft/yr (peak) (10 mgd)
Implementation Decade:	2030 (2023)
Development Timeline:	2 years
Project Capital Cost:	\$33,246,167 (Sept. 2018)
Unit Water Cost (Rounded):	\$579 per ac-ft (during loan period) \$370 per ac-ft (after loan period)

Strategy Description

The Brazosport Water Authority (BWA) serves seven communities in the southern Brazoria County area and provides potable service to Dow Inc. and two Texas Department of Criminal Justice (TDCJ) units, as well as the City of Rosenberg. In December of 2013, BWA concluded a Texas Water Development Board (TWDB) Regional Facility Planning Grant study to examine the potential for serving the current BWA service area as well as other portions of Brazoria County in the future. The study included several recommendations including the development of a reverse osmosis (RO) water treatment plant (WTP) at the site of the current BWA surface water treatment plant to be fed by a brackish groundwater well field in the vicinity of the current plant site. The RO WTP would function in two basic modes:

1. When the Brazos River has sufficient flow, including Harris and Brazoria Reservoir diversions, the RO WTP would provide a minimal baseline potable water flow, supplementing the primary, lower cost potable water from the BWA surface water treatment plant.
2. When the Brazos River has insufficient flow, the RO WTP would operate up to its peak capacity to meet the potable water demands.

Strategy Analyses

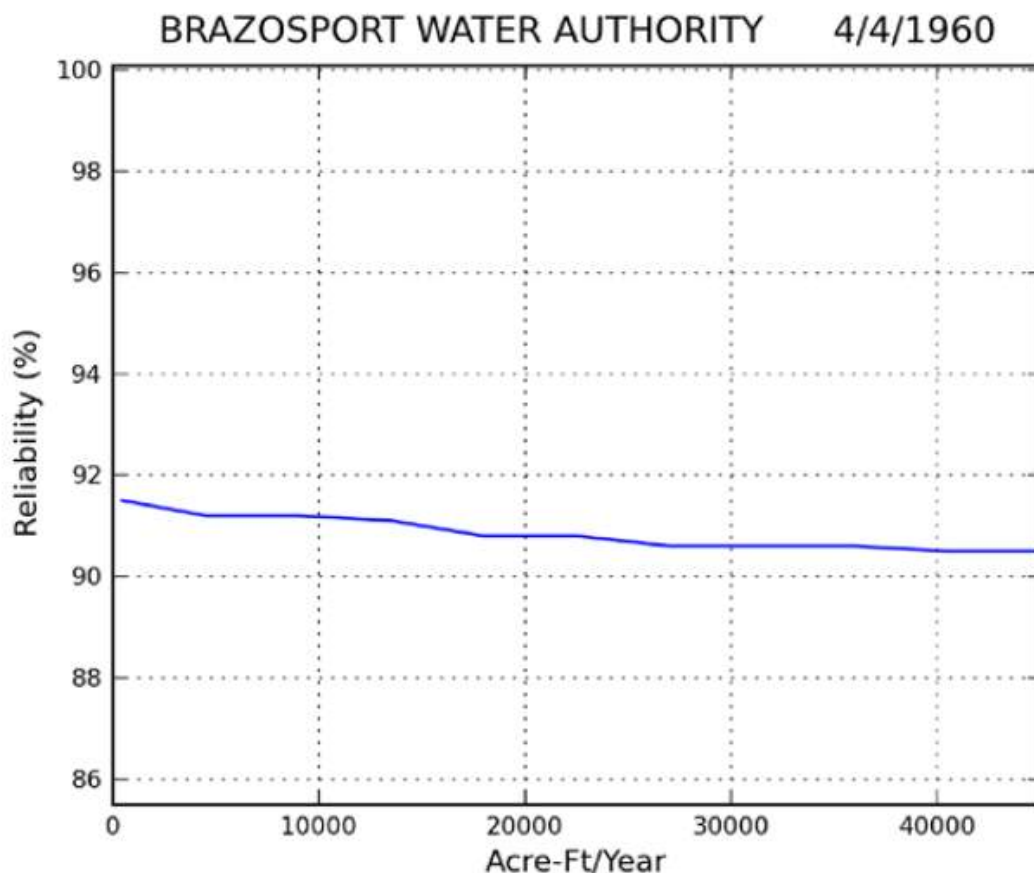
The project analyses for BWA Brackish Groundwater Development include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Existing surface water supplies were evaluated using the Texas Commission on Environmental Quality

(TCEQ) Brazos River Basin and San Jacinto-Brazos Coastal Basin Water Availability Model (WAM). For the purposes of this exercise, the full authorization version of the model (bwam3) was employed to evaluate availability from BWA's water right, 5366. As shown in *Figure 1*, this right of 45,000 ac-ft/yr was found to have a time reliability of approximately 90.5 percent. That is, 100 percent of the diversion target is available in 90.5 percent of the monthly simulation periods. *Figure 1* also shows that even a dramatically reduced target of only one percent of the permit value has limited improvement in reliability. In effect, the WAM indicates that availability for this right is subject to dramatic swings in river conditions resulting in conditions where either the entirety of or none of the right is available for diversion at any given time. This reliability is depicted below in *Figure 1*.

Figure 1 – Simulated Reliability of BWA Water Right 5366



As part of the regional study, various approaches were considered to close the water supply gap. These include the purchase of surface water from wholesale providers in the Brazos River Basin, brackish groundwater desalination, and seawater desalination. Brackish groundwater desalination was selected as the preferred alternative for meeting supply shortages in supply due to availability and cost of water considerations.

Although the RO WTP's initial phase capacity is rated at 6 MGD, actual operation of the facility would result in a lower long-term average rate of production. The study indicates that Phase 1 of the facility will operate at peak capacity (6.0 MGD) 10 percent of the time to mitigate shortages in surface water supply. The plant would normally operate at just 2.0 MGD 90 percent of the time. This results in an average rate of production of 2.40 MGD. In order to produce the peak rate of 6.0 MGD a feed rate of 6.7 MGD is anticipated. This is based on blending 4.0 MGD of membrane permeate with 2.0 MGD of

bypass flow. Similar permeate and bypass blending for the 2.40 MGD average flow will require a long-term groundwater production rate of 2.7 MGD or approximately 3,000 ac-ft/yr.

The proposed brackish groundwater facilities would consist of three closely located wells and collection lines ranging from 12-in. to 36-in. diameter. The WTP would provide cartridge filter pretreatment, chemical additives, and final treatment through three RO membrane racks.

The Phase 2 facility will operate at its 10.0 MGD peak capacity 10 percent of the time and a baseline rate similar to Phase 1 of 2.0 MGD, 90 percent of the time. This results in an average rate of production of 2.8 MGD. Peak capacity will be achieved with a feed rate of 11.2 MGD to produce 6.7 MGD of permeate to be blended with 3.3 MGD of bypass flow. The total long-term rate of production of groundwater will be 2.8 MGD or approximately 3,136 ac-ft/yr. Although it is difficult to determine what level of production would be required each year, this yield of 3,136 ac-ft/yr represents a yield under drought of record conditions assuming the 90/10 operating approach discussed above. This level of supply does not result in over-allocation of an existing or planned source of water.

An additional two wells will be incorporated into the overall well field to reach the Phase 2 capacity of 10.0 MGD connected by additional 12-in. and 36-in. piping. Pretreatment will be accomplished in the same manner as Phase 1.

Environmental Considerations

Construction within the vicinity of the Waters of the U.S. found along the Brazos River may be subject to Section 404 of the Clean Water Act (CWA) and crossing of the Brazos River to install collection line to the remote well across the river would be subject to a Section 10 permit from the U.S. Army Corps of Engineers. These issues may be covered under Nationwide Permit (NWP) 39 assuming certain conditions are met such as limitation of disturbance to no more than 0.5 acres. Also, construction of a pipeline across the CR 2004 bridge would be considered a bridge under Section 9 of the River and Harbors Act and require authorization.

The Brazos River in the project vicinity is a State-owned riverbed. Any activity within or beneath the confines of the Brazos River would require an easement from the GLO prior to proceeding with construction.

The development of groundwater production may potentially increase the risk of subsidence and saltwater intrusion, especially for sites near the coast. To address these concerns, BWA has performed investigations into the potential for subsidence and drawdown occurring in the vicinity of the well field. To accomplish this, BWA utilized both the Houston Area Groundwater Model (HAGM) and the Lower-Colorado River Basin (LCRB) Groundwater Flow Model, both of which models simulate flow in formations of the Gulf Coast Aquifer System. Maximum incremental subsidence was determined for various scenarios. In a scenario similar to the proposed well field configuration, the subsidence predicted by the HAGM reached a maximum of 1.25 feet at the well field under a constant pumping scenario of 4,000 gpm (5.76 MGD) between 2005 and 2050. A scenario splitting pumpage stratigraphically across the Beaumont and Lissie formations in the LCRB demonstrated subsidence of 0.43 feet between the same time period. Note that this pumping rate of 5.76 MGD is greater than the anticipated long-term average pumping rates for Phases 1 and 2 discussed above. In addition to this desktop analysis, BWA has installed subsidence monitoring equipment for use in tracking long-term trends in proximity of the well field.

RO concentrate disposal to the Brazos River will be accomplished in a way to minimize potential environmental impacts. Discharge is anticipated to occur below State Highway (SH) 332 where there

is no limit set for Total Dissolved Solids (TDS). At this point, the salinity of RO concentrate is expected to be below the ambient levels of the Brazos River. Similar discharge strategies have been employed for other projects in the Brazos River Basin. This discharge will require permitting under the Texas Pollutant Discharge Elimination System (TPDES).

Permitting and Development

The groundwater well components of this project will require permitting through the Brazoria County Groundwater Conservation District (BCGCD) to drill and operate the planned wells. Brine discharge from the facility will also require permitting through TCEQ. Additional permitting activities may be required to facilitate construction activities, as described above.

Cost Analysis

Costs for the proposed project were estimated based upon information provided by BWA through application for SWIFT funding in conjunction with detailed infrastructure and operation and maintenance cost projections. Sponsor costs were scaled to September 2018 equivalent cost in accordance with TWDB guidance. Other components such as interest during construction and annualized debt service were estimated using standard regional planning assumptions. Costs for Phases 1 and 2 of the project have been combined into one overall capital cost as it is expected that both phases will be developed in the 2030 planning period. These costs are summarized below in *Table 1*.

Table 1 – BWA Brackish Groundwater Development Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$23,918,274	\$23,918,274	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$7,518,513	\$7,518,513	
3	LAND AND EASEMENTS	1	LS	\$13,352	\$13,352	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$38,944	\$38,944	
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,757,084	\$1,757,084	
PROJECT CAPITAL COST					\$33,246,167	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$2,339,236	\$2,339,236	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$3,513,934	\$3,513,934	\$3,513,934	\$3,513,934	\$3,513,934
3	PUMPING ENERGY COSTS	\$0	\$631,000	\$631,000	\$631,000	\$631,000	\$631,000
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$6,484,170	\$6,484,170	\$4,144,934	\$4,144,934	\$4,144,934

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$6,484,170	\$6,484,170	\$4,144,934	\$4,144,934	\$4,144,934
2	YIELD	-	11,200	11,200	11,200	11,200	11,200
3	UNIT COST	\$0	\$579	\$579	\$370	\$370	\$370
TOTAL UNIT COST							\$454

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
3	WATER TREATMENT PLANTS	1	LS	\$23,918,274	\$23,918,274	
PROJECT COST					\$23,918,274	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
3	WATER TREATMENT PLANTS	1.0	LS	\$3,513,934	\$3,513,934	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,513,934	

Water Management Strategy Evaluation

Based on the analysis provided above, the BWA Brackish Groundwater Development project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	Relatively low project cost for a desalination alternative.
Location	3	Conveyance required to provide water to diverse BWA service area.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts may be easily mitigated.
Environmental Flows	4	Slight increase in instream flows due to brine return to stream course.
Local Preference	4	Local support from BWA customers.
Institutional Constraints	4	Permitting efforts under way.
Development Timeline	5	Project can be implemented in a relatively short time period.
Sponsorship	5	Project is under development.
Vulnerability	4	No substantial risk from natural and man-made disasters. Potential for subsidence being monitored to prevent detrimental impacts.
Impacts on Other WMS	5	Project works in conjunction with BWA surface water rights to provide a reliable water supply.

The BWA Brackish Groundwater Development project is not anticipated to affect vulnerable species and will not reduce instream flows. This project is not anticipated to impact agricultural land or production.

Water User Group Application

The BWA Brackish Groundwater Development project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is positioned to provide water within the current BWA customer service area.
Size	Project is sized to provide adequate dry-year supply for BWA customer use.

CRITERIA	WUG SUITABILITY
Water Quality	Project will provide treated water for potable municipal and industrial use.
Unit Cost	Unit cost is suited to use in municipal supply. Long-term costs are also mitigated by use of traditionally treated surface water supplies when available.
Other Factors	Project is identified for BWA service area.

References

CDM-Smith. *Brazoria County Regional Water Facility Study*. May 2013.

Location Map



Brazosport Water Authority Brackish Groundwater Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston Area 2 Groundwater Infrastructure
Project ID:	GWDV-004
Project Type:	Existing Groundwater Source
Potential Supply Quantity (Rounded):	50,400 ac-ft/yr (45 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years
Project Capital Cost:	\$122,751,076 (Sept. 2018)
Unit Water Cost (Rounded):	\$403 per ac-ft (during loan period) \$232 per ac-ft (after loan period)

STRATEGY DESCRIPTION

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer. Within HGSD Regulatory Area 2, groundwater production is limited to 20 percent of total water use for a water system or for an aggregation of systems under a common Groundwater Reduction Plan (GRP). The City of Houston (COH) has identified a need to develop additional well capacity within Area 2 in order to utilize its estimated future allowable groundwater capacity within the regulatory limits established by HGSD. Remaining demands beyond allowable groundwater production will be met by alternate sources.

STRATEGY ANALYSES

The project analyses for COH Area 2 Groundwater Infrastructure include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

SUPPLY DEVELOPMENT

In order to meet the requirements of the HGSD, the COH has used its surface water rights and treatment capacity to provide an alternative to groundwater pumpage for the city itself as well as other entities in a broad geographic area. The COH has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is developing multiple infrastructure projects related to the treatment and distribution of surface water to facilitate continued compliance as water demands grow in the future. While groundwater makes up only a limited percentage of the overall supply portfolio, the COH has determined that its existing groundwater infrastructure capacity within HGSD Regulatory Area 2 is below the projected allowable production amount based on HGSD regulation and anticipated water demand. In order to better

utilize groundwater resources within the limits established by HGSD, the COH has identified the need to develop an additional 45 mgd in groundwater production capacity within Area 2.

ENVIRONMENTAL CONSIDERATIONS

Development of this project may impact environmental conditions in the immediate vicinity of the well field or fields and associated conveyance infrastructure. While some surface disturbance is likely for construction of groundwater infrastructure, due to the urbanized nature of the COH within Area 2, construction impacts would be expected to occur primarily within previously disturbed areas. Groundwater production in the greater Houston area has been associated with historical subsidence; however, the supplies associated with the COH Area 2 Groundwater Infrastructure project are within the regulatory allowable production limits of the HGSD. Groundwater levels and subsidence are both monitored throughout Harris County by HGSD. It is also noted that well pumping may increase return flows to surface water bodies and to the Galveston Bay system.

PERMITTING AND DEVELOPMENT

Development of the project would be required to comply with the HGSD rules regarding permitting, production, well spacing, and other factors. Infrastructure development may also require minor construction permitting related to surface disturbance for well field, treatment, and pipeline infrastructure.

COST ANALYSIS

A preliminary planning-level cost estimate was developed for the COH Area 2 Groundwater Infrastructure project based on standard regional planning assumptions. Construction costs were estimated for groundwater production and treatment capacity as well as associated storage. Interest during construction, annualized debt service, pumping energy costs, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Costs are presented in September 2018 equivalent costs in *Table 1*.

Table 1 – City of Houston Area 2 Groundwater Infrastructure Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$68,895,741	\$68,895,741	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$24,113,509	\$24,113,509	
3	LAND AND EASEMENTS	1	LS	\$2,406,690	\$2,406,690	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$24,066,900	\$24,066,900	
5	INTEREST DURING CONSTRUCTION	1	LS	\$3,268,237	\$3,268,237	
PROJECT CAPITAL COST						\$122,751,076

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$8,636,898	\$8,636,898	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$5,854,695	\$5,854,695	\$5,854,695	\$5,854,695	\$5,854,695
3	PUMPING ENERGY COSTS	\$0	\$5,829,558	\$5,829,558	\$5,829,558	\$5,829,558	\$5,829,558
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$20,321,150	\$20,321,150	\$11,684,252	\$11,684,252	\$11,684,252

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$20,321,150	\$20,321,150	\$11,684,252	\$11,684,252	\$11,684,252
2	YIELD	-	50,400	50,400	50,400	50,400	50,400
3	UNIT COST	\$0	\$403	\$403	\$232	\$232	\$232
TOTAL UNIT COST							\$300

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	WATER TREATMENT PLANTS	1	LS	\$16,142,928	\$16,142,928
2	WATER STORAGE TANKS	1	LS	\$10,416,623	\$10,416,623
3	WELL FIELDS	1	LS	\$42,336,190	\$42,336,190
PROJECT COST					\$68,895,741

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	WATER TREATMENT PLANTS	1.0	LS	\$5,327,166	\$5,327,166
2	WATER STORAGE TANKS	1.0	%	\$10,416,623	\$104,166
3	WELL FIELDS	1.0	%	\$42,336,190	\$423,362
ANNUAL OPERATION AND MAINTENANCE COST					\$5,854,695

WATER MANAGEMENT STRATEGY EVALUATION

Based on the analysis provided above, the City of Houston Area 2 Groundwater Infrastructure project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Costs are moderately low and decline considerably after debt service.
Location	5	Well development would be located near points of use or in the vicinity of the City of Houston’s existing water distribution system.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Limited concerns. Environmental impacts can be avoided or mitigated.
Environmental Flows	4	Potential increases to instream flows.
Local Preference	4	Project expected to encounter minimal opposition.
Institutional Constraints	3	Minimal permitting challenges anticipated.
Development Timeline	5	Project can be developed in a relatively short period of time.

CRITERIA	RATING	EXPLANATION
Sponsorship	5	Sponsor has identified project and intends to develop infrastructure over time.
Vulnerability	4	No substantial risk from natural and man-made disasters. Potential for subsidence is limited by compliance with HGSD regulation and conversion of large portions of Area 2 to surface water sources.
Impacts on Other Projects	3	Project is not expected to impact other water management strategies.

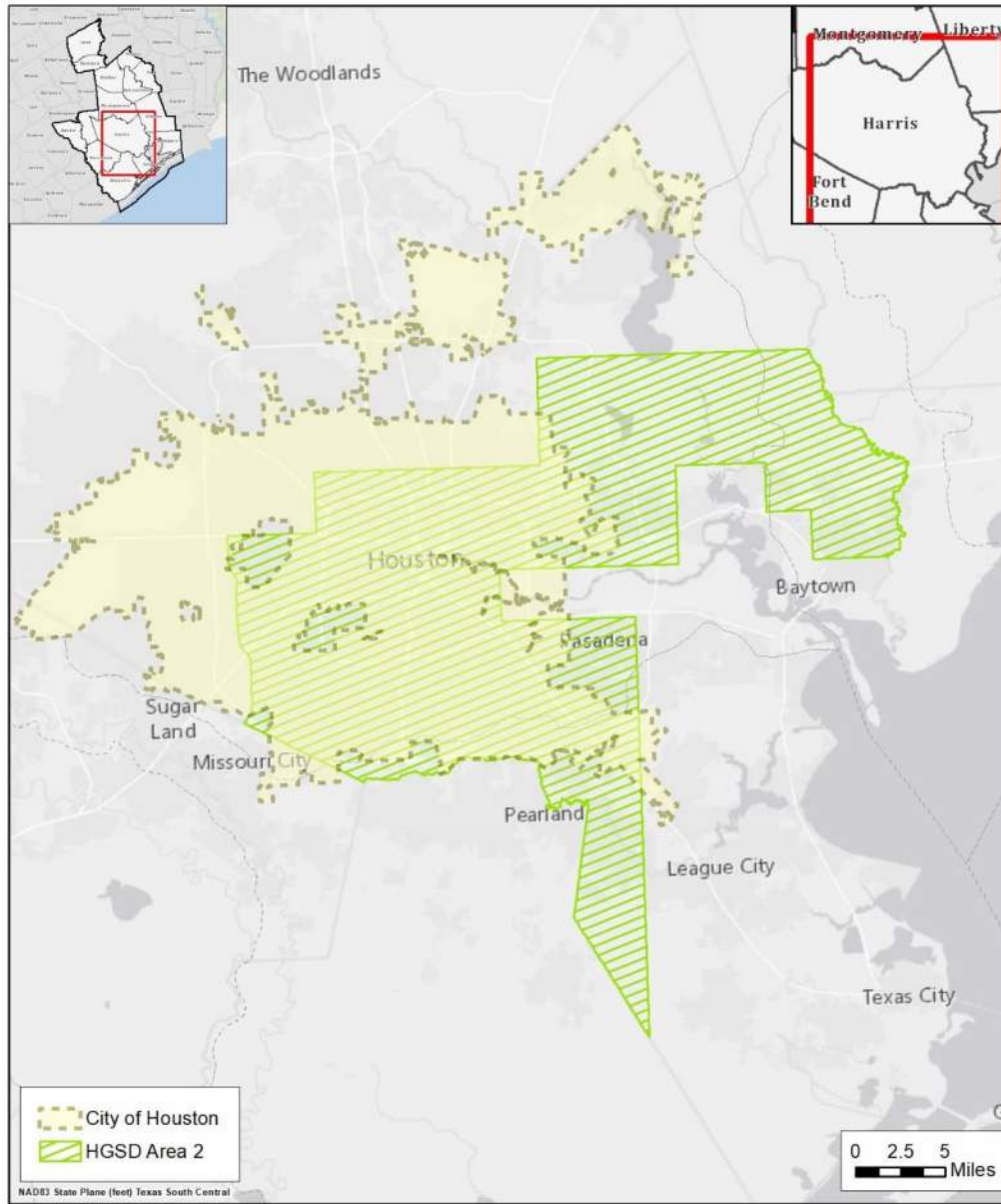
The COH Area 2 Groundwater Infrastructure project is not anticipated to affect vulnerable species and may increase return flows to streams. The project is not anticipated to impact agricultural land or production.

WATER USER GROUP APPLICATION

The COH Area 2 Groundwater Infrastructure project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the project as well as other factors that may relate to the suitability of the project to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Wells or well field infrastructure would be located near points of use within the City of Houston service area or in close proximity to the existing water distribution system.
Size	The project sizing is consistent with allowable groundwater production under HGSD regulation.
Water Quality	Water generated by the project is anticipated to be of good quality and suitable for multiple uses within the City of Houston service area.
Unit Cost	Project unit costs are moderately low during debt service and decline after debt service.
Other Factors	Availability constrained by relevant local groundwater regulations.

LOCATION MAP



COH Area 2 Groundwater Infrastructure Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Expanded Use of Groundwater
Project ID:	GWDV-005
Project Type:	Existing Groundwater Source
Potential Supply Quantity (Rounded):	Approximately 9,100 – 31,300 ac-ft/yr (8.1 – 27.9 mgd)
Implementation Decade:	2020 (varies by WUG)
Development Timeline:	<5 years
Project Capital Cost:	Varies by WUG type and projected need
Unit Water Cost (Rounded):	Varies by WUG type and projected need

STRATEGY DESCRIPTION

A number of WUGs within Region H, particularly those with limited access to other supply sources, will likely meet a portion of their projected needs by developing or expanding infrastructure to utilize available groundwater within the limits established by groundwater conservation district (GCD) and subsidence district (SD) rules or local water quality concerns.

STRATEGY ANALYSES

The project analyses for Expanded Use of Groundwater include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

SUPPLY DEVELOPMENT

The Region H Water Plan anticipates the continued use of available groundwater to meet demands, unless such use is limited by GCD or SD rules or local water quality concerns. By utilizing this supply, a number of WUGs with projected needs would be able to defer or avoid implementation of more costly and logistically difficult options. Groundwater use from the Gulf Coast, Carrizo-Wilcox, Sparta, Queen City, and Yegua-Jackson Aquifers is projected to increase in certain counties during the planning period. Due to GCD and SD regulations or low remaining groundwater availability, the Expanded Use of Groundwater project was generally not applied in Brazoria, Fort Bend, Galveston, Harris, or Montgomery Counties; there are a limited number of exceptions, which generally reflect increased production by entities exempt from regulations limiting groundwater production (portions of County-Other and other WUGs reflecting small private household wells, water for oil and gas production, etc.). For the remaining counties within Region H, remaining groundwater availability was assigned to WUGs which already utilize groundwater or have limited other options.

ENVIRONMENTAL CONSIDERATIONS

Environmental impacts of developing additional groundwater infrastructure are dependent on the project location, source aquifer, and project size. Generally, in the locations in Region H where Expanded Use of Groundwater is feasible and allowable under groundwater district and subsidence district regulations, it is not anticipated to have significant negative environmental impacts. Portions of Region H have been subject to land surface subsidence due to long-term excessive groundwater withdrawals, which should be considered when developing groundwater infrastructure in or near these areas. Groundwater within the region is generally of good quality and available at or near the point of use. Some surface disturbance is likely for construction of groundwater infrastructure but would be expected to occur primarily on previously disturbed areas. Site-specific evaluations of wildlife habitats, wetlands (including mitigation by wetlands offsets) and cultural resources must be considered in the overall development plan. There are no major springs in Region H, but well pumping supplies return flows to all river basins within the region, and ultimately to Galveston Bay. These flows will increase proportionally with the increased groundwater use.

PERMITTING AND DEVELOPMENT

Permitting requirements will vary with the location and intended use of groundwater development. In areas within the jurisdiction of a GCD or SD, projects would be required to comply with the appropriate District rules regarding permitting, registration, production, well spacing, and other factors. Some groundwater development projects may also require minor construction permitting related to surface disturbance for well field, treatment facility, and pipeline infrastructure.

COST ANALYSIS

Costs for WUGs to implement Expanded Use of Groundwater vary by WUG type and size of project. Costs for each WUG were calculated using a set of standardized assumptions by use type (Sept. 2018 equivalent cost). Agricultural wells, which are typically shallower than municipal wells and are normally used heavily for a small portion of the year, tended to have lower costs than municipal wells. Similarly, municipal and industrial wells in rural areas tended to be shallower and lower cost than wells developed in more urbanized areas. Typical capital costs estimated for agricultural groundwater development range from \$368,069 for a 100 ac-ft/yr supply to \$5,719,027 for a 3,925 ac-ft/yr supply. Estimates for municipal wells ranged from \$2,244,907 for a 100 ac-ft/yr rural supply to \$21,793,514 for an 8,400 ac-ft/yr supply. Representative costs for a 1,000 gpm well for various user categories are shown in **Tables 1** through **3**. It should be noted that the annualized supply volume for a particular well size may vary by usage type due to differences in duty cycles and demand peaking.

Table 1 – 1,000 gpm Agricultural Well Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$523,773	\$523,773	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$183,320	\$183,320	
3	LAND AND EASEMENTS	1	LS	\$324	\$324	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$3,241	\$3,241	
5	INTEREST DURING CONSTRUCTION	1	LS	\$19,439	\$19,439	
PROJECT CAPITAL COST					\$730,097	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$51,370	\$51,370	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$5,238	\$5,238	\$5,238	\$5,238	\$5,238	\$5,238
3	PUMPING ENERGY COSTS	\$25,015	\$25,015	\$25,015	\$25,015	\$25,015	\$25,015
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$81,624	\$81,624	\$30,253	\$30,253	\$30,253	\$30,253

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$81,624	\$81,624	\$30,253	\$30,253	\$30,253	\$30,253
2	YIELD	400	400	400	400	400	400
3	UNIT COST	\$204	\$204	\$76	\$76	\$76	\$76
TOTAL UNIT COST		\$118					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WELL FIELDS	1	LS	\$523,773	\$523,773	
PROJECT COST					\$523,773	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WELL FIELDS	1.0	%	\$523,773	\$5,238	
ANNUAL OPERATION AND MAINTENANCE COST					\$5,238	

Table 2 – 1,000 gpm Municipal (Urban) Well Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$3,584,277	\$3,584,277	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$1,246,158	\$1,246,158	
3	LAND AND EASEMENTS	1	LS	\$2,515,735	\$2,515,735	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$979,532	\$979,532	
5	INTEREST DURING CONSTRUCTION	1	LS	\$227,734	\$227,734	
PROJECT CAPITAL COST					\$8,553,436	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$601,829	\$601,829	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$463,754	\$463,754	\$463,754	\$463,754	\$463,754	\$463,754
3	PUMPING ENERGY COSTS	\$100,337	\$100,337	\$100,337	\$100,337	\$100,337	\$100,337
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$1,165,919	\$1,165,919	\$564,091	\$564,091	\$564,091	\$564,091

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$1,165,919	\$1,165,919	\$564,091	\$564,091	\$564,091	\$564,091
2	YIELD	850	850	850	850	850	850
3	UNIT COST	\$1,372	\$1,372	\$664	\$664	\$664	\$664
TOTAL UNIT COST		\$900					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$166,787	\$166,787	
2	WATER TREATMENT PLANTS	1	LS	\$1,337,222	\$1,337,222	
3	WATER STORAGE TANKS	1	LS	\$963,014	\$963,014	
4	WELL FIELDS	1	LS	\$1,117,254	\$1,117,254	
PROJECT COST					\$3,584,277	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$166,787	\$1,668	
2	WATER TREATMENT PLANTS	1.0	LS	\$441,283	\$441,283	
3	WATER STORAGE TANKS	1.0	%	\$963,014	\$9,630	
4	WELL FIELDS	1.0	%	\$1,117,254	\$11,173	
ANNUAL OPERATION AND MAINTENANCE COST					\$463,754	

Table 3 – 1,000 gpm Municipal (Rural) Well Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$3,274,370	\$3,274,370	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$1,139,473	\$1,139,473	
3	LAND AND EASEMENTS	1	LS	\$37,430	\$37,430	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$26,888	\$26,888	
5	INTEREST DURING CONSTRUCTION	1	LS	\$122,492	\$122,492	
PROJECT CAPITAL COST					\$4,600,653	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$323,707	\$323,707	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$460,655	\$460,655	\$460,655	\$460,655	\$460,655	\$460,655
3	PUMPING ENERGY COSTS	\$64,801	\$64,801	\$64,801	\$64,801	\$64,801	\$64,801
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$849,162	\$849,162	\$525,456	\$525,456	\$525,456	\$525,456

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$849,162	\$849,162	\$525,456	\$525,456	\$525,456	\$525,456
2	YIELD	850	850	850	850	850	850
3	UNIT COST	\$999	\$999	\$618	\$618	\$618	\$618
TOTAL UNIT COST		\$745					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PIPELINES	1	LS	\$131,137	\$131,137	
2	WATER TREATMENT PLANTS	1	LS	\$1,337,222	\$1,337,222	
3	WATER STORAGE TANKS	1	LS	\$963,014	\$963,014	
4	WELL FIELDS	1	LS	\$842,997	\$842,997	
PROJECT COST					\$3,274,370	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PIPELINES	1.0	%	\$131,137	\$1,311	
2	WATER TREATMENT PLANTS	1.0	LS	\$441,283	\$441,283	
3	WATER STORAGE TANKS	1.0	%	\$963,014	\$9,630	
4	WELL FIELDS	1.0	%	\$842,997	\$8,430	
ANNUAL OPERATION AND MAINTENANCE COST					\$460,655	

WATER MANAGEMENT STRATEGY EVALUATION

Based on the analysis provided above, the Expanded Use of Groundwater project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the

table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Costs are generally high but decline considerably after debt service. Agricultural groundwater production is less expensive than that for municipal use.
Location	5	Typically located near points of use.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Limited environmental impacts expected.
Environmental Flows	4	Minor increases to instream flows.
Local Preference	4	Projects typically encounter minimal opposition.
Institutional Constraints	3	Minimal permitting challenges anticipated.
Development Timeline	5	Typically <5 years.
Sponsorship	3	Level of sponsor commitment unknown for most WUGs.
Vulnerability	5	Minimal risks associated with this project.
Impacts on Other Projects	3	No major impacts to other projects identified.

Expanded Use of Groundwater is not anticipated to affect vulnerable species and may increase return flows to streams. The projects are not anticipated to impact agricultural land or production.

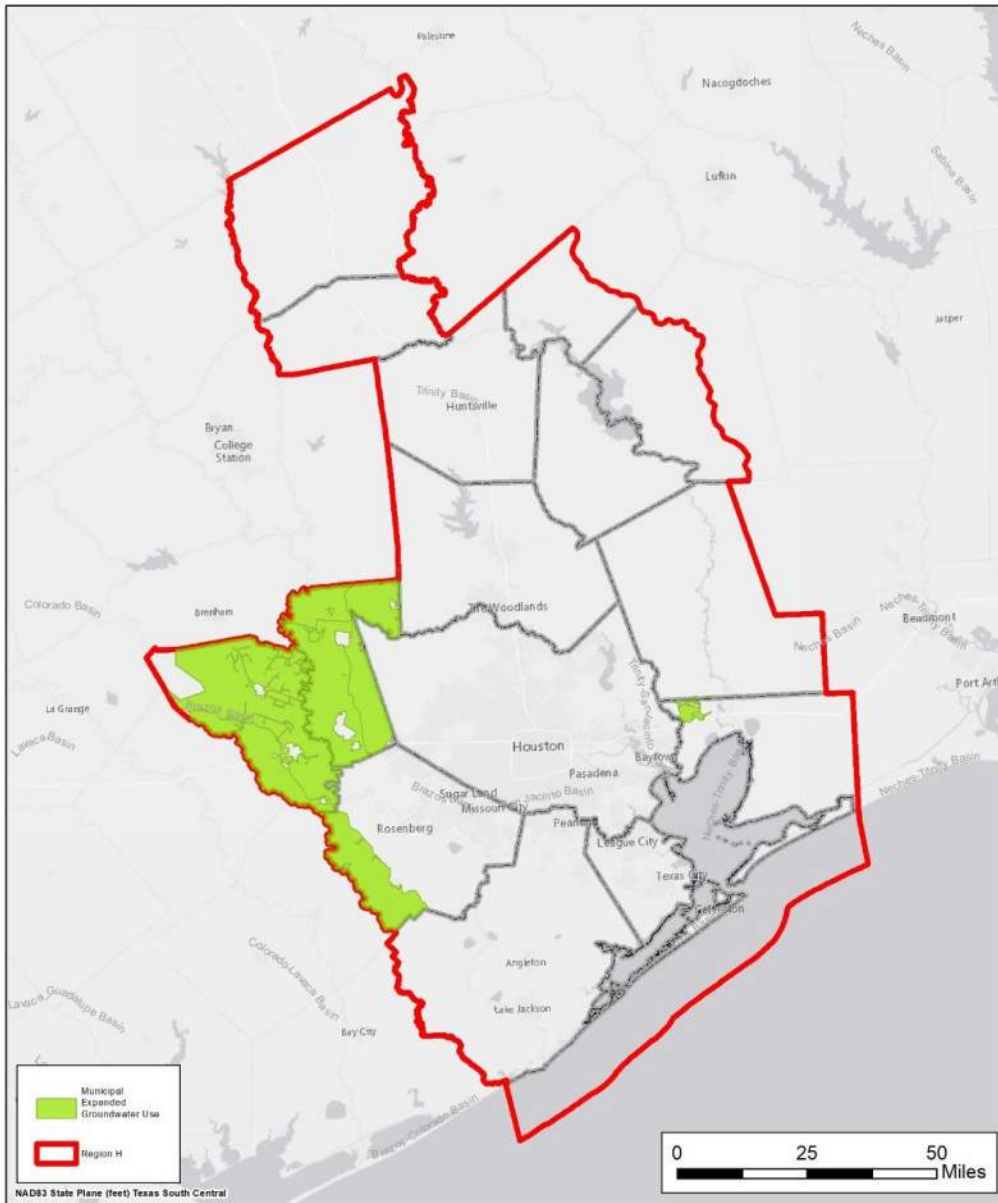
WATER USER GROUP APPLICATION

The Expanded Use of Groundwater project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the project as well as other factors that may relate to the suitability of the project to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Wells fields typically collocated with or near to demand centers.
Size	Projects sized for sponsoring community.
Water Quality	Typically good in most areas of Region H.

CRITERIA	WUG SUITABILITY
Unit Cost	Costs are generally high for municipal use and smaller projects but decline considerably after debt service.
Other Factors	Availability constrained by relevant local groundwater regulations.

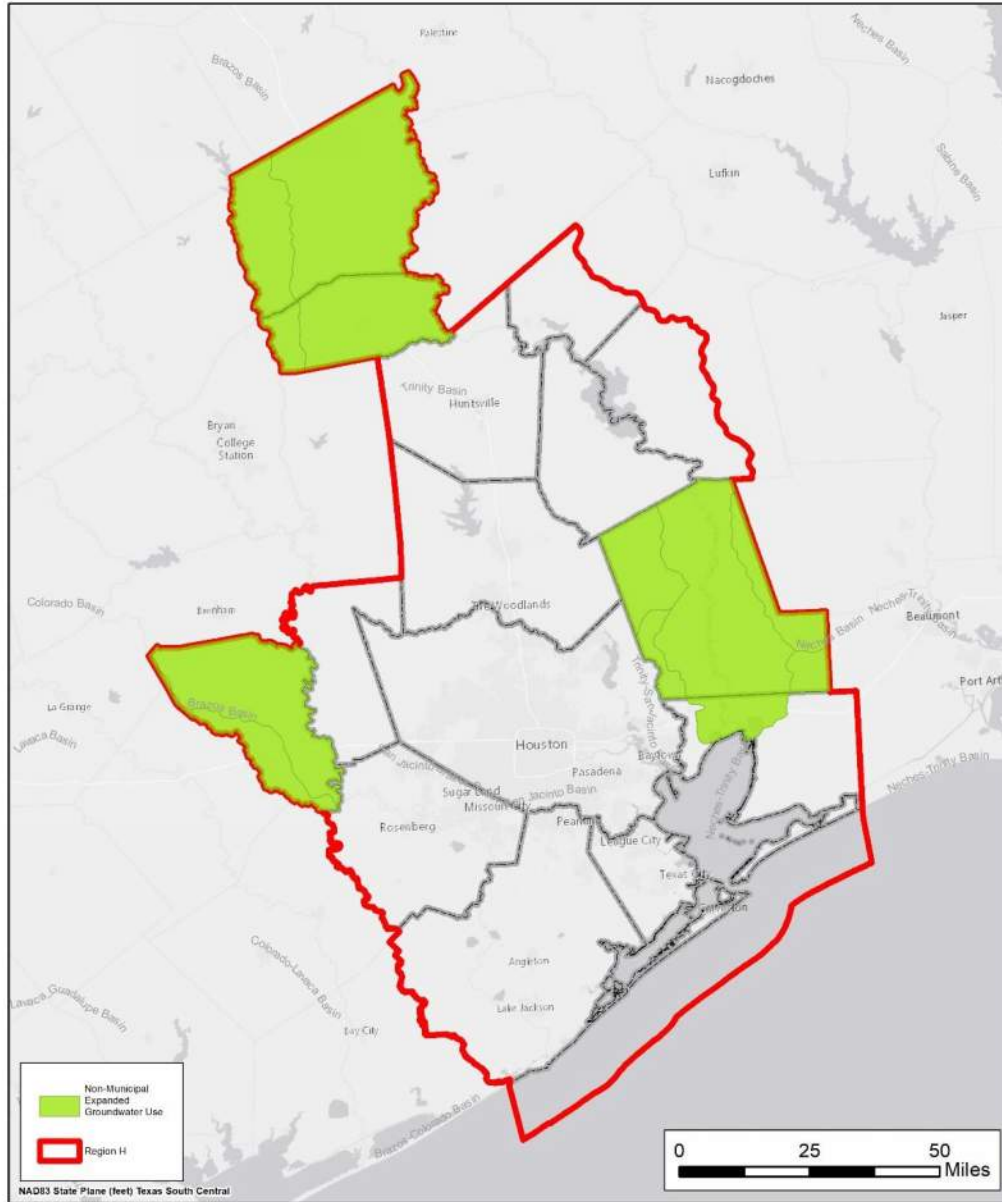
LOCATION MAP – MUNICIPAL USE



Municipal Expanded Use of Groundwater Location Map



LOCATION MAP – NON-MUNICIPAL USE



Non-Municipal Expanded Use of Groundwater Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Forestar Houston County Project
Project ID:	GWDV-006
Project Type:	New Groundwater Source
Potential Supply Quantity (Rounded):	30,074 ac-ft/yr (26.85 mgd)
Implementation Decade:	2030
Development Timeline:	10 years
Project Capital Cost:	\$195,059,917 (Sept. 2018)
Unit Water Cost (Rounded):	\$617 per ac-ft (during loan period) \$161 per ac-ft (after loan period)

Strategy Description

Forestar owns groundwater holdings in 21 counties in east Texas. Portions of these holdings are owned solely by Forestar while others are held partly by Campbell Global. Forestar is entitled to 45 percent of these latter holdings and the entirety of the rights of which they are the sole owner. The available supplies span resources in the Carrizo-Wilcox, Gulf Coast, Queen City, Sparta, and Yegua-Jackson Aquifers.

Forestar has engaged with several water users and suppliers to consider several alternatives for delivery of produced groundwater to adjoining basins with identified water needs. Through this analysis several alternatives have been developed to provide water to Regions C and H.

This project examines the potential for development of groundwater supplies in Houston County for transfer west to the Brazos River Basin. This option produces yield from the Carrizo-Wilcox Aquifer that will be delivered to the Brazos River where it may be diverted by a customer downstream.

Strategy Analyses

The project analyses for Forestar Houston County Project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The proposed approach for this project is the conveyance of water developed in Houston County to the Brazos River Basin. An estimated 52 miles of pipeline will be required for this conveyance consisting of both rural and urban sections. The water will then be discharged into an existing stream segment of the Navasota River (Brazos River Basin) for conveyance downstream through bed and banks transfer.

Environmental Considerations

Detailed environmental assessments will be required once specifics of the project have determined following the identification of a customer for the water supply.

Permitting and Development

Houston County is not regulated by a groundwater conservation district (GCD) and, therefore, groundwater produced by this project is not currently regulated. Aspects of the site and transmission development will likely be regulated under various agencies. A water right permit will be required for any bed and banks transfer of water. These project specifics will be examined in greater detail once a customer has been identified and detailed studies have been commenced.

Cost Analysis

Costs were developed as part of the preliminary study conducted by Forestar and were adapted to meet regional planning requirements for presentation of project costs. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Interest during construction, debt service, and annual operations and maintenance cost were also calculated using standard Regional Planning procedures. Estimated costs are presented in *Table 1*. The costs presented in this memorandum do not include the purchase cost of water.

Table 1 – Forestar Houston County Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$129,810,000	\$129,810,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$43,290,000	\$43,290,000
3	LAND AND EASEMENTS	1	LS	\$5,020,000	\$5,020,000
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$1,630,000	\$1,630,000
5	INTEREST DURING CONSTRUCTION	1	LS	\$15,309,917	\$15,309,917
PROJECT CAPITAL COST					\$195,059,917

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$13,724,626	\$13,724,626	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$1,508,700	\$1,508,700	\$1,508,700	\$1,508,700	\$1,508,700
3	PUMPING ENERGY COSTS	\$0	\$3,331,556	\$3,331,556	\$3,331,556	\$3,331,556	\$3,331,556
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$18,564,881	\$18,564,881	\$4,840,256	\$4,840,256	\$4,840,256

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$18,564,881	\$18,564,881	\$4,840,256	\$4,840,256	\$4,840,256
2	YIELD	-	30,074	30,074	30,074	30,074	30,074
3	UNIT COST	\$0	\$617	\$617	\$161	\$161	\$161
TOTAL UNIT COST							\$343

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$14,040,000	\$14,040,000
2	PIPELINES	1	LS	\$78,550,000	\$78,550,000
3	WELL FIELDS	1	LS	\$37,220,000	\$37,220,000
PROJECT COST					\$129,810,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$14,040,000	\$351,000
2	PIPELINES	1.0	%	\$78,550,000	\$785,500
3	WELL FIELDS	1.0	%	\$37,220,000	\$372,200
ANNUAL OPERATION AND MAINTENANCE COST					\$1,508,700

Water Management Strategy Evaluation

Based on the analysis provided above, the Forestar Houston County Project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	Project has a relatively moderate estimated unit cost compared to other raw water projects.
Location	2	Conveyance required to provide water to likely demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	2	Environmental impacts associated with long conveyance infrastructure.
Environmental Flows	4	Project will increase instream flows over the extent of the bed and banks transfer.
Local Preference	3	No local preference known.
Institutional Constraints	2	Project will require various permitting and right-of-way acquisition components.
Development Timeline	5	Approximate 5- to 10-year development timeline.
Sponsorship	2	No committed project sponsor identified.
Vulnerability	3	Moderate risk associated with conveyance infrastructure.
Impacts on Other WMS	3	No known impacts to other projects.

The Forestar Houston County Project includes approximately 52 miles of pipelines that will impact rural land and may impact habitat. The project may increase return flows to streams by approximately 50 percent of the potential project yield of 30,074 ac-ft/yr through municipal return flows.

Water User Group Application

The Forestar Houston County Project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

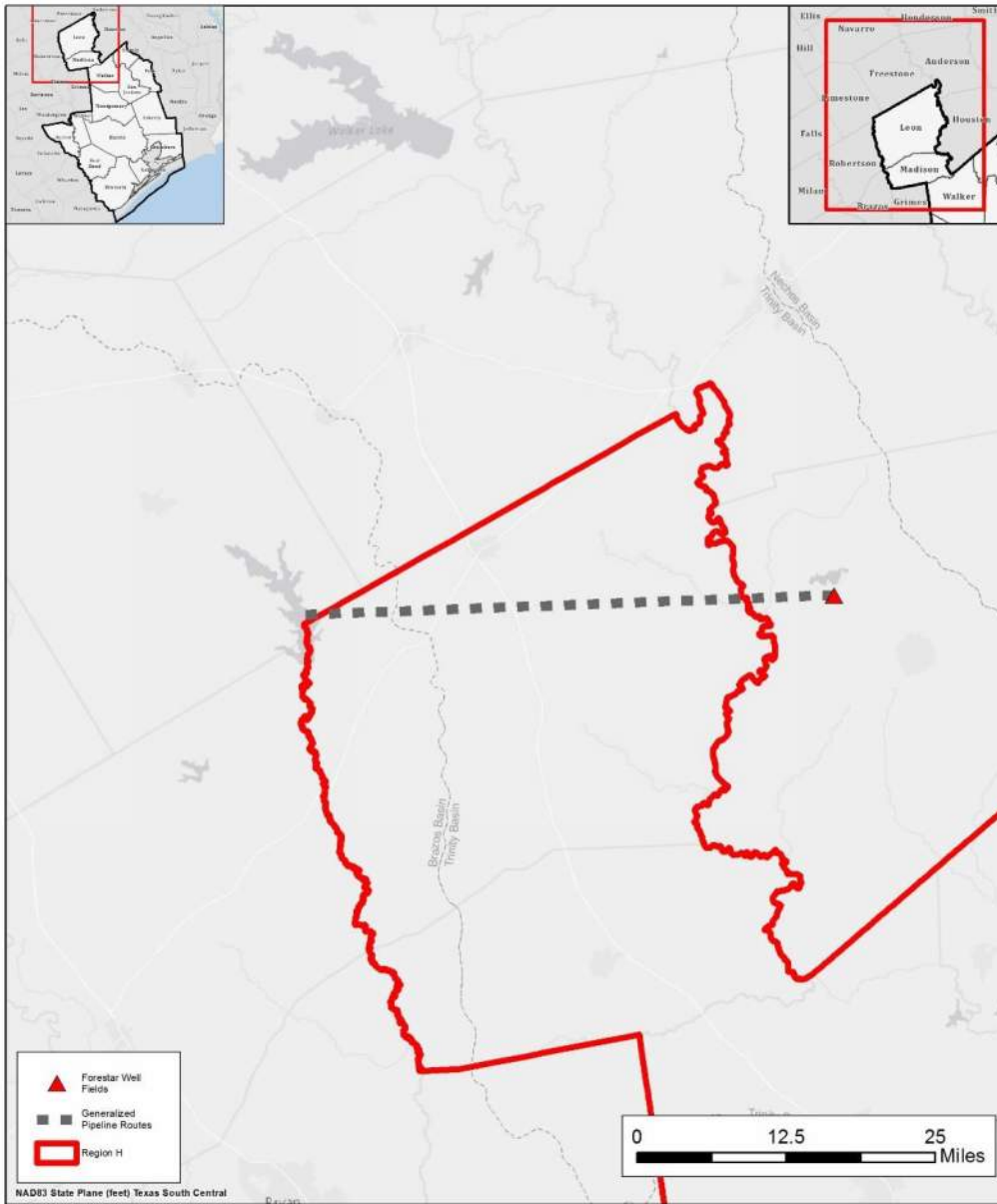
CRITERIA	WUG SUITABILITY
Proximity	Project will require conveyance through pipeline and natural corridors in order to make supplies available to demand centers.
Size	Relatively small project yield is suited to serving as a supply component for a small number of water users.

CRITERIA	WUG SUITABILITY
Water Quality	Project will produce a raw water supply that will require treatment for municipal and some industrial uses.
Unit Cost	Project cost makes it prohibitive for irrigation uses but may be economically feasible for other purposes.

References

Freese and Nichols, Inc. Assessment of Forestar’s Water Assets. January 2015.

Location Map



Forestar Houston County Project Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Forestar Liberty County Project
Project ID:	GWDV-007
Project Type:	New Groundwater Source
Potential Supply Quantity (Rounded):	16,130 ac-ft/yr (1.44 mgd)
Implementation Decade:	2030
Development Timeline:	10 years
Project Capital Cost:	\$234,137,011 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,205 per ac-ft (during loan period) \$183 per ac-ft (after loan period)

Strategy Description

Forestar owns groundwater holdings in 21 counties in east Texas. Portions of these holdings are owned solely by Forestar while others are partly held by Campbell Global. Forestar is entitled to 45 percent of these latter holdings and the entirety of the rights of which they are the sole owner. The available supplies span resources in the Carrizo-Wilcox, Gulf Coast, Queen City, Sparta, and Yegua-Jackson Aquifers.

Forestar has engaged with several water users and suppliers to consider several alternatives for delivery of produced groundwater to adjoining basins with identified water needs. Through this analysis several alternatives have been developed to provide water to Regions C and H.

This project examines the potential for development of groundwater supplies in Liberty County for transfer west to the Brazos River Basin. This option takes advantage of the Splendora and Magruder well fields to produce a combined yield from the Gulf Coast Aquifer that will be delivered to the Brazos River where it may be diverted by a customer downstream.

Strategy Analyses

The project analyses for Forestar Liberty County Project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The proposed approach for this project is the conveyance of water developed in Liberty County to the Brazos River Basin. An estimated 77 miles of pipeline will be required for this conveyance consisting of both rural and urban sections. The water will then be discharged into an existing stream segment of the Brazos River for conveyance downstream through bed and banks transfer.

Environmental Considerations

Detailed environmental assessments will be required once specifics of the project have determined following the identification of a customer for the water supply.

Permitting and Development

Liberty County is not regulated by a groundwater conservation district (GCD) and, therefore, groundwater produced by this project is not currently regulated. Aspects of the site and transmission development will likely be regulated under various agencies. A water right permit will be required for any bed and banks transfer of water. These project specifics will be examined in greater detail once a customer has been identified and detailed studies have been commenced.

Cost Analysis

Costs were developed as part of the preliminary study conducted by Forestar and were adapted to meet regional planning requirements for presentation of project costs. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Interest during construction, debt service, and annual operations and maintenance cost were also calculated using standard Regional Planning procedures. Estimated costs are presented in *Table 1*. The costs presented in this memorandum do not include the purchase cost of water.

Table 1 – Forestar Liberty County Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$146,790,000	\$146,790,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$48,140,000	\$48,140,000
3	LAND AND EASEMENTS	1	LS	\$18,970,000	\$18,970,000
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$1,860,000	\$1,860,000
5	INTEREST DURING CONSTRUCTION	1	LS	\$18,377,011	\$18,377,011
PROJECT CAPITAL COST					\$234,137,011

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$16,474,132	\$16,474,132	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$1,647,900	\$1,647,900	\$1,647,900	\$1,647,900	\$1,647,900
3	PUMPING ENERGY COSTS	\$0	\$1,306,667	\$1,306,667	\$1,306,667	\$1,306,667	\$1,306,667
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$19,428,699	\$19,428,699	\$2,954,567	\$2,954,567	\$2,954,567

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$19,428,699	\$19,428,699	\$2,954,567	\$2,954,567	\$2,954,567
2	YIELD	-	16,130	16,130	16,130	16,130	16,130
3	UNIT COST	\$0	\$1,205	\$1,205	\$183	\$183	\$183
TOTAL UNIT COST							\$592

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$12,000,000	\$12,000,000
2	PIPELINES	1	LS	\$118,720,000	\$118,720,000
3	WELL FIELDS	1	LS	\$16,070,000	\$16,070,000
PROJECT COST					\$146,790,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$12,000,000	\$300,000
2	PIPELINES	1.0	%	\$118,720,000	\$1,187,200
3	WELL FIELDS	1.0	%	\$16,070,000	\$160,700
ANNUAL OPERATION AND MAINTENANCE COST					\$1,647,900

Water Management Strategy Evaluation

Based on the analysis provided above, the Forestar Liberty County Project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Project has a relatively high estimated unit cost.
Location	2	Conveyance required to provide water to likely demand centers.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	2	Environmental impacts associated with long conveyance infrastructure.
Environmental Flows	4	Project will increase instream flows over the extent of the bed and banks transfer.
Local Preference	3	No local preference known.
Institutional Constraints	2	Project will require various permitting and right-of-way acquisition components.
Development Timeline	4	Approximate 5- to 10-year development timeline.
Sponsorship	2	No committed project sponsor identified.
Vulnerability	3	Moderate risk associated with conveyance infrastructure.
Impacts on Other WMS	3	No known impacts to other projects.

The Forestar Liberty County Project includes approximately 77 miles of pipelines that will impact rural land and may impact habitat. The project may increase return flows to streams by approximately 50 percent of the potential project yield of 16,130 ac-ft/yr through municipal return flows.

Water User Group Application

The Forestar Liberty County Project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

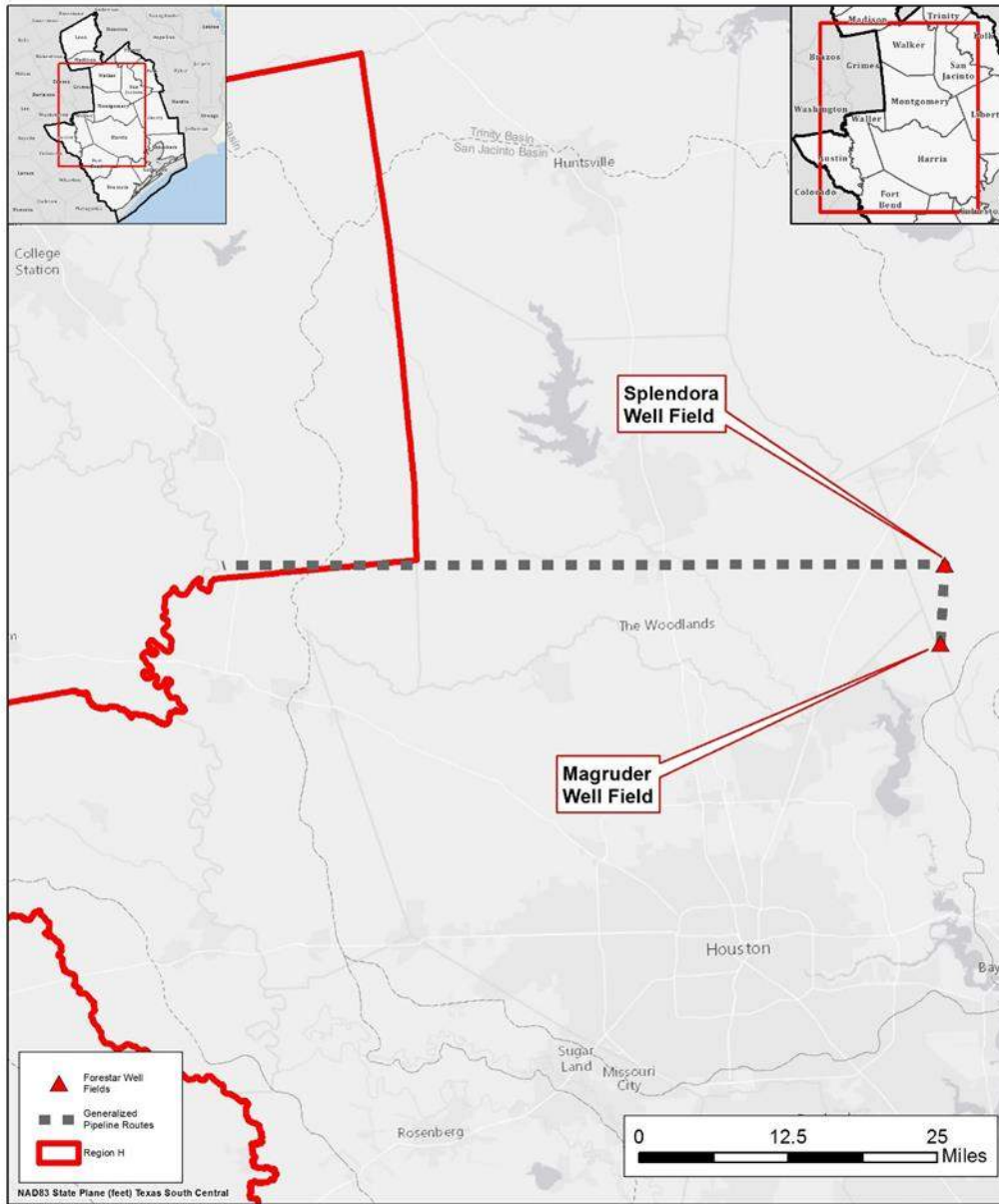
CRITERIA	WUG SUITABILITY
Proximity	Project will require conveyance through pipeline and natural corridors in order to make supplies available to demand centers.
Size	Relatively small project yield is suited to serving as a supply component for a small number of water users.

CRITERIA	WUG SUITABILITY
Water Quality	Project will produce a raw water supply that will require treatment for municipal and some industrial uses.
Unit Cost	Project cost makes it prohibitive for irrigation uses but may be economically feasible for other purposes.

References

Freese and Nichols, Inc. *Assessment of Forestar's Water Assets*. January, 2015.

Location Map



Forestar Liberty County Project Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Gulf Coast Water Authority Backup Well Development
Project ID:	GWDV-008
Project Type:	Existing Groundwater Source
Potential Supply Quantity (Rounded):	1,120 ac-ft/yr (1 mgd)
Implementation Decade:	2040
Development Timeline:	<5 years
Project Capital Cost:	\$1,346,492 (Sept. 2018)
Unit Water Cost (Rounded):	\$169 per ac-ft (during loan period) \$84 per ac-ft (after loan period)

STRATEGY DESCRIPTION

Gulf Coast Water Authority (GCWA) supplies a number of industrial and agricultural customers in Brazoria County with surface water from the Brazos River Basin and San Jacinto-Brazos Coastal Basin. GCWA holds several water rights in these basins and supplies its customers with surface water from these rights as well as contractual supplies purchased from the Brazos River Authority (BRA). In order to meet continually increasing customer demands, GCWA is considering developing groundwater wells to pump from the Gulf Coast Aquifer in the San Jacinto-Brazos Coastal Basin in Brazoria County to function as a backup supply in cases of severe drought, during which surface water supplies may be less reliable.

STRATEGY ANALYSES

The project analyses for GCWA Backup Well Development include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

SUPPLY DEVELOPMENT

The GCWA Backup Well Development project is still in a conceptual phase. For the purposes of the 2021 Region H Regional Water Plan (RWP), an average project supply of 1 mgd (1,120 ac-ft/yr) has been assumed. This project considers installation of a well with a maximum capacity of 1,300 gpm, based on an assumed peaking factor of 1.5 and pumping 80% of the time during drought conditions to provide backup supply to GCWA's surface water supplies. The actual capacity of the project will be determined based on future identified needs and the availability of groundwater in Brazoria County.

ENVIRONMENTAL CONSIDERATIONS

Development of this project may impact environmental conditions in the immediate vicinity of the well field and associated conveyance infrastructure through disturbance of habitat. Due to the nature of the project, surface disturbance is expected to be limited. Additionally, the development of groundwater production may potentially increase the risk of subsidence and saltwater intrusion, especially for sites near the coast. Installation of subsidence monitoring equipment to track long-term trends is recommended for groundwater development projects in Brazoria County; such installations would likely be done in coordination with the Brazoria County Groundwater Conservation District (BCGCD). Use of groundwater during dry periods may allow for reduced surface water diversions.

PERMITTING AND DEVELOPMENT

The groundwater well components of this project will require permitting through the BCGCD to drill and operate the planned wells. Additional permitting activities may be required to facilitate construction activities.

COST ANALYSIS

A preliminary planning-level cost estimate was developed for the GCWA Backup Well Development project based on standard regional planning assumptions. Construction costs were estimated for a 1,300 gpm well. Interest during construction, annualized debt service, pumping energy costs, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Costs are presented in September 2018 equivalent costs in *Table 1*.

Table 1 – GCWA Backup Well Development Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$965,805	\$965,805	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$338,032	\$338,032	
3	LAND AND EASEMENTS	1	LS	\$3,565	\$3,565	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$3,241	\$3,241	
5	INTEREST DURING CONSTRUCTION	1	LS	\$35,850	\$35,850	
PROJECT CAPITAL COST					\$1,346,492	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$94,741	\$94,741	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$9,658	\$9,658	\$9,658	\$9,658
3	PUMPING ENERGY COSTS	\$0	\$0	\$84,450	\$84,450	\$84,450	\$84,450
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$188,849	\$188,849	\$94,108	\$94,108

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$188,849	\$188,849	\$94,108	\$94,108
2	YIELD	-	-	1,120	1,120	1,120	1,120
3	UNIT COST	\$0	\$0	\$169	\$169	\$84	\$84
TOTAL UNIT COST		\$126					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
4	WELL FIELDS	1	LS	\$965,805	\$965,805	
PROJECT COST					\$965,805	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
4	WELL FIELDS	1.0	%	\$965,805	\$9,658	
ANNUAL OPERATION AND MAINTENANCE COST					\$9,658	

WATER MANAGEMENT STRATEGY EVALUATION

Based on the analysis provided above, the GCWA Backup Well Development project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below. The project is not anticipated to impact agricultural land or production.

CRITERIA	RATING	EXPLANATION
Cost	5	Project cost is low relative to a number of other projects.
Location	4	Project is positioned to provide water within the current GCWA customer service area.
Water Quality	3	No known water quality issues. Ultimate location of well field could result in production of slightly brackish water.
Environmental Land and Habitat	3	Limited concerns. Environmental impacts can be avoided or mitigated.
Environmental Flows	4	Utilization of groundwater may allow for reduced surface water diversions and increased instream flows.
Local Preference	3	Limited opposition expected.
Institutional Constraints	2	Project will require permitting with BCGCD and minor land acquisition to develop the well field.
Development Timeline	5	Project can be developed in a relatively short period of time.
Sponsorship	2	The project sponsor, GCWA, has identified the project and is considering it on a conceptual basis.
Vulnerability	4	No substantial risk from natural and man-made disasters. Potential for subsidence.
Impacts on Other WMS	3	Project is not expected to impact other water management strategies.

WATER USER GROUP APPLICATION

The GCWA Backup Well Development project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is positioned to provide water within the current GCWA customer service area.
Size	The project is sized in accordance with the available source.
Water Quality	Water quality is not expected to dramatically change the quality of existing GCWA sources it is blended with.

CRITERIA	WUG SUITABILITY
Unit Cost	Project cost is low relative to a number of other projects.
Other Factors	Project supply is subject to BCGCD and GMA 14 Desired Future Conditions for the Gulf Coast Aquifer and has limited availability as a long-term supply source.

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Groveton Groundwater Expansion
Project ID:	GWDV-009
Project Type:	Existing Groundwater Source
Potential Supply Quantity (Rounded):	242 ac-ft/yr (0.14 mgd)
Implementation Decade:	2020 (2021)
Development Timeline:	<5 years
Project Capital Cost:	\$2,211,952 (Sept. 2018)
Unit Water Cost (Rounded):	\$699 per ac-ft (during loan period) \$56 per ac-ft (after loan period)

Strategy Description

The City of Groveton is engaged in the development of groundwater supply from the Yegua-Jackson aquifer and a new transmission main to supplement its existing water supplies, which are not fully reliable under drought conditions due to infrastructure limitations.

Strategy Analyses

The project analyses for the City of Groveton Groundwater Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Groveton has one current groundwater well with a capacity of approximately 150 gpm and is pursuing construction of a second groundwater well in the Yegua-Jackson Aquifer. The capacity of the second well is projected to be between 150 and 250 gpm. This additional groundwater supply would be blended with the City's surface water supply to mitigate the possibility of slightly elevated total dissolved solids (TDS) levels. The source availability from the Yegua-Jackson Aquifer exceeds the planned size of the project, so adequate source water is expected to be readily available. Assuming an average production of 150 gpm for purposes of the Regional Plan, the project supply would be 242 ac-ft/yr.

Environmental Considerations

Environmental impacts of the project are expected to be minimal, as the source is groundwater from an aquifer with sufficient availability and surface disturbance from construction should be confined to a small area. Due to the small overall project size and its use to mitigate limitations in current surface water supply during drought periods, little impact on instream flows due to changes in effluent discharge are expected.

Permitting and Development

Permitting efforts associated with the City of Groveton Groundwater Expansion project are anticipated to be limited. Trinity County is not within the boundaries of a groundwater conservation district (GCD), and thus, is not currently subject to GCD requirements regarding permitting, registration, or limitations on production. Because infrastructure is being developed at an existing facility, construction permitting is also anticipated to be minimal. As a public water supplier, coordination with TCEQ and associated reporting would be required. TCEQ has granted the City an Alternate Capacity Requirement Reduction.

Cost Analysis

Estimated costs for the project are shown in *Table 1*. Project capital costs were obtained from the City of Groveton's project funding request to TWDB and scaled to September 2018 costs. Annual costs presented in *Table 1*, including debt service and costs for operations and maintenance, were calculated using standard cost estimation procedures for Region H.

Table 1 – City of Groveton Groundwater Expansion Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$1,354,661	\$1,354,661	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$693,937	\$693,937	
3	LAND AND EASEMENTS	1	LS	\$74,615	\$74,615	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$29,846	\$29,846	
5	INTEREST DURING CONSTRUCTION	1	LS	\$58,893	\$58,893	
PROJECT CAPITAL COST					\$2,211,952	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$155,635	\$155,635	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$13,547	\$13,547	\$13,547	\$13,547	\$13,547	\$13,547
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$169,182	\$169,182	\$13,547	\$13,547	\$13,547	\$13,547

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$169,182	\$169,182	\$13,547	\$13,547	\$13,547	\$13,547
2	YIELD	242	242	242	242	242	242
3	UNIT COST	\$699	\$699	\$56	\$56	\$56	\$56
TOTAL UNIT COST		\$270					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WELL FIELDS	1	LS	\$1,354,661	\$1,354,661	
PROJECT COST					\$1,354,661	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WELL FIELDS	1.0	%	\$1,354,661	\$13,547	
ANNUAL OPERATION AND MAINTENANCE COST					\$13,547	

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Groveton Groundwater Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

Criteria	Rating	Explanation
Cost	3	Project will generate supply at a moderate cost which will decrease substantially after completion of debt service.
Location	5	Source located at point of demand.
Water Quality	3	Proposed source has some reduction in quality due to total dissolved solids but is to be blended with fresher water to acceptable quality.
Environmental Land and Habitat	5	Little or no impact anticipated. Construction on existing infrastructure site.
Environmental Flows	3	No impacts anticipated.
Local Preference	4	Project identified by sponsor. No known opposition.
Institutional Constraints	5	Minimal / no challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in less than 5 years.
Sponsorship	5	Sponsor identified and project is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The City of Groveton Groundwater Expansion project is not anticipated to affect acreage or vulnerable species and is not anticipated to impact agricultural land or production. The project may increase return flows to streams by a portion of the potential project yield of 242 ac-ft/yr through municipal return flows.

Water User Group Application

The City of Groveton Groundwater Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. At this time, it is anticipated that the project will only supply the Groveton WUG.

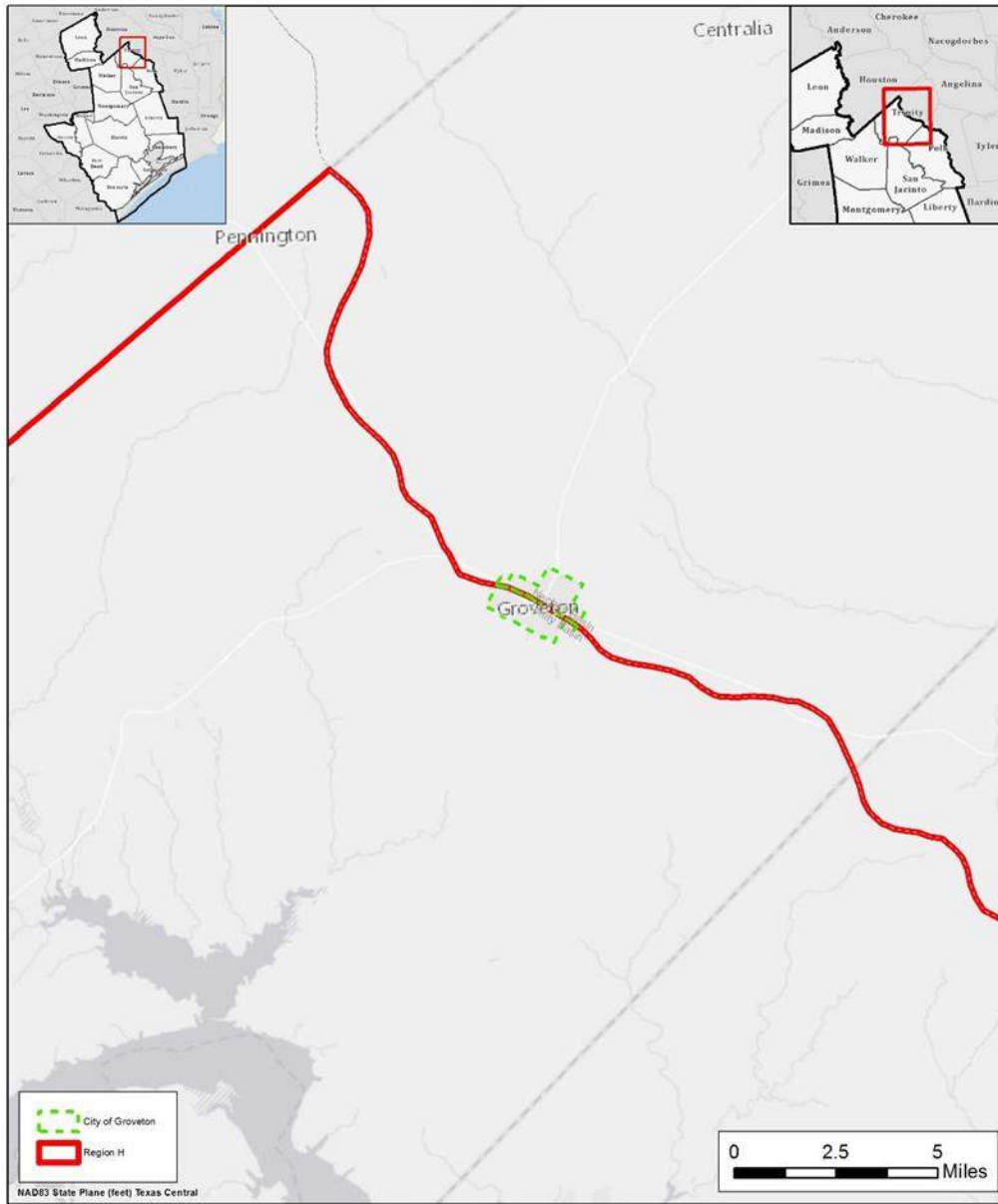
Criteria	WUG Suitability
Proximity	The project source wells are located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the demands for the City of Groveton.
Water Quality	This project is expected to provide water of acceptable quality.

Criteria	WUG Suitability
Unit Cost	The cost of this project is moderate but decreases substantially after completion of debt service.
Other Factors	The City of Groveton has received TWDB funding for the project through the Drinking Water State Revolving Fund.

References

Texas Water Development Board. *Board Agenda #04 Document: Project Funding Request*. March 5, 2019.

Location Map



Groveton Groundwater Expansion Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	SJRA Catahoula Aquifer Supplies
Project ID:	GWDV-010
Project Type:	New Groundwater Source
Potential Supply Quantity (Rounded):	10,500 ac-ft/yr (9.4 mgd)
Implementation Decade:	2040 (2036)
Development Timeline:	<5 years
Project Capital Cost:	\$18,200,411 (Sept. 2018)
Unit Water Cost (Rounded):	\$479 per ac-ft (during loan period) \$358 per ac-ft (after loan period)

Strategy Description

The San Jacinto River Authority (SJRA) is a wholesale water provider for various municipal, industrial, and irrigation retail customers in the San Jacinto River Basin, including numerous customers in Montgomery County. In order to address demand growth and protect groundwater resources, the San Jacinto River Authority (SJRA) has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing conversion to surface water and other alternative sources besides the Gulf Coast aquifer. The needs of SJRA's Montgomery County customers are currently met using surface water from Lake Conroe. Supplies from Lake Conroe are adequate for initial phases of conversion, but future growth will require the introduction of additional water strategy alternatives.

Another alternative supply exists in the form of groundwater from the Catahoula aquifer which is not regulated in the same way as other aquifer layers in Montgomery County. The Catahoula aquifer underlays and is not considered part of the Gulf Coast aquifer system, which includes the Chicot, Evangeline, and Jasper layers. Water from the Catahoula aquifer has significant variations in salinity and is recognized by the Lone Star Groundwater Conservation District (LSGCD) as an alternative water supply. The aquifer is currently being used by a small number of public water systems near Lake Conroe through blending with fresher sources.

Alternative sources, such as the Catahoula aquifer, may be used in conjunction with the existing Lake Conroe supply as an alternative to Gulf Coast aquifer supplies. This project considers the use of the Catahoula aquifer to provide an alternative groundwater supply for meeting GRP participant needs.

Strategy Analyses

The project analyses for SJRA Catahoula Aquifer Supplies include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

As part of the development of the SJRA Raw Water Supply Master Plan (RWSMP, 2018), various options were considered for the development of groundwater wells in the Catahoula aquifer in Montgomery County. Some approaches to the development of this supply require implementation by SJRA customers within the county, while others require active participation by SJRA. For the purposes of the 2021 Region H RWP, one option has been recommended based on cost-effectiveness and total yield. In the selected approach, Catahoula aquifer supplies are developed by SJRA. Groundwater pumped from the Catahoula aquifer would be discharged directly into Lake Conroe, becoming blended with raw surface water prior to treatment.

Supply Development

The proposed project considers installing four wells in the Catahoula aquifer near the Sam Houston National Forest. The concentration of total dissolved solids (TDS) found in the Catahoula aquifer is lower near the Sam Houston National Forest than in other parts of the county to the south and east, so locating wells in this area is expected to minimize the impact on the water quality of the receiving body due to the discharge of Catahoula groundwater into Lake Conroe. Additionally, the depth to water is less in the vicinity of the national forest, allowing for shallower wells. It is assumed that SJRA can produce 10,500 ac-ft/yr from the Catahoula aquifer; this amount is the difference between an assumed total maximum supply of 15,000 ac-ft/yr and pumpage of 4,500 ac-ft/yr by other entities in 2016. As of May 2017, LSGCD rules do not specify a maximum volume of groundwater pumpage that may be permitted from the Catahoula aquifer. Instead, the assumed maximum supply of 15,000 ac-ft/yr was based on discussions with LSGCD's consultant during the development of the SJRA RWSMP.

In order to produce the assumed available yield of 10,500 ac-ft/yr, two production wells have been sited on the east side of Lake Conroe and two wells on the west side. The wells were located in close proximity to Lake Conroe to minimize the transmission required to discharge the aquifer supplies into the lake. Given that the volumes of available groundwater are substantially less than the capacity of Lake Conroe, the rate at which Catahoula water is blended with the raw surface water was not considered to be of concern. Groundwater would be directly discharged into the lake with minimal transmission needs. An additional benefit of discharging into Lake Conroe is that this approach addresses the issue of the heat load of the Catahoula groundwater, precluding the need for cooling towers or other water quality infrastructure.

Environmental Considerations

Table 1 lists federally and state protected species occurring within the general project area.

Table 1 – Protected Species in Project Area

BIRDS		FEDERAL STATUS	STATE STATUS
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Interior least tern	<i>Sternula antillarum athalassos</i>	LE	E
Piping plover	<i>Charadrius melodus</i>	LT	T
Red-cockaded woodpecker	<i>Picoides borealis</i>	LE	E
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Chub shiner	<i>Notropis potteri</i>		T
Western creek chubsucker	<i>Erimyzon claviformis</i>		T

MAMMALS		FEDERAL STATUS	STATE STATUS
Louisiana black bear	<i>Ursus americanus luteolus</i>		T
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Louisiana pigtoe	<i>Pleurobema riddellii</i>		T
Sandbank pocketbook	<i>Lampsilis satura</i>		T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Louisiana pine snake	<i>Pituophis ruthveni</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT – Federal Proposed for Listing; T - State Listed Endangered/Threatened; “blank” - Rare, but with no regulatory listing status.

Permitting and Development

To develop Catahoula aquifer supplies, permits must be sought from the LSGCD to allow for drilling a test bore in the Catahoula formation and then to permit the production from any completed wells. A

bed and banks permit from the Texas Commission on Environmental Quality (TCEQ) is needed for direct blending of Catahoula water with Lake Conroe. A Texas Pollutant Discharge Elimination System permit from TCEQ may also be required.

Due the presence of streams, wetlands and ponds that could be deemed WOTUS and jurisdictional to Section 404 of the Clean Water Act (CWA) throughout distribution system alignments, acquiring a permit(s) through the U.S. Army Corps of Engineers (USACE) would be required prior to beginning construction activities. Pending the level of potential WOTUS impacts, project activities could likely be covered by a Nationwide Permit. Nationwide Permits are typically obtained within 45 to 60 calendar days, but acquiring an Individual Permit typically requires a minimum of 180 calendar days and a public comment period.

If no federal funding or assistance would be used for construction of the proposed project, the need to complete a National Environmental Policy Act (NEPA) process would not be required. However, coordination with the USACE to obtain a CWA Section 404 permit, particularly an Individual Permit, could trigger the need to comply with the NEPA review process.

Cost Analysis

A preliminary planning-level cost estimate was prepared for the SJRA Catahoula Aquifer Supplies project using default costing methods for regional plan development. Estimated costs for the installation and annual operation and maintenance of four wells in the Catahoula aquifer are presented in *Table 1*.

Table 1 – SJRA Catahoula Aquifer Supplies Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$13,102,672	\$13,102,672	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$4,585,935	\$4,585,935	
3	LAND AND EASEMENTS	1	LS	\$14,258	\$14,258	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$12,962	\$12,962	
5	INTEREST DURING CONSTRUCTION	1	LS	\$484,584	\$484,584	
PROJECT CAPITAL COST					\$18,200,411	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$1,280,601	\$1,280,601	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$521,027	\$521,027	\$521,027	\$521,027
3	PUMPING ENERGY COSTS	\$0	\$0	\$3,232,935	\$3,232,935	\$3,232,935	\$3,232,935
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$5,034,562	\$5,034,562	\$3,753,962	\$3,753,962

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$5,034,562	\$5,034,562	\$3,753,962	\$3,753,962
2	YIELD	-	-	10,500	10,500	10,500	10,500
3	UNIT COST	\$0	\$0	\$479	\$479	\$358	\$358
TOTAL UNIT COST		\$419					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WELL FIELDS	1	LS	\$12,102,672	\$12,102,672	
2	CONNECTION TO EXISTING RAW SUPPLY	1	LS	\$1,000,000	\$1,000,000	
PROJECT COST					\$13,102,672	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WELL FIELDS	1.0	%	\$12,102,672	\$121,027	
2	CONNECTION TO EXISTING RAW SUPPLY	40.0	%	\$1,000,000	\$400,000	
ANNUAL OPERATION AND MAINTENANCE COST					\$521,027	

Water Management Strategy Evaluation

Based on the analysis provided above, the SJRA Catahoula Aquifer Supplies project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Moderately low cost compared to other new raw water projects.
Location	5	Project location places it within easy reach of prospective users.
Water Quality	2	Catahoula Aquifer supplies are of lower quality than existing surface water.
Environmental Land and Habitat	5	Minimal impacts identified from project development.
Environmental Flows	4	Project will provide a slight improvement in instream flows.
Local Preference	3	Some local support for Catahoula Aquifer projects.
Institutional Constraints	3	Obstacles to development fairly well-identified and understood.
Development Timeline	5	Short development timeline associated with wells.
Sponsorship	3	SJRA is considering this alternative for meeting future demands.
Vulnerability	3	Uncertainty of the long-term viability of the Catahoula Aquifer a risk factor involved in the project.
Impacts on Other WMS	5	Project may provide water for the comprehensive SJRA GRP.

Water User Group Application

The SJRA Catahoula Aquifer Supplies project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located near Lake Conroe where it may serve existing and future SJRA customers.
Size	Project is sized in accordance with estimated source availability. May be combined with other sources to meet regional needs.
Water Quality	This project provides raw water that may be treated through existing infrastructure in order to provide water for municipal and other uses.

CRITERIA	WUG SUITABILITY
Unit Cost	The unit cost of the project is highly competitive with options for developing raw surface water.
Other Factors	This project reduces dependence on freshwater formations in the Gulf Coast Aquifer.

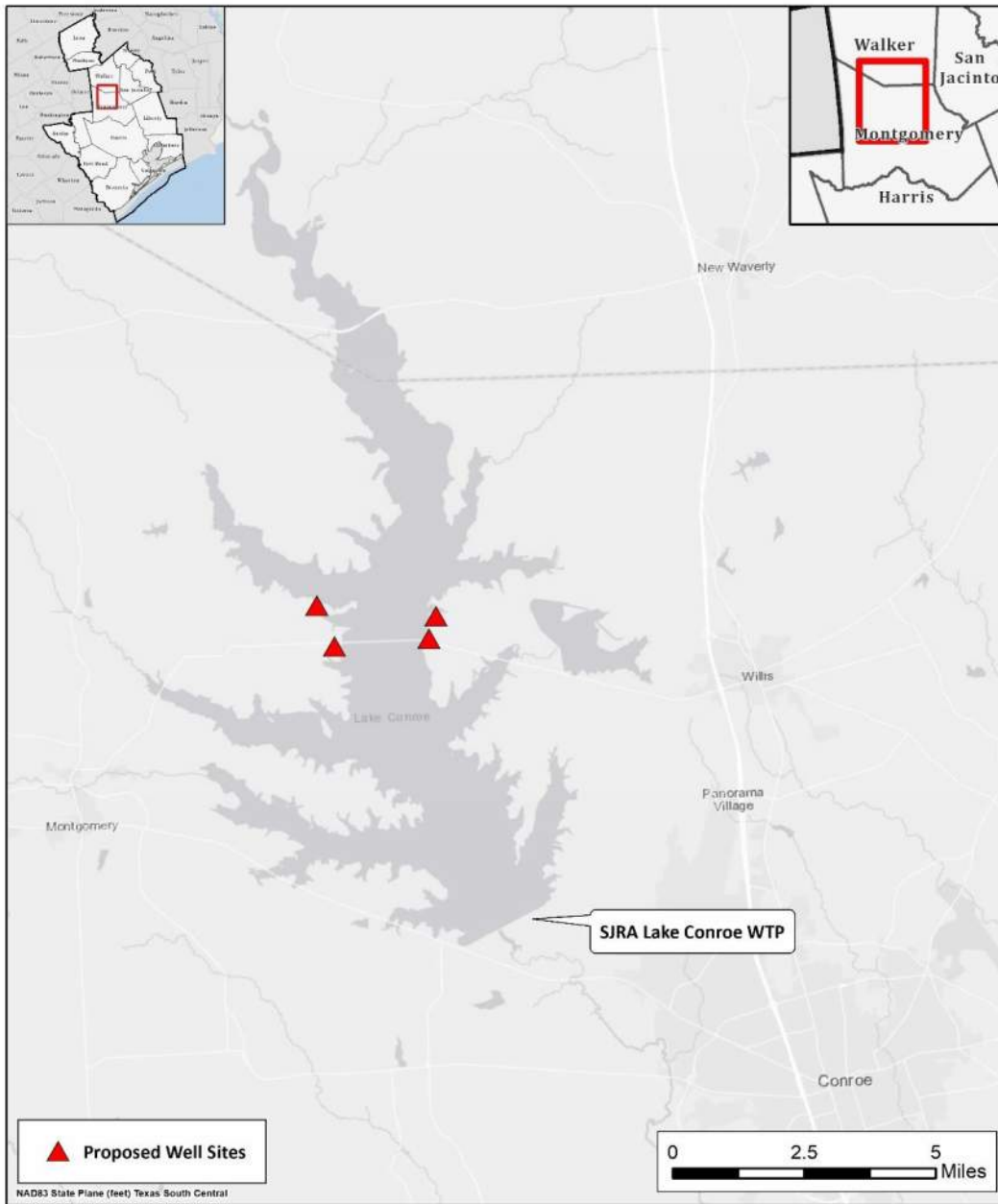
References

Freese and Nichols, Inc. 2012. *Catahoula Aquifer Evaluation*. Prepared for San Jacinto River Authority.

Freese and Nichols, Inc. 2015. *Catahoula Aquifer Phase II Feasibility Study*. Prepared for San Jacinto River Authority.

Freese and Nichols, Inc. 2018. *Raw Water Supply Master Plan*. Prepared for San Jacinto River Authority.

Location Map



SJRA Catahoula Aquifer Supplies Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Central Harris County Regional Water Authority Groundwater Reduction Plan
Project ID:	GWRP-001
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	5,466 ac-ft/yr (4.88 mgd)
Implementation Decade:	2030 (2024)
Development Timeline:	5 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the Central Harris County Regional Water Authority (CHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, CHCRWA is participating in multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for the CHCRWA Groundwater Reduction Plan (GRP) include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The CHCRWA will continue to deliver surface water to certain districts within the Authority to meet the requirements of its GRP. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP program. CHCRWA has partnered with other Regional Water Authorities

and COH in development of the Luce Bayou Interbasin Transfer Project to convey supplies from the Trinity River to Lake Houston and is also a participant in the expansion of the treatment capacity of the COH Northeast Water Purification Plant (NEWPP). The Authority has also increased its supply reservation from these facilities from an original reservation of 2.12 mgd (2,374 ac-ft/yr) currently applied in the Regional Plan as existing supply to 7.0 mgd (7,840 ac-ft/yr). CHCRWA is partnering with North Harris County Regional Water Authority (NHCRWA) and COH to develop a new shared transmission pipeline system, referred to by the sponsors as the Second Source Transmission Line, which will convey increased treated surface water supplies from the NEWPP. CHCRWA is also developing an expansion of the infrastructure network through which it supplies its member districts.

Environmental Considerations

Any environmental impacts related to the GRP project are a factor of the associated source and infrastructure projects. Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The permitting and development requirements necessary for implementation of the CHCRWA GRP are associated with the source supply and infrastructure projects. CHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Much of the permitting associated with implementation of large-scale shared infrastructure is primarily being addressed by COH.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the CHCRWA GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Cost for project are related to the infrastructure projects which allow physical implementation of the GRP.
Location	3	Source supply requires an interbasin transfer of surface water and extensive conveyance infrastructure.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.

CRITERIA	RATING	EXPLANATION
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available and some infrastructure already under development.
Development Timeline	5	Project to be developed within 5 years.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The CHCRWA GRP is not anticipated to affect vulnerable species and will not directly impact environmental flows. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The CHCRWA GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

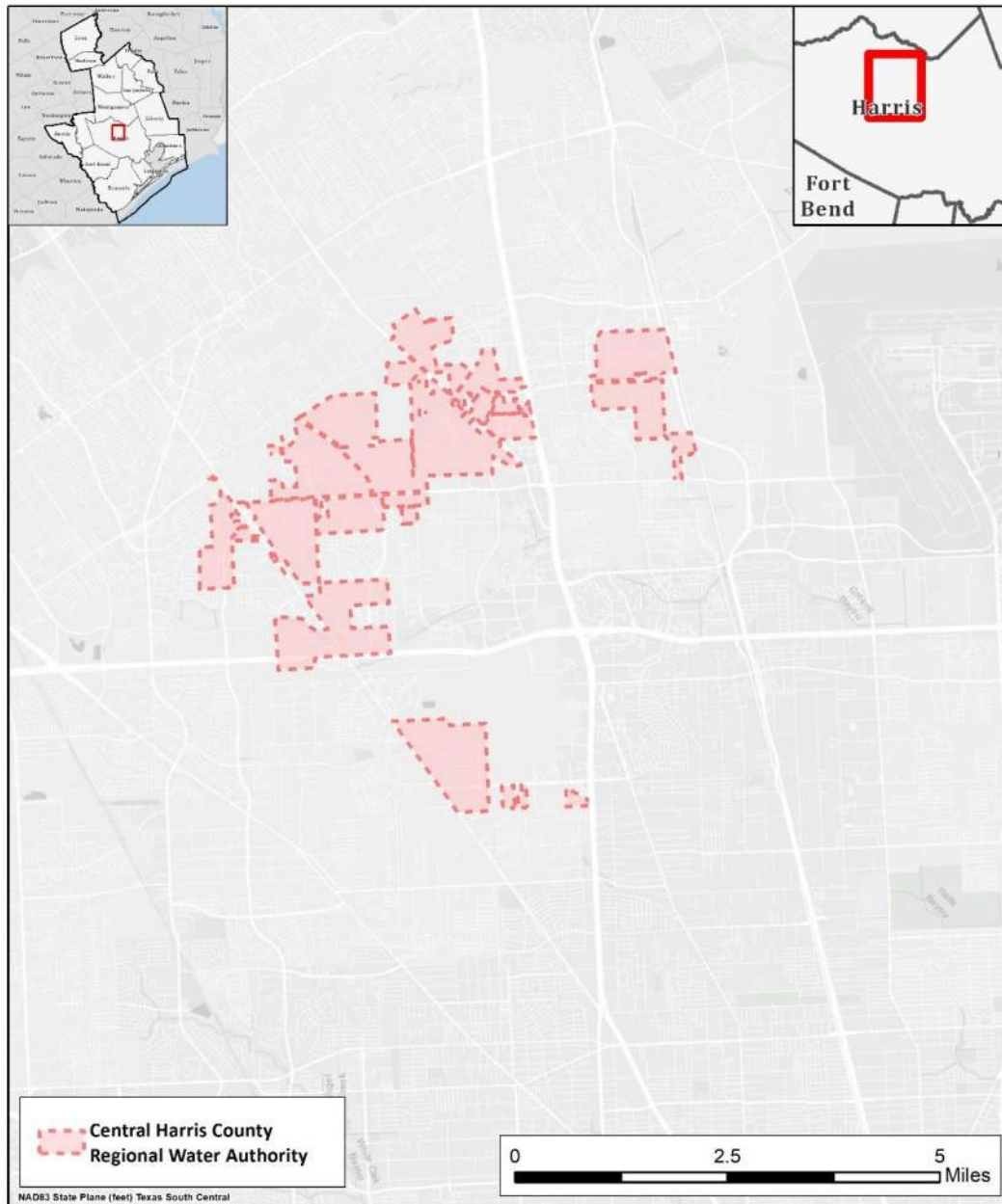
CRITERIA	WUG SUITABILITY
Proximity	Strategy is suited to serving WUGs located in the CHCRWA service area.
Size	Sized to convey the requisite amount of source water.
Water Quality	Treated water of quality appropriate for municipal use.
Unit Cost	Included under other infrastructure projects.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Central Harris County Regional Water Authority. *Central Harris County Water Users Consortium Ground Water Reduction Plan*, prepared by Pate Engineers, December 2003.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



CHCRWA GRP Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston Groundwater Reduction Plan
Project ID:	GWRP-002
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	124,914 ac-ft/yr (111.5 mgd)
Implementation Decade:	2020
Development Timeline:	In progress
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged heavy pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the City of Houston (COH) has used its surface water rights and treatment capacity to provide an alternative to groundwater pumpage. The COH has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand. In order to utilize sufficient supplies to meet future surface water conversion obligations, COH is developing multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for the COH Groundwater Reduction Plan (GRP) include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The COH has developed significant infrastructure for the development, treatment, and delivery of surface water supplies. These projects have formed the fundamental basis for much of the region's conversion from groundwater to alternative water sources. In several cases, such as the regional water authorities, COH supplies are already used as an alternative source of water and will continue to be a critical resource in the future.

In addition to providing water to regional authorities for their GRPs, COH maintains compliance with HGSD rules through its own use of surface water supplies within the City's retail water service area.

COH has also made an opportunity available for other water users to join the COH GRP to promote synergy in addressing the region’s water supply issues. A total of 6 participants reside within HGSD Areas I and II. Another 89 participants are located in HGSD Area III. Of these total participants, 45 can be identified as named Water User Groups (WUGs) in the Region H Regional Water Plan (RWP).

In most cases, COH does not provide direct surface water supplies to these participants. Instead, COH provides its own over-conversion as a service to these participants to account for their pumpage of groundwater, causing a net reduction in overall groundwater use. In effect, the requirement for groundwater conversion is met jointly across the GRP as is done by other GRP sponsors in the region.

Environmental Considerations

Any environmental impacts related to the GRP strategy are a factor of the associated source and infrastructure projects. Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The permitting and development requirements necessary for implementation of the COH GRP are associated with the source supply and infrastructure projects. The permitting associated with implementation infrastructure, such as the Northeast Water Purification Plant Expansion, is primarily addressed under specific projects in the RWP.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the COH GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Costs for project are related to the infrastructure projects which allow physical implementation of the GRP.
Location	3	Source supply requires an interbasin transfer of surface water and extensive conveyance infrastructure.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.

CRITERIA	RATING	EXPLANATION
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	5	Widespread support for project.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	5	Project ongoing along with development of additional surface water infrastructure projects.
Sponsorship	5	Sponsor identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

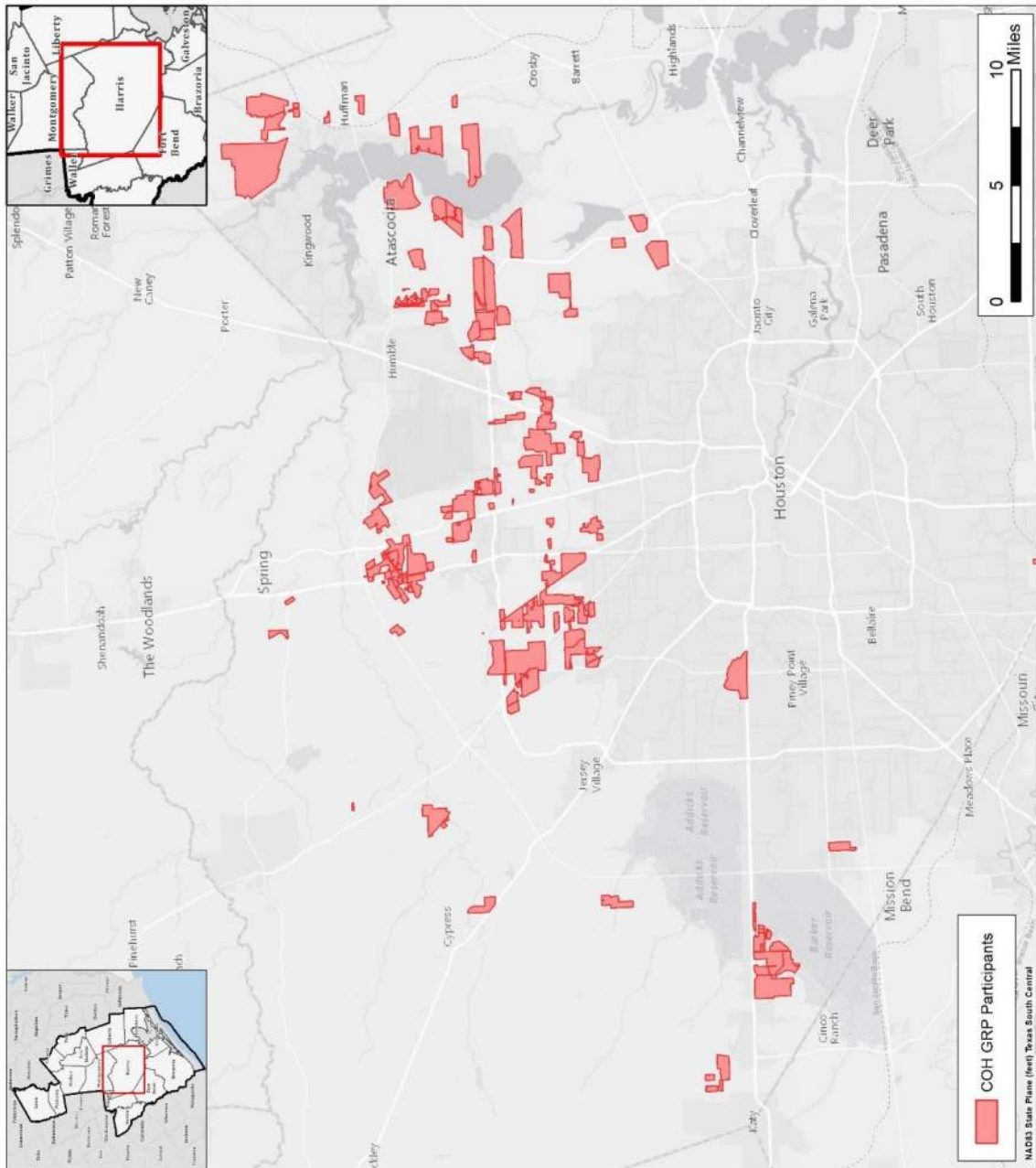
The COH GRP is not anticipated to affect acreage or vulnerable species and will not directly impact environmental flows. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The COH GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUIABILITY
Proximity	Requires conveyance infrastructure from source basin pipelines to demand centers.
Size	Sized to provide the requisite amount of source water.
Water Quality	Treated water of quality appropriate for municipal use.
Unit Cost	Included under other infrastructure projects.
Other Factors	Facilitates HGSD groundwater reduction compliance for multiple entities.

Location Map



City of Houston GRP Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Missouri City Groundwater Reduction Plan
Project ID:	GWRP-003
Project Type:	Various
Potential Supply Quantity (Rounded):	Up to 25,760 ac-ft/yr (23 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	5 years
Project Capital Cost:	\$87,837,323 (Sept. 2018)
Unit Water Cost (Rounded):	\$405 per ac-ft (during loan period) \$165 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSD) and Harris-Galveston Subsidence District (HGSD), in order to address the issue of land surface subsidence due to groundwater use within the counties under their jurisdiction, have enacted regulations limiting the percentage of overall supply that water users in certain portions of the county may produce from the Gulf Coast Aquifer. In order to meet this requirement, the City of Missouri City has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing phased surface water conversion and direct reuse.

Strategy Analyses

The project analyses for the City of Missouri City GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Missouri City has partnered with 29 surrounding entities for purposes of meeting the required groundwater reduction. The primary approach for meeting the required reduction is phased conversion to surface water, with additional direct reuse supplies contributing as well. Due to the physical and logistic challenges associated with converting all participants to partial surface water supply, the GRP specifies overconversion of a portion of the Missouri City service area, allowing other co-participants to continue growth on groundwater while allowing the aggregate water use of partnering entities to meet FBSD and HGSD requirements.

The City of Missouri City has contracted with the Gulf Coast Water Authority (GCWA) for 15 mgd (16,800 ac-ft) of raw surface water supply conveyed through GCWA's canal system as well as additional option water. The 10 mgd surface water treatment facility and associated transmission infrastructure identified by the GRP for meeting the initial phase of conversion has been constructed

and is operational; this portion of Missouri City’s surface water supply is reflected as an existing supply in the Regional Plan. The GRP indicates that additional treatment capacity (potentially up to 33 mgd) and additional transmission infrastructure will be required prior to 2025. The City of Missouri City and its GRP co-participants have also developed direct reuse infrastructure, with additional utilization of this source and expanded reuse treatment capacity anticipated to increase total reuse to between 6 and 8 mgd in the near future.

Environmental Considerations

One impact associated with the implementation of this project is the increase in GCWA diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some decreases in instream flow downstream of the GCWA pump stations. However, these diversions will be made from existing water rights currently owned by the GCWA, contracted by the City of Missouri City, and no new water rights permits are required for this project. Otherwise implementation of this project should produce minimal environmental impacts.

The direct reuse of the effluent source supply would be expected to have some degree of impact in terms of reduction of instream flows downstream of the wastewater treatment plant discharge point for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged.

Permitting and Development

Because the surface water supply source for this project is from existing water rights and would be delivered through GCWA’s canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Construction of surface water treatment facility expansions will be required to utilize portions of the source supply, which may entail minor permitting.

Development of reuse supplies would require infrastructure development and, if in amounts exceeding current authorizations, permitting through TCEQ. Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

Capital costs for future infrastructure phases of surface water treatment were estimated using standard regional planning costing assumptions for an estimated ultimate treatment capacity of up to 33 mgd (a 23 mgd expansion) as indicated in the GRP. It was assumed for the Regional Plan that increased reuse development would be within the capability of existing infrastructure or facilities currently under development. It was also assumed that development of direct reuse infrastructure would not require land or easement purchase or development of new transmission capacity. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – City of Missouri City GRP Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$61,534,874	\$61,534,874	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$21,537,206	\$21,537,206	
3	LAND AND EASEMENTS	1	LS	\$11,180	\$11,180	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$111,797	\$111,797	
5	INTEREST DURING CONSTRUCTION	1	LS	\$4,642,266	\$4,642,266	
PROJECT CAPITAL COST					\$87,837,323	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$6,180,329	\$6,180,329	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$4,245,065	\$4,245,065	\$4,245,065	\$4,245,065	\$4,245,065
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$10,425,393	\$10,425,393	\$4,245,065	\$4,245,065	\$4,245,065

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$10,425,393	\$10,425,393	\$4,245,065	\$4,245,065	\$4,245,065
2	YIELD	-	25,760	25,760	25,760	25,760	25,760
3	UNIT COST	\$0	\$405	\$405	\$165	\$165	\$165
TOTAL UNIT COST							\$261

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WATER TREATMENT PLANTS	1	LS	\$61,534,874	\$61,534,874	
PROJECT COST					\$61,534,874	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WATER TREATMENT PLANTS	1.0	LS	\$4,245,065	\$4,245,065	
ANNUAL OPERATION AND MAINTENANCE COST					\$4,245,065	

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Missouri City GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Cost is relatively low.
Location	4	Some additional transmission infrastructure may be required.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	4	Sponsor has identified project and is committed to meeting conversion requirements.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The City of Missouri City GRP includes construction of additional surface water treatment capacity. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The City of Missouri City GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Project is of appropriate size to utilize the City of Missouri City’s surface water contracts.
Water Quality	This project is expected to provide water of acceptable quality.

CRITERIA	WUG SUITABILITY
Unit Cost	The cost of this project is relatively low.
Other Factors	This project reduces groundwater dependence.

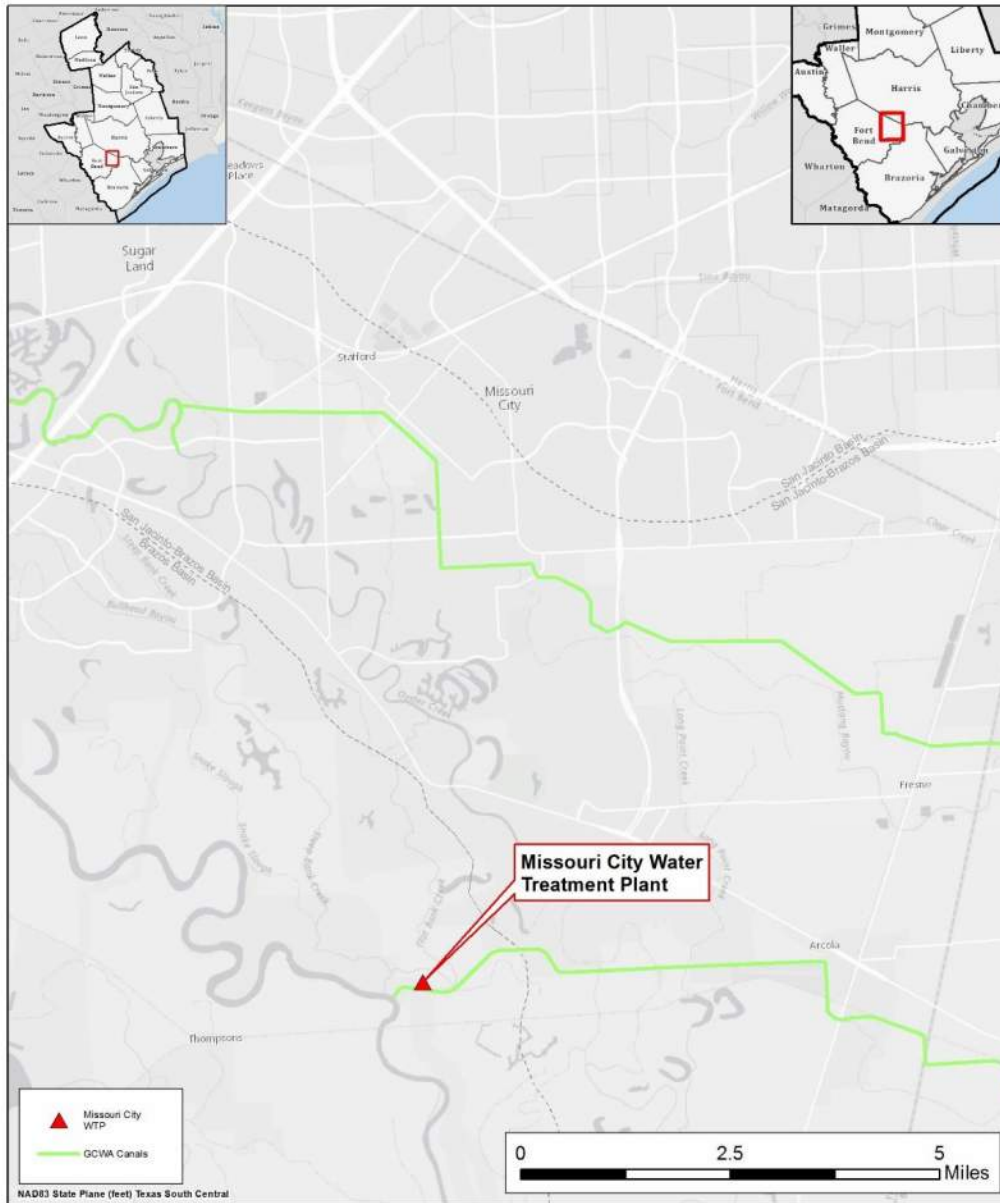
References

Water Resources Management, LP. *City of Missouri City Joint Groundwater Reduction Plan*, prepared for City of Missouri City, October 2008.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



Missouri City Groundwater Reduction Plan Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Richmond Groundwater Reduction Plan
Project ID:	GWRP-004
Project Type:	Various
Potential Supply Quantity (Rounded):	458 – 7,178 ac-ft/yr (0.41 – 6.41 mgd)
Implementation Decade:	2020
Development Timeline:	2 – 5 years
Project Capital Cost:	\$70,936,844 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,108 per ac-ft (during loan period) \$285 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSB) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the City of Richmond has developed a Groundwater Reduction Plan (GRP) to reduce ground water use by implementing phased surface water conversion and direct reuse.

Strategy Analyses

The project analyses for the City of Richmond GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Richmond has partnered with 15 surrounding entities for purposes of meeting the required groundwater reduction. The primary approach for meeting the required reduction is phased conversion to surface water, with additional direct reuse supplies contributing as well. Due to the physical and logistic challenges associated with converting all participants to partial surface water supply, the GRP specifies over-conversion of a portion of the Richmond service area, allowing other co-participants to continue growth on groundwater while allowing the aggregate water use of partnering entities to meet FBSB requirements.

The City of Richmond has contracted with the Brazos River Authority (BRA) for 5,705 ac-ft/yr of raw surface water supply conveyed through the Brazos River. The initial 2 mgd surface water treatment facility and associated transmission infrastructure identified by the GRP has been constructed and is

operational; this portion of Richmond’s surface water supply is reflected as an existing supply in the Regional Plan. The GRP indicates that an additional 4 mgd in surface water treatment capacity and additional transmission infrastructure will be required by 2028, as well as a new 2 mgd groundwater disinfection plant to serve potential future GRP participants that will continue to grow on groundwater. The GRP also identifies approximately 0.4 mgd (458 ac-ft) in direct reuse projects, which are planned to be implemented by 2022.

Environmental Considerations

One impact associated with the implementation of this project is the increase in diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some minimal decreases in instream flow downstream of the City of Richmond diversion point. However, these diversions will be made from existing water rights currently owned by the BRA, contracted by Richmond, and no new water rights permits are required for this project. Some surface disturbance may be associated with development of expanded water plant facilities and transmission infrastructure. However, this construction would occur primarily on existing plant sites or in previously urbanized area and would cause little disturbance to undeveloped habitat. Some land disturbance may be associated with the construction of a new groundwater treatment plant in the eastern portion of Richmond’s extraterritorial jurisdiction.

The direct reuse of the effluent source supply would be expected to have some degree of impact in terms of reduction of instream flows downstream of the WWTP discharge point for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged. Implementation of this project should produce minimal environmental impacts.

Permitting and Development

Because the surface water supply source for this project is from existing water rights and would be delivered through the bed and banks of the Brazos River to an authorized take point, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Construction of surface water treatment facility and distribution system expansions will be required to utilize portions of the source supply, which may entail minor permitting.

Development of reuse supplies would require infrastructure development and permitting through the Texas Commission on Environmental Quality (TCEQ). Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

Capital and engineering costs for the projects associated with the City of Richmond GRP were summarized in the GRP and explained in detail in Appendix B of the Integrated Utility Master Plan and Financial Plan (2019). Costs associated with land acquisition, easements, environmental studies and mitigation, and interest during construction were not identified as part of this analysis; for purposes

of the regional plan these components of capital cost were estimated using standard regional planning assumptions. Sponsor-provided costs were originally provided in 2018 dollars. The costs presented in this memorandum do not include the purchase cost of water. Total estimated costs for all project phases are presented in *Table 1*.

Table 1 – Richmond Groundwater Reduction Plan Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$34,506,500	\$34,506,500	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$27,320,000	\$27,320,000	
3	LAND AND EASEMENTS	1	LS	\$1,759,725	\$1,759,725	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$683,418	\$683,418	
5	INTEREST DURING CONSTRUCTION	1	LS	\$6,667,201	\$6,667,201	
PROJECT CAPITAL COST					\$70,936,844	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2020 PHASE)	\$436,158	\$436,158	\$0	\$0	\$0	\$0
2	DEBT SERVICE (2030 PHASE)	\$0	\$4,555,035	\$4,555,035	\$0	\$0	\$0
3	OPERATION AND MAINTENANCE (2020 PHASE)	\$48,275	\$48,275	\$48,275	\$48,275	\$48,275	\$48,275
4	OPERATION AND MAINTENANCE (2030 PHASE)	\$0	\$1,746,558	\$1,746,558	\$1,746,558	\$1,746,558	\$1,746,558
5	PUMPING ENERGY COSTS	\$22,994	\$253,977	\$253,977	\$253,977	\$253,977	\$253,977
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$507,427	\$7,040,002	\$6,603,844	\$2,048,810	\$2,048,810	\$2,048,810

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$507,427	\$7,040,002	\$6,603,844	\$2,048,810	\$2,048,810	\$2,048,810
2	YIELD	458	7,178	7,178	7,178	7,178	7,178
3	UNIT COST	\$1,108	\$981	\$920	\$285	\$285	\$285
TOTAL UNIT COST		\$558					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	RECLAIMED SYSTEM (2020 PHASE)	1	LS	\$3,294,500	\$3,294,500	
2	GROUNDWATER SYSTEM (2030 PHASE - GROUNDWATER)	1	LS	\$4,937,000	\$4,937,000	
3	PIPELINES (SURFACE WATER SYSTEM - 2030 PHASE)	1	LS	\$6,975,000	\$6,975,000	
4	WATER TREATMENT PLANTS (SURFACE WATER SYSTEM - 2030 PHASE)	1	LS	\$17,160,000	\$17,160,000	
5	WATER STORAGE TANKS (SURFACE WATER SYSTEM - 2030 PHASE)	1	LS	\$2,140,000	\$2,140,000	
PROJECT COST					\$34,506,500	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	RECLAIMED SYSTEM (2020 PHASE)	1	LS	\$48,275	\$48,275	
2	GROUNDWATER SYSTEM (2030 PHASE - GROUNDWATER)	1	LS	\$138,929	\$138,929	
3	PIPELINES (SURFACE WATER SYSTEM - 2030 PHASE)	1	LS	\$107,250	\$107,250	
4	WATER TREATMENT PLANTS (SURFACE WATER SYSTEM - 2030 PHASE)	1	LS	\$1,478,979	\$1,478,979	
5	WATER STORAGE TANKS (SURFACE WATER SYSTEM - 2030 PHASE)	1.0	%	\$2,140,000	\$21,400	
ANNUAL OPERATION AND MAINTENANCE COST					\$1,794,833	

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Richmond GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Cost is high but decreases after completion of debt service.
Location	4	Some transmission infrastructure required.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	5	Sponsor has identified project and is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The City of Richmond GRP is not anticipated to affect vulnerable species or agricultural land or production. Implementation of the project may result in some minimal decreases in instream flow, but these diversions will be made from existing water rights.

Water User Group Application

The City of Richmond GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Project is of appropriate size to utilize the City of Richmond’s surface water contracts.
Water Quality	This project is expected to provide water of acceptable quality.
Unit Cost	The cost of this project is high but decreases after completion of debt service.
Other Factors	This project reduces groundwater dependence.

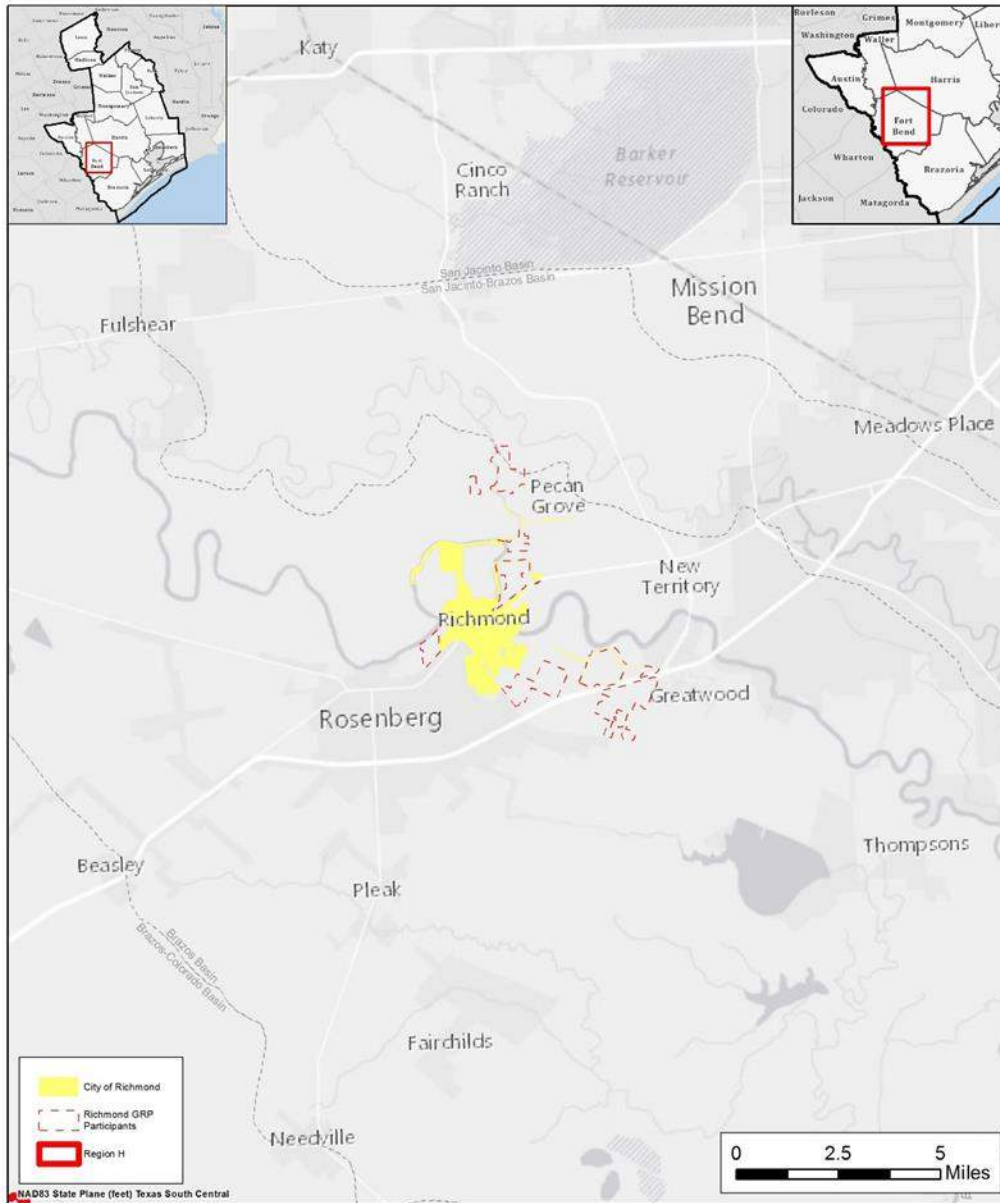
References

City of Richmond, TX. City of Richmond Groundwater Reduction Plan 2019 Update, August 2019.

City of Richmond, TX. City of Richmond Integrated Utility Master Plan & Financial Plan, March 2019.

Fort Bend Subsidence District. Fort Bend Subsidence District 2013 Regulatory Plan, August 2013.

Location Map



City of Richmond Groundwater Reduction Plan Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Rosenberg Groundwater Reduction Plan
Project ID:	GWRP-005
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	3,920 ac-ft/yr (3.5 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	5 years
Project Capital Cost:	\$12,963,110 (Sept. 2018)
Unit Water Cost (Rounded):	\$261 per ac-ft (during loan period) \$29 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSD), in order to address the issue of land surface subsidence due to groundwater use within Fort Bend County, has enacted regulations limiting the percentage of overall supply that water users in certain portions of the county may produce from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet this requirement, the City of Rosenberg has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing surface water conversion.

Strategy Analyses

The project analyses for the City of Rosenberg GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Rosenberg has partnered with five surrounding entities for purposes of meeting the required groundwater reduction for the participating entities and their water supply customers. The primary approach for meeting the required reduction is phased conversion to surface water. Due to the physical and logistic challenges associated with converting all participants to partial surface water supply, the GRP specifies overconversion of some co-participants, allowing other co-participants to continue growth on groundwater while ensuring that the aggregate water use of partnering entities meets FBSD requirements. Rosenberg receives treated surface water from a 5.7-mgd contract with the Brazosport Water Authority (BWA), which is treated at the BWA facility in Lake Jackson and is conveyed via pipeline to the GRP participants' service area. The City of Rosenberg has also contracted with the Brazos River Authority (BRA) for 4,500 ac-ft/yr of raw surface water supply which could be

treated through current and future BWA facilities and conveyed to Rosenberg. The City of Rosenberg has developed expanded transmission infrastructure sufficient to meet its initial conversion goal of 3 mgd (3,360 ac-ft/yr) of surface water. The GRP indicates that additional transmission and distribution infrastructure will be required for the 2025 conversion phase to increase surface water supplies by 3.5 mgd (3,920 ac-ft/yr); these expansions are reflected in the Regional Plan as conversion of additional demands within the City of Rosenberg and partnering entities supplied by the City's water system.

Environmental Considerations

One impact associated with the implementation of this project is the increase in diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some decreases in instream flow downstream of the diversion point. However, these diversions will be made from existing water rights currently owned by BWA or BRA, contracted by Rosenberg, and no new water rights permits are required for this project. Some surface disturbance may be associated with development of expanded water plant facilities and transmission infrastructure. However, this construction would occur primarily on existing plant sites or in previously urbanized areas and would cause little disturbance to undeveloped habitat.

Permitting and Development

The surface water supply source for this project is from existing water rights. Expansion of the BWA treatment water treatment facility and distribution system expansions will be required to utilize portions of the source supply, which may entail minor permitting.

Cost Analysis

Capital and engineering costs for future expansion of transmission capacity are summarized in the City of Rosenberg GRP. Capital costs associated with land acquisition, environmental studies, and mitigation are not identified as separate items in the GRP and are assumed to be included in the capital cost specified. Interest during construction and annualized costs (debt service, operations and maintenance, and energy) are not identified in the GRP and were estimated using standard Regional Planning costing reference data. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. The costs presented in this memorandum do not include the purchase cost of water. Water treatment costs are covered separately under the RWP analysis for expansion of BWA treatment facilities. Estimated costs for the City of Rosenberg GRP are presented in *Table 1*.

Table 1 – City of Rosenberg GRP Project Cost

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$9,300,000	\$9,300,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$2,978,000	\$2,978,000
3	LAND AND EASEMENTS	1	LS	\$0	\$0
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0
5	INTEREST DURING CONSTRUCTION	1	LS	\$685,110	\$685,110
PROJECT CAPITAL COST					\$12,963,110

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$912,098	\$912,098	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$112,350	\$112,350	\$112,350	\$112,350	\$112,350
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$1,024,448	\$1,024,448	\$112,350	\$112,350	\$112,350

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$1,024,448	\$1,024,448	\$112,350	\$112,350	\$112,350
2	YIELD	-	3,920	3,920	3,920	3,920	3,920
3	UNIT COST	\$0	\$261	\$261	\$29	\$29	\$29
TOTAL UNIT COST							\$122

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$1,290,000	\$1,290,000
2	PIPELINES	1	LS	\$5,540,000	\$5,540,000
3	WATER STORAGE TANKS	1	LS	\$2,470,000	\$2,470,000
PROJECT COST					\$9,300,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$1,290,000	\$32,250
2	PIPELINES	1.0	%	\$5,540,000	\$55,400
3	WATER STORAGE TANKS	1.0	%	\$2,470,000	\$24,700
ANNUAL OPERATION AND MAINTENANCE COST					\$112,350

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Rosenberg GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Project expands delivery capacity at a relatively low cost.
Location	3	Substantial existing transmission infrastructure required from treatment location to point of use.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Limited impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	5	Sponsor has identified project and is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The City of Rosenberg GRP includes minor additional pipeline construction for subsequent phases of conversion. The majority of this impact will be in developed areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The Rosenberg GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project requires limited expansion of conveyance infrastructure from treatment facilities to points of use.
Size	Project is of appropriate size to utilize the City of Rosenberg’s surface water contracts.

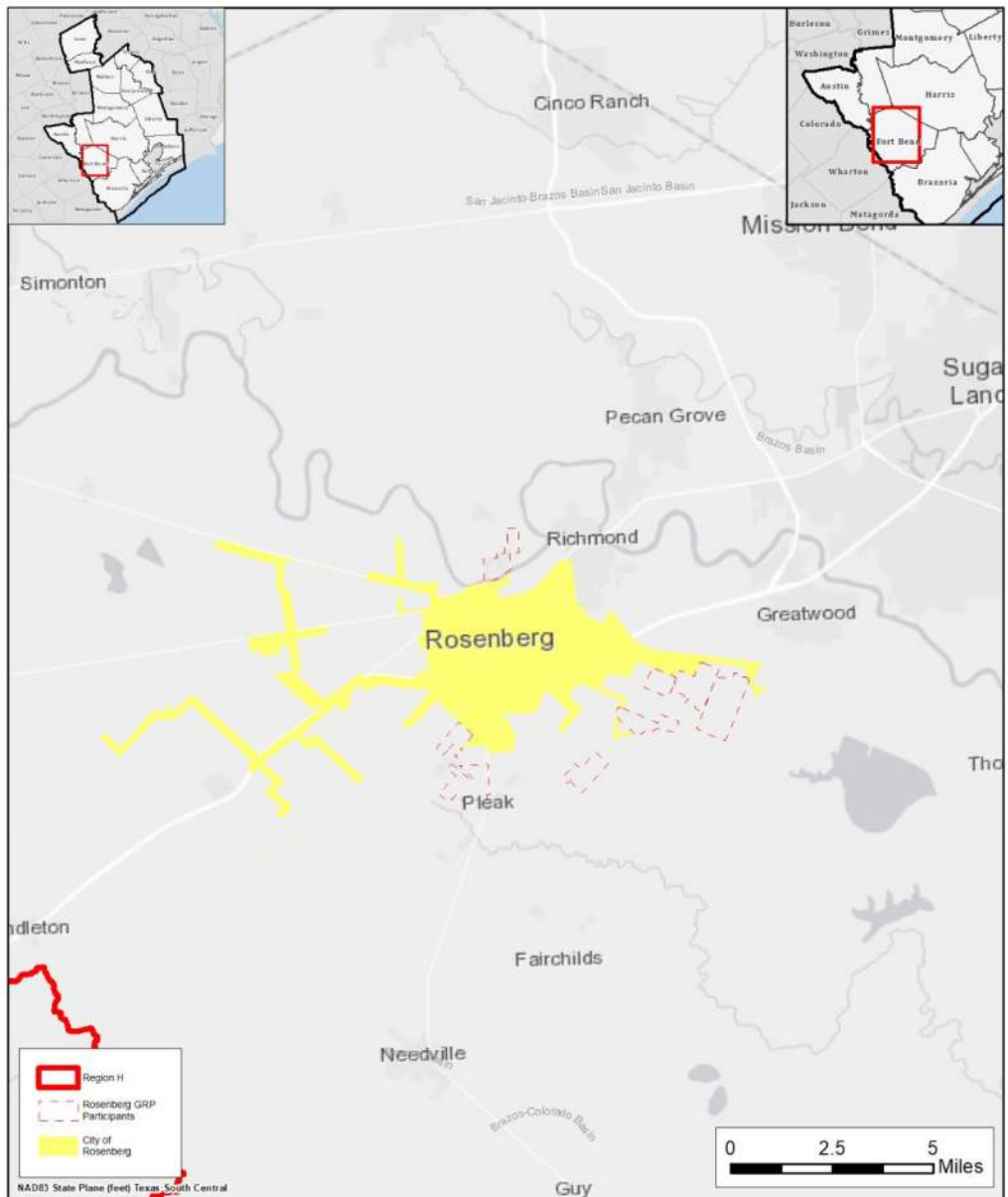
CRITERIA	WUG SUITABILITY
Water Quality	This project is expected to provide water of acceptable quality.
Unit Cost	The cost of this project is high but decreases after completion of debt service.
Other Factors	This project reduces groundwater dependence.

References

Jones and Carter, Inc. *City of Rosenberg Amended Groundwater Reduction Plan*, prepared for City of Rosenberg, TX, September 2014.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Location Map



City of Rosenberg Groundwater Reduction Plan Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Sugar Land Integrated Water Resource Plan
Project ID:	GWRP-006
Project Type:	Various
Potential Supply Quantity (Rounded):	15,492 ac-ft/yr (13.8 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years per project phase
Project Capital Cost:	\$133,134,039 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,210 per ac-ft (during loan period) \$390 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the City of Sugar Land has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing phased conversion to alternative water sources. In 2019, Sugar Land completed a new Integrated Water Resource Plan (IWRP) which details the City's plans for alternative water supply sources and infrastructure enhancements to meet growing demands and the required reduction in groundwater use. The strategies recommended in the IWRP include surface water conversion, direct reuse, and demand management.

Strategy Analyses

The project analyses for City of Sugar Land IWRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Sugar Land has partnered with 18 surrounding entities for purposes of meeting the required groundwater reduction. The primary approach for meeting the required reduction is phased conversion to surface water, with additional direct reuse supplies and advanced demand management approaches contributing as well. Due to the physical and logistic challenges associated with converting all participants to partial surface water supply, the City's plans specify over-conversion of Fort Bend County MUD 128 and a portion of the Sugar Land service area, allowing other

co-participants to continue growth on groundwater while ensuring that the aggregate water use of partnering entities meets FBSD requirements.

Sugar Land owns a water right on Oyster Creek, part of the Brazos River Basin, for 5,638 ac-ft/yr (approximately 5 mgd), some of which is used to meet demands for non-potable water in the City's service area. Sugar Land has contracted with the Gulf Coast Water Authority (GCWA) for 20 mgd (22,400 ac-ft/yr) of raw surface water supply conveyed through GCWA's canal system. Sugar Land has also contracted with the Brazos River Authority (BRA) for an additional 14.9 mgd (16,667 ac-ft/yr) of raw surface water. The initial 10.85 mgd surface water treatment facility and associated transmission infrastructure identified by the GRP has been constructed and is operational; this portion of Sugar Land's surface water supply is reflected as an existing supply in the Regional Plan. The IWRP indicates that an additional 11.15 mgd in treatment capacity and additional transmission infrastructure will be required to meet long-term demand projections. The expansion in surface water infrastructure will be developed in multiple phases, providing an additional 5.65 MGD and subsequent 5.5 MGD expansion in treatment capacity. The first phase will also include expanded transmission infrastructure to convey treated surface water to four existing groundwater plants in the City's service area. One of these plants, located in the New Territory development, will also require a treatment plant conversion project to accommodate the chloramine-treated surface water.

Additionally, the GRP participant Fort Bend County MUD 128 (Riverstone) currently uses Type 1 reclaimed water from Sugar Land's South Wastewater Treatment Plant (WWTP). The IWRP identified opportunities to expand reclaimed water infrastructure at both the South WWTP and North WWTP to meet non-potable needs in Sugar Land's service area.

Finally, Sugar Land plans to implement advanced demand management measures beyond those recommended in the Region H Advanced Municipal Conservation and Water Loss Reduction Strategies. Installation and management of advanced metering infrastructure is estimated to provide up to 0.94 MGD of additional savings, and advanced loss reduction measures will provide an anticipated 0.24 MGD in additional savings beginning in 2030.

Environmental Considerations

One impact associated with the implementation of this project is the increase in GCWA and BRA diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some minimal decreases in instream flow downstream of the GCWA pump stations. However, these diversions will be made from existing water rights currently owned by the GCWA and BRA, contracted by Sugar Land, and no new water rights permits are required for this project.

The direct reuse of the effluent source supply would be expected to have some degree of impact in terms of reduction of instream flows downstream of the WWTP discharge point for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged. Otherwise implementation of this project should produce minimal environmental impacts.

Permitting and Development

Because the surface water supply source for this project is from existing water rights and would be delivered through GCWA's canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Construction of surface water treatment

facility expansions will be required to utilize portions of the source supply, which may entail minor permitting.

The development of expanded reuse supplies would require infrastructure development and permitting through the Texas Commission on Environmental Quality (TCEQ). Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

The Sugar Land IWRP includes planning-level cost estimates for engineering and design, contingency, sitework, and construction for each of the recommended projects, as well as annual operation and maintenance costs. Standard regional planning assumptions were applied to estimate the cost of interest during construction, and all cost estimates were scaled to a September 2018 equivalent cost in accordance with TWDB requirements. Costs associated with environmental studies and mitigation are not identified as separate items, but for purposes of the regional plan it is assumed that these values are included in the estimates for other capital cost components. The costs presented in this memorandum do not include the purchase cost of water. Total estimated costs for all projects associated with the Sugar Land GRP are presented in *Table 1*.

Table 1 – Sugar Land Integrated Water Resource Plan Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$74,687,694	\$74,687,694	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$39,148,380	\$39,148,380	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$6,449,792	\$6,449,792	
6	ADVANCED LOSS REDUCTION AND AMI	1	LS	\$12,848,173	\$12,848,173	
PROJECT CAPITAL COST					\$133,134,039	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2030 PHASE)	\$0	\$7,431,840	\$7,431,840	\$0	\$0	\$0
2	DEBT SERVICE (2040 PHASE)	\$0	\$0	\$1,935,614	\$1,935,614	\$0	\$0
3	OPERATION AND MAINTENANCE (2030 PHASE)	\$0	\$3,253,012	\$3,253,012	\$3,253,012	\$3,253,012	\$3,253,012
4	OPERATION AND MAINTENANCE (2040 PHASE)	\$0	\$0	\$2,796,091	\$2,796,091	\$2,796,091	\$2,796,091
5	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$10,684,852	\$15,416,558	\$7,984,718	\$6,049,103	\$6,049,103

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY							
		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$10,684,852	\$15,416,558	\$7,984,718	\$6,049,103	\$6,049,103
2	YIELD	-	8,827	15,492	15,492	15,492	15,492
3	UNIT COST	\$0	\$1,210	\$995	\$515	\$390	\$390
TOTAL UNIT COST							\$652

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS (2030 PHASE - SURFACE WATER SYSTEM)	1	LS	\$2,997,378	\$2,997,378
2	PUMP STATIONS (2030 PHASE - RECLAIMED SYSTEM)	1	LS	\$1,564,009	\$1,564,009
3	PUMP STATIONS (2040 PHASE - SURFACE WATER SYSTEM)	1	LS	\$633,235	\$633,235
4	PUMP STATIONS (2040 PHASE - RECLAIMED SYSTEM)	1	LS	\$846,756	\$846,756
5	PIPELINES (2030 PHASE - SURFACE WATER SYSTEM)	1	LS	\$5,544,087	\$5,544,087
6	PIPELINES (2030 PHASE - GROUNDWATER SYSTEM)	1	LS	\$8,700,430	\$8,700,430
7	PIPELINES (2030 PHASE - RECLAIMED SYSTEM)	1	LS	\$5,626,067	\$5,626,067
8	PIPELINES (2040 PHASE - RECLAIMED SYSTEM)	1	LS	\$2,827,865	\$2,827,865
9	WATER TREATMENT PLANTS (2030 PHASE - SURFACE WATER SYSTEM)	1	LS	\$21,179,403	\$21,179,403
10	WATER TREATMENT PLANTS (2030 PHASE - GROUNDWATER SYSTEM)	1	LS	\$10,314,863	\$10,314,863
11	WATER TREATMENT PLANTS (2040 PHASE - SURFACE WATER SYSTEM)	1	LS	\$9,064,246	\$9,064,246
12	WATER STORAGE TANKS (2030 PHASE - RECLAIMED SYSTEM)	1	LS	\$468,206	\$468,206
13	WATER STORAGE TANKS (2040 PHASE - RECLAIMED SYSTEM)	1	LS	\$249,046	\$249,046
14	WASTEWATER RECLAMATION PLANTS (2030 PHASE - RECLAIMED SYSTEM)	1	LS	\$846,756	\$846,756
15	WASTEWATER RECLAMATION PLANTS (2040 PHASE - RECLAIMED SYSTEM)	1	LS	\$896,566	\$896,566
16	SITE CIVIL, MEP, AND INSTRUMENTATION (2030 PHASE - RECLAIMED SYSTEM)	1	LS	\$1,951,524	\$1,951,524
17	SITE CIVIL, MEP, AND INSTRUMENTATION (2040 PHASE - RECLAIMED SYSTEM)	1	LS	\$977,257	\$977,257
18	2030 PHASE - ADVANCED LOSS REDUCTION AND AMI	1	LS	\$12,848,173	\$12,848,173
PROJECT COST					\$74,687,694

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	2030 PHASE - SURFACE WATER SYSTEM	1.0	LS	\$2,590,869	\$2,590,869
2	2030 PHASE - GROUNDWATER SYSTEM	1.0	LS	\$87,004	\$87,004
3	2030 PHASE - RECLAIMED SYSTEM	1.0	LS	\$368,588	\$368,588
4	2030 PHASE - ADVANCED LOSS REDUCTION AND AMI	1.0	LS	\$206,551	\$206,551
5	2040 PHASE - SURFACE WATER SYSTEM	1.0	LS	\$2,593,866	\$2,593,866
6	2040 PHASE - RECLAIMED SYSTEM	1.0	LS	\$202,225	\$202,225
ANNUAL OPERATION AND MAINTENANCE COST					\$6,049,103

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Sugar Land GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Cost is relatively high but decreases substantially after completion of debt service.
Location	4	Some transmission infrastructure required.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less per project phase.
Sponsorship	5	Sponsor has identified project and is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The City of Sugar Land GRP includes up to 9 miles of pipelines. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The City of Sugar Land GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Project is of appropriate size to utilize the City of Sugar Land’s surface water and reuse supplies.

CRITERIA	WUG SUITABILITY
Water Quality	This project is expected to provide water of acceptable quality for municipal use.
Unit Cost	The cost of this project is moderately high but decreases substantially after completion of debt service.
Other Factors	This project reduces groundwater dependence.

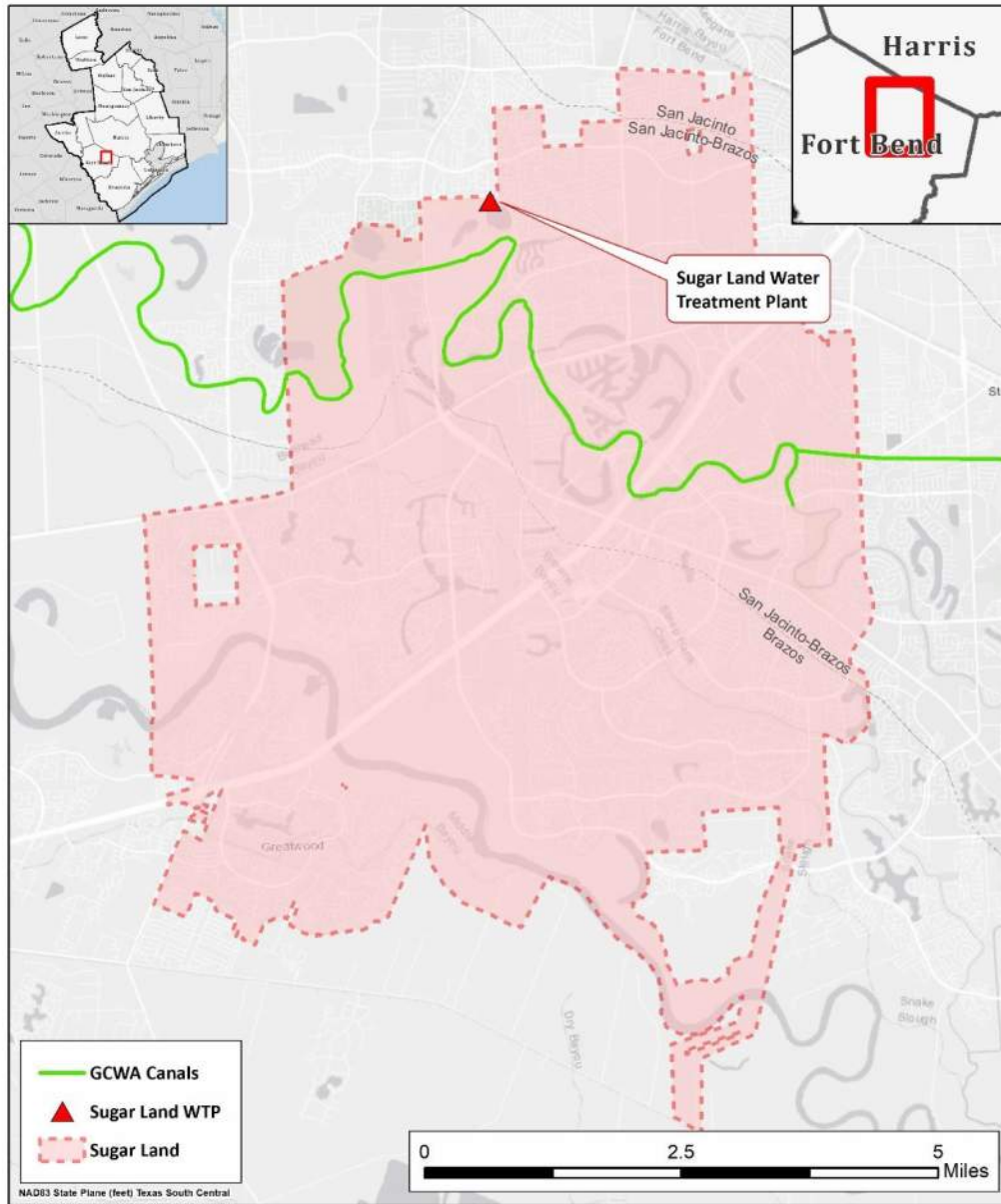
References

City of Sugar Land, TX. *City of Sugar Land Groundwater Reduction Plan*, March 2008.

City of Sugar Land, TX. *City of Sugar Land Integrated Water Resource Plan*, March 2019.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Location Map



Sugar Land IWRP Location Map



Texas

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Fort Bend County MUD 25 Groundwater Reduction Plan
Project ID:	GWRP-007
Project Type:	Various
Potential Supply Quantity (Rounded):	1,120 ac-ft/yr (1 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years
Project Capital Cost:	\$26,718,250 (Sept. 2018)
Unit Water Cost (Rounded):	\$2,541 per ac-ft (during loan period) \$862 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSD), in order to address the issue of land surface subsidence due to groundwater use within Fort Bend County, has enacted regulations limiting the percentage of overall supply that water users in certain portions of the county may produce from the Gulf Coast Aquifer. In order to meet this requirement, Fort Bend Municipal Utility District No. 25 (MUD 25) developed a Groundwater Reduction Plan (GRP) in 2008 that outlined a plan to reduce groundwater use by implementing reuse, with considerations for supplemental surface water use as well. More recently, MUD 25 has proposed a plan to seek a contract for 1 MGD (1,120 ac-ft/yr) of surface water from local wholesale water providers.

Strategy Analyses

The project analyses for Fort Bend County MUD 25 GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Fort Bend County MUD No. 25 has partnered with the Shadow Hawk Golf Course and the Orchard Lakes Development for purposes of meeting the required groundwater reduction. The primary approach for meeting the required reduction is direct reuse of effluent from MUD No. 25's WWTP for irrigation and filling of amenity lakes in the Shadow Hawk Golf Course and the Orchard Lakes Development instead of existing groundwater wells.

The GRP analysis examined historical groundwater use along with per-capita usage rates and growth projections. Reuse potential was analyzed using best case (low demand, high reuse availability), worst case (high demand, low reuse availability), and realistic scenarios. Under worst case conditions, surface water conversion would be required beginning in 2015 and over-conversion credits would be

depleted by 2029, requiring an additional 100 million gallons of surface water conversion credits per year beginning in 2029. For the best case scenario, over-conversion and other credits would meet requirements through 2030, with no need for surface water conversion. For the realistic case, surface water conversion credits would have to begin in 2026 for FBSD requirements to be met through 2030. MUD No. 25 also has surface water conversion credit agreements with the City of Sugar Land.

The reuse infrastructure associated with the GRP has been developed and is actively producing direct reuse supply. Based on historical levels of production from 2010 to 2017, MUD 25 has used up to 521 ac-ft/yr of reclaimed water, which is reflected in the Region H Plan as an existing water supply. Direct reuse in MUD 25 is expected to increase to a maximum of 589 ac-ft/yr by 2030.

MUD 25 does not currently have access to any surface water sources but is seeking contracts, potentially with the City of Sugar Land, for up to 1 MGD (1,120 ac-ft/yr). This strategy assumes the successful negotiation for this supply with Sugar Land for MUD 25's next phase of conversion. It is also assumed that raw surface water will be treated by MUD 25.

Environmental Considerations

The primary impact associated with the implementation of this water management project is the increase in diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some minimal decreases in instream flow downstream of the intake point. However, these diversions would be made from existing water rights owned by a wholesale water provider, contracted by Fort Bend County MUD 25, and no new water rights permits would be required for this project.

Permitting and Development

Because the reuse system infrastructure for the GRP is already developed, no additional permitting is anticipated for that supply source. Procurement of surface water supplies from the City of Sugar Land or an alternative supplier would require a new supply contract. The addition of surface water supplies is expected to necessitate minor additional conveyance infrastructure and a water treatment plant which may involve additional permitting requirements.

Cost Analysis

The GRP does not include a detailed estimate of cost for the project. It was assumed that additional direct reuse beyond existing levels would not generate additional costs as the necessary infrastructure is active. A preliminary planning estimate of cost associated with a contractual surface water supply was developed using standard cost estimate procedures for Region H. As the contract and associated intake facilities have not yet been determined, this cost estimate includes such components as an intake pump station and a 1.5-MGD water treatment plant to account for peak flow rates as well as 1 mile of pipeline for conveyance from the intake point to the treatment facility. The costs presented in this memorandum do not include the purchase cost of water. *Table 1* summarizes the costs of key facilities, which are presented in September 2018 dollars.

Table 1 – Fort Bend County MUD 25 GRP Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$12,691,837	\$12,691,837	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$4,425,464	\$4,425,464	
3	LAND AND EASEMENTS	1	LS	\$5,659,170	\$5,659,170	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,529,700	\$2,529,700	
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,412,079	\$1,412,079	
PROJECT CAPITAL COST					\$26,718,250	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$1,879,925	\$1,879,925	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$945,659	\$945,659	\$945,659	\$945,659	\$945,659
3	PUMPING ENERGY COSTS	\$0	\$19,858	\$19,858	\$19,858	\$19,858	\$19,858
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$2,845,442	\$2,845,442	\$965,517	\$965,517	\$965,517

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$2,845,442	\$2,845,442	\$965,517	\$965,517	\$965,517
2	YIELD	-	1,120	1,120	1,120	1,120	1,120
3	UNIT COST	\$0	\$2,541	\$2,541	\$862	\$862	\$862
TOTAL UNIT COST		\$1,533					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$3,732,357	\$3,732,357	
2	PIPELINES	1	LS	\$333,573	\$333,573	
3	WATER TREATMENT PLANTS	1	LS	\$8,625,906	\$8,625,906	
PROJECT COST					\$12,691,837	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$3,732,357	\$93,309	
2	PIPELINES	1.0	%	\$333,573	\$3,336	
3	WATER TREATMENT PLANTS	1.0	LS	\$849,014	\$849,014	
ANNUAL OPERATION AND MAINTENANCE COST					\$945,659	

Water Management Strategy Evaluation

Based on the analysis provided above, the Fort Bend County MUD 25 GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	The cost of this project is high but decreases after completion of debt service.
Location	4	Some conveyance infrastructure may be necessary to access contractual supplies.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	5	Limited or no known impacts.
Environmental Flows	2	Minor reduction in environmental flows.
Local Preference	4	Project identified in participant's Joint GRP. No known opposition.
Institutional Constraints	3	Reuse system is complete. Surface water must be procured through a contract.
Development Timeline	5	Minimal development time (<5 years) required.
Sponsorship	4	Sponsor identified and project partially implemented.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The Fort Bend County MUD 25 GRP project is not anticipated to affect vulnerable species. Additionally, the project will not directly impact environmental flows or agricultural land and production.

Water User Group Application

The Fort Bend County MUD 25 GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The project is located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the target demands.
Water Quality	This project provides supplies of appropriate quality for intended uses.

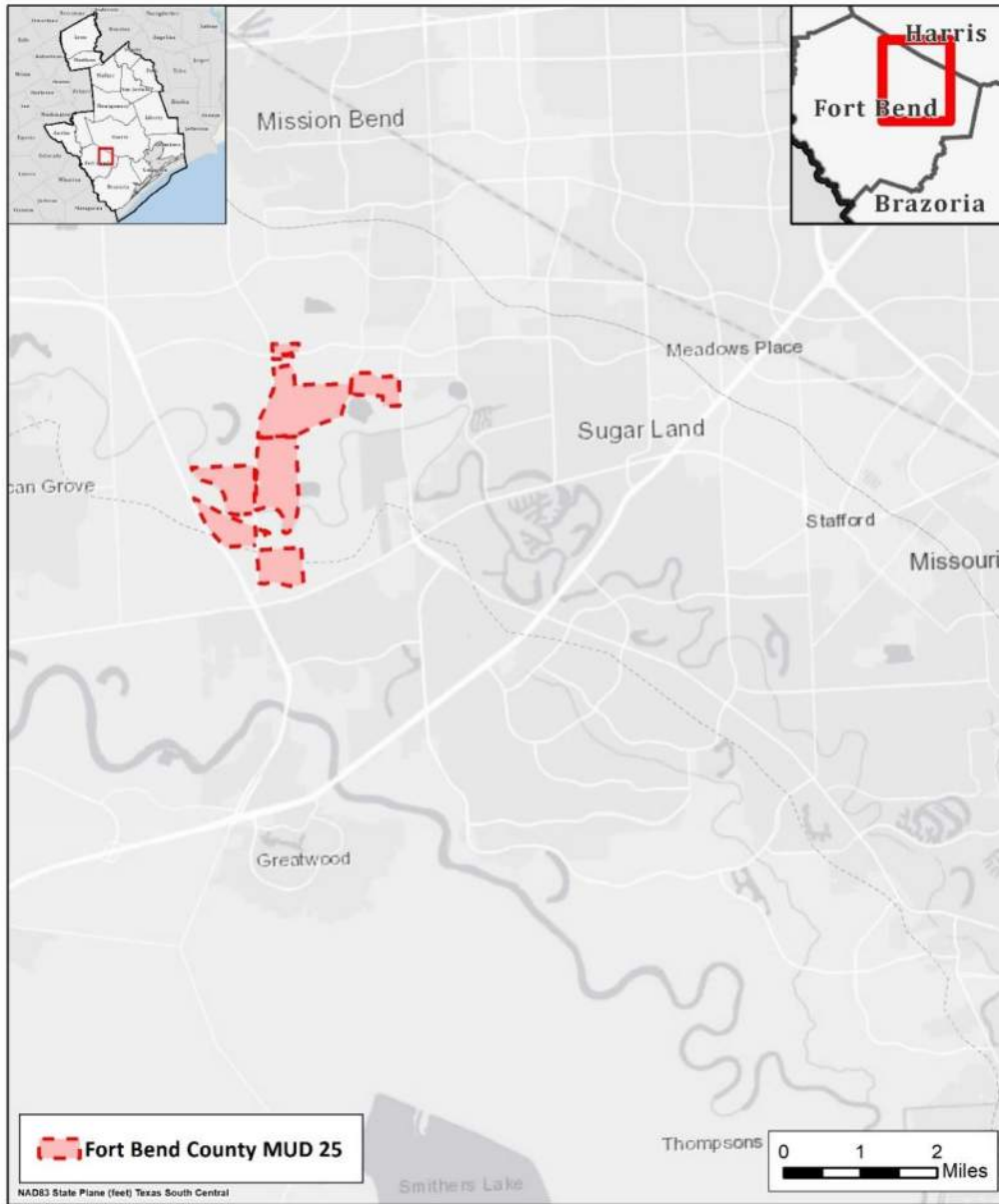
CRITERIA	WUG SUITABILITY
Unit Cost	The cost of this project is high but decreases after completion of debt service.
Other Factors	This project is partially implemented but may require limited infrastructure for future contractual supplies.

References

CDM. *Fort Bend County MUD No. 25 Groundwater Reduction Plan*, prepared for Fort Bend County MUD No. 25, October 2008.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Location Map



Fort Bend County MUD 25 GRP Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Fort Bend County WCID 2 Groundwater Reduction Plan
Project ID:	GWRP-008
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	3,360 – 6,720 ac-ft/yr (3 – 6 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	<5 years
Project Capital Cost:	\$63,535,966 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,106 per ac-ft (during loan period) \$440 per ac-ft (after loan period)

Strategy Description

The Fort Bend Subsidence District (FBSD), in order to address the issue of land surface subsidence due to groundwater use within Fort Bend County, has enacted regulations limiting the percentage of overall supply that water users in certain portions of the county may produce from the Gulf Coast Aquifer. In order to meet this requirement, Fort Bend Water Control & Improvement District No. 2 (WCID 2) has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing phased conversion to surface water.

Strategy Analyses

The project analyses for Fort Bend County WCID 2 GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The WCID 2 GRP summarizes the planned projects for meeting the Fort Bend Subsidence District's timeline for partial conversion to non-groundwater sources. WCID 2, which provides retail water supply service to the City of Stafford and portions of the City of Missouri City, is partnering in this endeavor with Harris County MUD 122, Fifth Street Water Supply Corporation, and City of Meadows Place. WCID 2 has contracted with Gulf Coast Water Authority (GCWA) for 10.5 mgd (11,760 ac-ft/yr) of raw surface water supply delivered through GCWA's canal system. WCID 2 has also obtained 80 acres of land adjacent to the GCWA canal for treatment plant development.

The initial 3 mgd surface water treatment facility identified by the GRP has been constructed and is operational; this portion of WCID 2's surface water supply is reflected as an existing supply in the Regional Plan. The GRP indicates that an additional 3 mgd in treatment capacity will be required by 2025. A second 3 mgd expansion is anticipated by 2032.

Environmental Considerations

One impact associated with the implementation of this water management project is the increase in GCWA diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some decreases in instream flow downstream of the GCWA pump stations. However, these diversions will be made from existing water rights currently owned by the GCWA, contracted by Fort Bend County WCID 2, and no new water rights permits are required for this project. Otherwise implementation of this project should produce minimal environmental impacts.

Permitting and Development

Because the water supply source for this project is from existing water rights and will be delivered through GCWA's canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Construction of treatment facility expansions will be required to utilize portions of the source supply, which may entail minor permitting.

Cost Analysis

A preliminary planning estimate of project cost for the two planned expansions has been developed using standard regional planning assumptions. Estimated costs reflect a 3 mgd (3,360 ac-ft/yr) expansion in 2025 and an additional 3 mgd expansion reflected in 2032, which are reflected in the Regional Plan in the 2030 and 2040 planning decades. It was assumed for both phases that all construction could be accommodated in existing easements, with minor costs for additional surveying. The costs presented in this memorandum do not include the purchase cost of water. Total costs for both phases are presented in *Table 1*. All costs, including debt service and costs for operations and maintenance, were calculated using standard cost estimation procedures for Region H and are presented in September 2018 equivalent costs in accordance with TWDB guidance.

Table 1 – Fort Bend WCID 2 GRP Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$39,579,056	\$39,579,056	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$13,791,908	\$13,791,908	
3	LAND AND EASEMENTS	1	LS	\$1,094,280	\$1,094,280	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$5,712,800	\$5,712,800	
5	INTEREST DURING CONSTRUCTION	1	LS	\$3,357,922	\$3,357,922	
PROJECT CAPITAL COST					\$63,535,966	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2025 PHASE)	\$0	\$2,235,229	\$2,235,229	\$0	\$0	\$0
2	DEBT SERVICE (2032 PHASE)	\$0	\$0	\$2,235,229	\$2,235,229	\$0	\$0
3	OPERATION AND MAINTENANCE (2025 PHASE)	\$0	\$1,422,612	\$1,422,612	\$1,422,612	\$1,422,612	\$1,422,612
4	OPERATION AND MAINTENANCE (2032 PHASE)	\$0	\$0	\$1,422,612	\$1,422,612	\$1,422,612	\$1,422,612
5	PUMPING ENERGY COSTS	\$0	\$56,962	\$113,924	\$113,924	\$113,924	\$113,924
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$3,714,803	\$7,429,607	\$5,194,377	\$2,959,148	\$2,959,148

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$3,714,803	\$7,429,607	\$5,194,377	\$2,959,148	\$2,959,148
2	YIELD	-	3,360	6,720	6,720	6,720	6,720
3	UNIT COST	\$0	\$1,106	\$1,106	\$773	\$440	\$440
TOTAL UNIT COST							\$736

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS (2025 PHASE)	1	LS	\$5,706,285	\$5,706,285	
2	PIPELINES (2025 PHASE)	1	LS	\$607,613	\$607,613	
3	WATER TREATMENT PLANTS (2025 PHASE)	1	LS	\$13,475,630	\$13,475,630	
4	PUMP STATIONS (2032 PHASE)	1	LS	\$5,706,285	\$5,706,285	
5	PIPELINES (2032 PHASE)	1	LS	\$607,613	\$607,613	
6	WATER TREATMENT PLANTS (2032 PHASE)	1	LS	\$13,475,630	\$13,475,630	
PROJECT COST					\$39,579,056	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS (2025 PHASE)	2.5	%	\$5,706,285	\$142,657	
2	PIPELINES (2025 PHASE)	1.0	%	\$607,613	\$6,076	
3	WATER TREATMENT PLANTS (2025 PHASE)	1.0	LS	\$1,273,879	\$1,273,879	
4	PUMP STATIONS (2032 PHASE)	2.5	%	\$5,706,285	\$142,657	
5	PIPELINES (2032 PHASE)	1.0	%	\$607,613	\$6,076	
6	WATER TREATMENT PLANTS (2032 PHASE)	1.0	LS	\$1,273,879	\$1,273,879	
ANNUAL OPERATION AND MAINTENANCE COST					\$2,845,224	

Water Management Strategy Evaluation

Based on the analysis provided above, the Fort Bend County WCID 2 GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Cost is moderately high but reduces considerably after debt service completion.
Location	5	Relatively near demand centers.
Water Quality	3	No known issues regarding water quality.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	5	Sponsor identified and project is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The Fort Bend WCID 2 GRP is not anticipated to affect vulnerable species and will not directly impact environmental flows. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The Fort Bend County WCID 2 GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

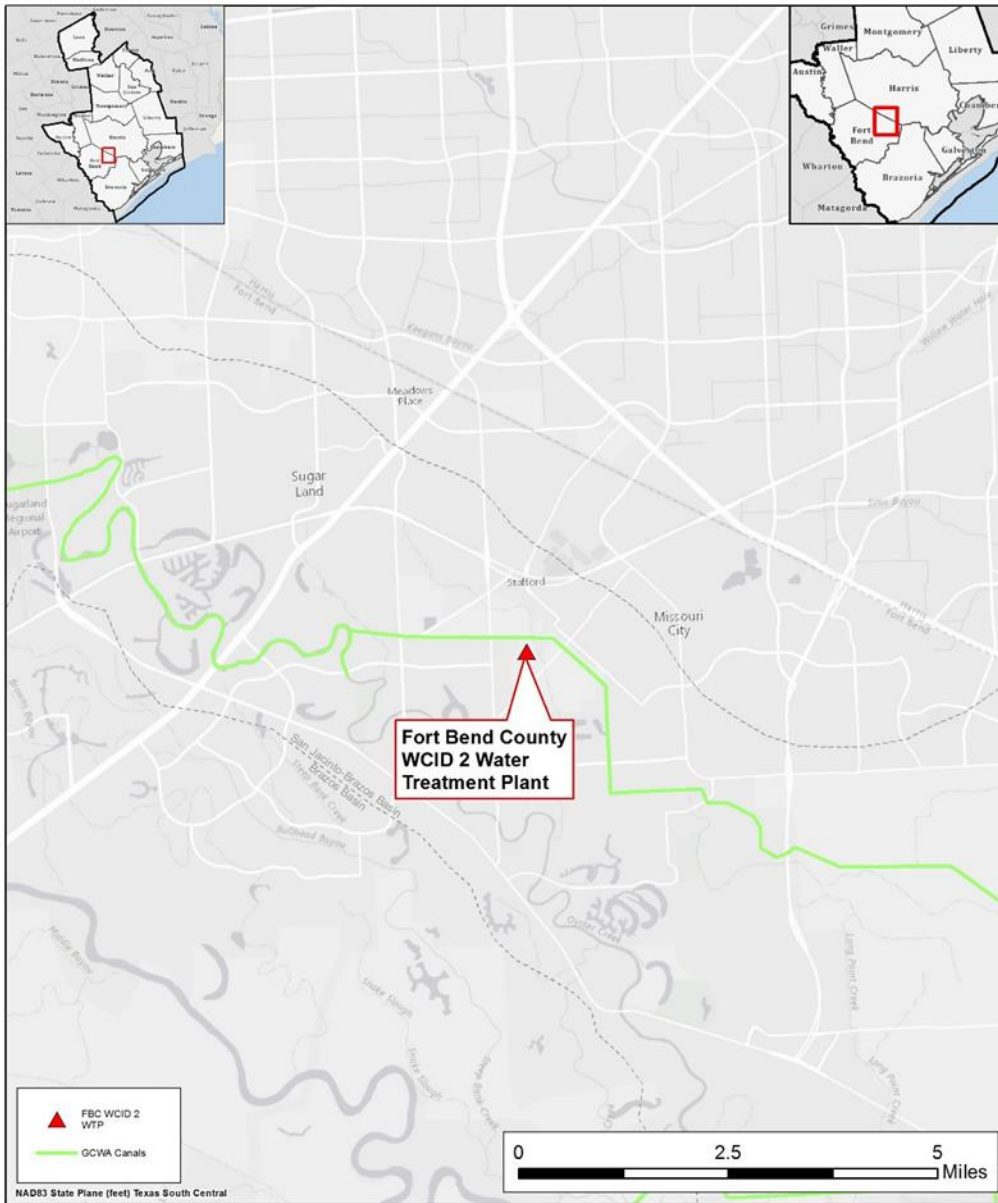
CRITERIA	WUG SUITABILITY
Proximity	The project is located in close proximity to intended points of use.
Size	The project is of appropriate size to utilize WCID 2's surface water contracts.
Water Quality	This project is expected to provide water of acceptable quality.
Unit Cost	The cost of this project is moderately high but decreases substantially after completion of debt service.
Other Factors	This project reduces groundwater dependence.

References

Jones and Carter, Inc. *Groundwater Reduction Plan: Fort Bend County W.C. and I.D. No. 2, prepared for Fort Bend County WC&ID No. 2*, February 2008.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Location Map



Fort Bend County WCID 2 Groundwater Reduction Plan Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Montgomery County MUDs 8 and 9 Groundwater Reduction Plan
Project ID:	GWRP-009
Project Type:	Various
Potential Supply Quantity (Rounded):	2,240 ac-ft/yr (2.0 mgd)
Implementation Decade:	2020
Development Timeline:	5 years
Project Capital Cost:	\$30,510,375 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,875 per ac-ft (during loan period) \$917 per ac-ft (after loan period)

Strategy Description

In order to address demand growth and protect groundwater resources, Montgomery County Municipal Utility Districts (MUDs) 8 and 9 have established a Joint Groundwater Reduction Plan (GRP) to reduce their production of groundwater from the Gulf Coast Aquifer. The MUDs have undertaken various measures as part of this effort, including production of groundwater from the Catahoula Aquifer and development of water treatment infrastructure to treat supplies from the Catahoula Aquifer and other supplies. The GRP indicates potential future expansion of treatment capacity for Catahoula Aquifer supplies. As part of their efforts to convert to alternative supply sources, the MUDs have also applied for and received from the Texas Commission on Environmental Quality (TCEQ) a bed-and-banks permit for conveyance of their own effluent as well as contracted effluent supplies purchased from the City of Huntsville.

Strategy Analyses

The project analyses for the Montgomery County MUDs 8 and 9 GRP project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Montgomery County MUDs 8 and 9 have developed and are currently utilizing water supplies from the Catahoula Aquifer as a means of reducing dependence on overlying formations of the Gulf Coast Aquifer. The Joint GRP for the MUDs indicates development of a conjunctive use water treatment plant with a treatment capacity of 1 mgd (1,120 ac-ft/yr) for the treatment of brackish groundwater, with the option to expand to 1.5 mgd at a future date. Some capacity for brackish groundwater blending is already available; for purposes of the Regional Plan, it was assumed that Catahoula production and treatment capacity would be increased by 0.5 mgd and permitted production would

correspondingly increase. Montgomery County MUDs 8 and 9 have also entered into a contract with the City of Huntsville for up to 2 mgd (2,240 ac-ft/yr) of effluent produced by Huntsville and conveyed to the MUDs through the West Fork of the San Jacinto River and Lake Conroe; additionally, the MUDs have obtained TCEQ authorization for reuse of a portion of their own wastewater discharges less amounts credited to other entities through agreements. The MUDs have obtained a bed-and-banks permit to convey these supplies to the point of diversion. Supply availability estimated for Regional Planning purposes is summarized in *Table 1*. The calculations reflected in the table assume a return flow factor of 40 percent and 21 percent commitment of effluent to others. There are no conveyance losses associated with the City of Huntsville supply, as the amount contracted is specified with respect to the point of diversion rather than discharge.

Table 1 – Montgomery County MUDs 8 and 9 Potential Reuse Summary

Reuse Availability	Flow Volume (ac ft)					
	2020	2030	2040	2050	2060	2070
MUD Water Demand ¹	1,319	1,327	1,472	1,617	1,651	1,743
Total MUD Return Flow	528	531	589	647	660	697
Contract Effluent	2,240	2,240	2,240	2,240	2,240	2,240
MUD Supply Share	89%	89%	89%	89%	89%	89%
Potential Reuse	2,186	2,189	2,235	2,281	2,291	2,320

1. Values reflect projected demands less potential savings for recommended conservation and water loss reduction Water Management Strategies.

The GRP for the MUDs also includes proposed development of treatment facilities for permitted and contracted reuse supplies, including a treatment train for water diverted at Lake Conroe with an initial capacity of 1 mgd with potential for future expansion to 1.5 mgd (1,680 ac-ft/yr). For purposes of the Regional Plan, it was assumed that the maximum reuse supply volume applied for the project would be equal to this 1,680 ac-ft/yr capacity.

Environmental Considerations

The diversion of the effluent source supply would be expected to have some degree of impact in terms of reduction of instream flows downstream of the diversion point for any portion of the source supply originating from current levels of return flow. Any impacts would be anticipated to occur from reuse of effluent generated from current levels of discharge; diversion of the portion attributable to future growth would not be expected to cause additional impact. Treatment facility construction is associated with an existing residential development.

Permitting and Development

Increased use of Catahoula Aquifer supplies would require permitting through the Lone Star Groundwater Conservation Districts. Montgomery County MUDs 8 and 9 have received a bed-and-banks permit from TCEQ for conveyance of their own effluent as well as contracted effluent supplies purchased from the City of Huntsville. The MUDs and the City of Huntsville have additionally reached agreements with the San Jacinto River Authority and the City of Houston regarding commitment of a portion of these return flows to those entities. These additional supplies are identified in the analysis of the Regional Return Flows strategy included in this RWP.

Cost Analysis

The estimated costs for the project are presented in *Table 2*. The values presented in the table were developed from standard regional planning costing reference data and assume construction of a small pump station with intake, short pipeline, conventional treatment facility, and expansion of groundwater treatment capacity. The costs presented in this memorandum do not include the purchase cost of water.

Table 2 – Montgomery County MUDs 8 and 9 GRP Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$20,693,021	\$20,693,021	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$7,226,060	\$7,226,060	
3	LAND AND EASEMENTS	1	LS	\$273,581	\$273,581	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$705,218	\$705,218	
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,612,495	\$1,612,495	
PROJECT CAPITAL COST					\$30,510,375	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$2,146,743	\$2,146,743	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$2,024,935	\$2,024,935	\$2,024,935	\$2,024,935	\$2,024,935	\$2,024,935
3	PUMPING ENERGY COSTS	\$28,220	\$28,220	\$28,220	\$28,220	\$28,220	\$28,220
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$4,199,898	\$4,199,898	\$2,053,155	\$2,053,155	\$2,053,155	\$2,053,155

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$4,199,898	\$4,199,898	\$2,053,155	\$2,053,155	\$2,053,155	\$2,053,155
2	YIELD	2,240	2,240	2,240	2,240	2,240	2,240
3	UNIT COST	\$1,875	\$1,875	\$917	\$917	\$917	\$917
TOTAL UNIT COST		\$1,236					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$4,147,048	\$4,147,048	
2	PIPELINES	1	LS	\$329,957	\$329,957	
3	WATER TREATMENT PLANTS	1	LS	\$16,216,017	\$16,216,017	
PROJECT COST					\$20,693,021	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$4,147,048	\$103,676	
2	PIPELINES	1.0	%	\$329,957	\$3,300	
3	WATER TREATMENT PLANTS	1.0	LS	\$1,917,959	\$1,917,959	
ANNUAL OPERATION AND MAINTENANCE COST					\$2,024,935	

Water Management Strategy Evaluation

Based on the analysis provided above, the Montgomery County MUDs 8 and 9 GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	This project provides water at a high cost, particularly during debt service, but generates treated rather than raw supply.
Location	4	Bed and banks conveyance to treatment facility required
Water Quality	3	The project takes advantage of existing and future discharges in the San Jacinto basin.
Environmental Land and Habitat	4	Majority of projects are to be constructed in already-developed areas or existing rights-of-way.
Environmental Flows	2	Diversion of discharges would create reduction in environmental flows.
Local Preference	3	Limited opposition to project.
Institutional Constraints	5	Bed-and-banks permit has been granted
Development Timeline	5	Permit could be developed in a relatively short period of time.
Sponsorship	4	Sponsors are identified and have initiated permitting efforts.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

Montgomery County MUDs 8 and 9 GRP is not anticipated to affect vulnerable species or agricultural land and production. The project may potentially reduce future return flows to the San Jacinto River Basin by as much as 1,680 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of other surface water from within the basin and reduces dependence on groundwater resources.

Water User Group Application

Determination of the Water User Groups (WUGs) to which the project may be applied was evaluated based on the factors below. Currently, the only identified users are Montgomery County MUDs 8 and 9.

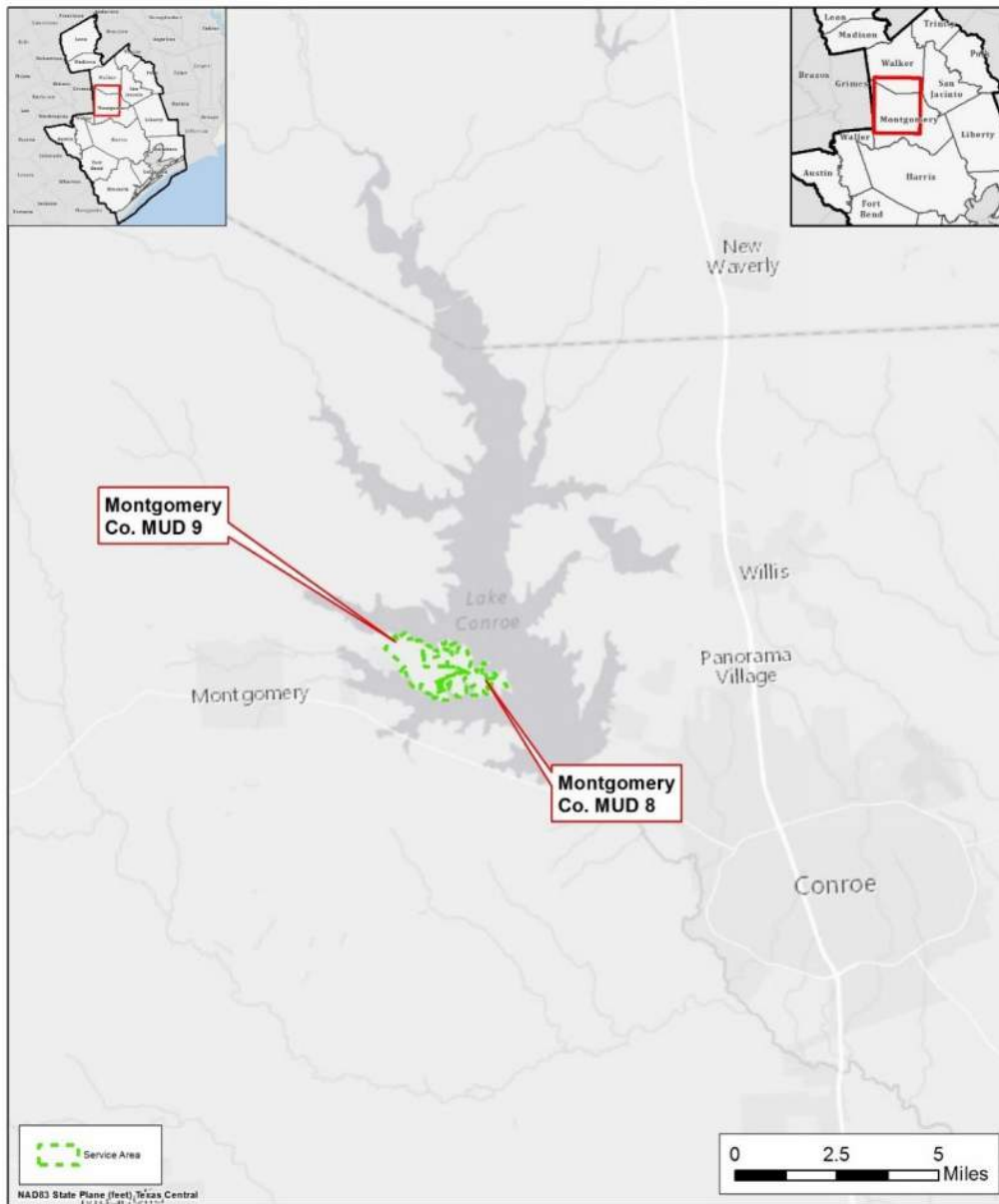
CRITERIA	WUG SUITABILITY
Proximity	Reuse diversion point located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the conversion target demands identified by contract recipients.
Water Quality	This project provides a treated water supply to meet municipal demands.
Unit Cost	This project provides water at a high cost, particularly during debt service, but generates treated rather than raw supply.
Other Factors	Implementation of reuse supply from this project requires a bed-and-banks permit for downstream use, which has been approved.

References

NRS Consulting Engineers, Inc., *Joint Groundwater Reduction Plan, Montgomery County Municipal Utility District No. 8 and Montgomery County Municipal Utility District No. 9*, prepared for Montgomery County MUD Nos. 8 and 9, April 2011.

Jones and Carter, Inc, *Amendment to the Joint Groundwater Reduction Plan for Montgomery County MUD Nos. 8 & 9*, Montgomery County MUD Nos. 8 and 9, April 2014.

Location Map



Montgomery County MUDs 8 and 9 GRP Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Fort Bend Water Authority Groundwater Reduction Plan
Project ID:	GWRP-010
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	62,496 ac-ft/yr (55.8 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	5 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Fort Bend Water Authority (NFBWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, NFBWA is participating in multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for the NFBWA Groundwater Reduction Plan (GRP) include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The NFBWA will deliver surface water to the majority of the MUDs and the City of Fulshear within the Authority to meet the requirements of its GRP approved by the FBSD. The Authority has already developed transmission and distribution infrastructure to its initial obligations for reducing groundwater demand and are receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP program. NFBWA partnered

with other Regional Water Authorities and COH in development of the Luce Bayou Interbasin Transfer Project to convey supplies from the Trinity River to Lake Houston and is also a participant in the expansion of the treatment capacity of the COH Northeast Water Purification Plant (NEWPP). The Authority has also increased its supply reservation from these facilities from an original reservation of 19.5 mgd (21,840 ac-ft/yr) currently applied in the Regional Plan as existing supply to 75.3 mgd (84,336 ac-ft/yr). NFBWA is partnering with West Harris County Regional Water Authority (WHCRWA) to develop a new shared transmission pipeline system, referred to by the sponsors as the Surface Water Supply Project (formerly the Second Source Transmission Line), which will convey increased treated surface water supplies from the NEWPP. A portion of this shared transmission system is anticipated to be active in 2023, with the remainder completed by the end of 2025. NFBWA is also developing its Phase 2 Distribution Expansion to extend the infrastructure network through which it supplies its member districts, allowing for greater overall volume conveyed and conversion of additional districts to surface water.

Environmental Considerations

Any environmental impacts related to the GRP project are a factor of the associated source and infrastructure projects. Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The North Fort Bend Water Authority is subject to requirements imposed by the City of Houston as well as the State of Texas. As indicated above, the Authority relies on the City of Houston and West Harris County Regional Water Authority to address the permitting and development requirements of projects for which those entities are primarily responsible. For the Authority's expansion of distribution infrastructure, at least some level of construction permitting would be anticipated.

For shared transmission with WHCRWA, environmental clearance has been received from TWDB and the Authority has received USACE clearance under a nationwide permit. Some mitigation for construction in forested wetlands is required for the shared transmission.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the NFBWA GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Costs for project are related to the infrastructure projects which allow physical implementation of the GRP.
Location	3	Source supply requires an interbasin transfer of surface water and extensive conveyance infrastructure.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Some permits already obtained. Property available.
Development Timeline	5	Project to be developed by 2025, with some portions active earlier.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The NFBWA GRP is not anticipated to affect vulnerable species. Additionally, the project will not directly impact environmental flows or agricultural land and production.

Water User Group Application

The NFBWA GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve NFBWA, its wholesale customers, and GRP participants.

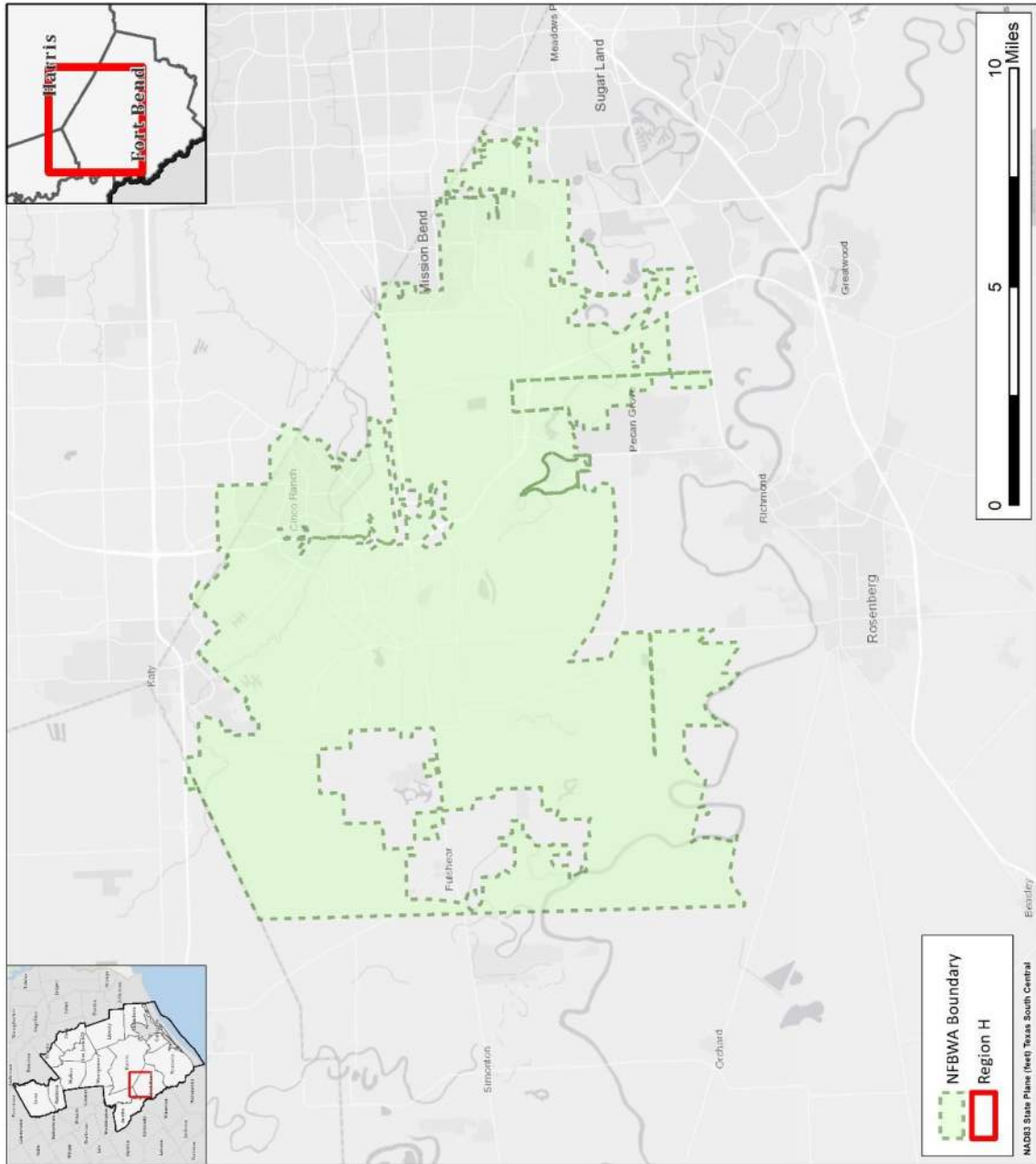
CRITERIA	WUG SUITABILITY
Proximity	Strategy is suited to serving WUGs located in northern Fort Bend County.
Size	Sized to convey the requisite amount of source water.
Water Quality	Treated water of quality appropriate for municipal use.

CRITERIA	WUG SUITABILITY
Unit Cost	Included under other infrastructure projects.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Location Map



NFBWA Boundary
Region H

NACB3 State Plane (feet) Texas South Central



NFBWA GRP Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Harris County Regional Water Authority Groundwater Reduction Plan
Project ID:	GWRP-011
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	143,360 ac-ft/yr (128 mgd)
Implementation Decade:	2030 (2024)
Development Timeline:	5 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The Harris-Galveston Subsidence District (HGSD) has established requirements for entities within its boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the North Harris County Regional Water Authority (NHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, NHCRWA is participating in multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for the NHCRWA Groundwater Reduction Plan (GRP) include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The NHCRWA will continue to deliver surface water to districts within the Authority to meet the requirements of its GRP. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP program. NHCRWA partnered with other Regional Water Authorities and

COH in development of the Luce Bayou Interbasin Transfer Project to convey supplies from the Trinity River to Lake Houston, and the Authority is also a participant in the expansion of the treatment capacity of the COH Northeast Water Purification Plant (NEWPP). The Authority has also increased its supply reservation from these facilities from an original reservation of 31 mgd (34,720 ac-ft/yr), currently applied in the Regional Plan as existing supply, to 159 mgd (178,080 ac-ft/yr). NHCRWA is partnering with Central Harris County Regional Water Authority (CHCRWA) and COH to develop a new shared transmission pipeline system, referred to by the sponsors as the Second Source Transmission Line, which will convey increased treated surface water supplies from the NEWPP; NHCRWA is also developing an expansion of the infrastructure network through which it supplies its member districts.

Environmental Considerations

Any environmental impacts related to the GRP project are a factor of the associated source and infrastructure projects. Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The permitting and development requirements necessary for implementation of the NHCRWA GRP are associated with the source supply and infrastructure projects. NHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Much of the permitting associated with implementation of large-scale shared infrastructure is primarily being addressed by COH.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the NHCRWA GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Costs for project are related to the infrastructure projects which allow physical implementation of the GRP.
Location	3	Source supply requires an interbasin transfer of surface water and extensive conveyance infrastructure.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.

CRITERIA	RATING	EXPLANATION
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	5	Project to be developed by 2025, with some portions active earlier.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The NHCWA GRP is not anticipated to affect vulnerable species. Additionally, the project will not directly impact environmental flows or agricultural land and production.

Water User Group Application

The NHCRWA GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

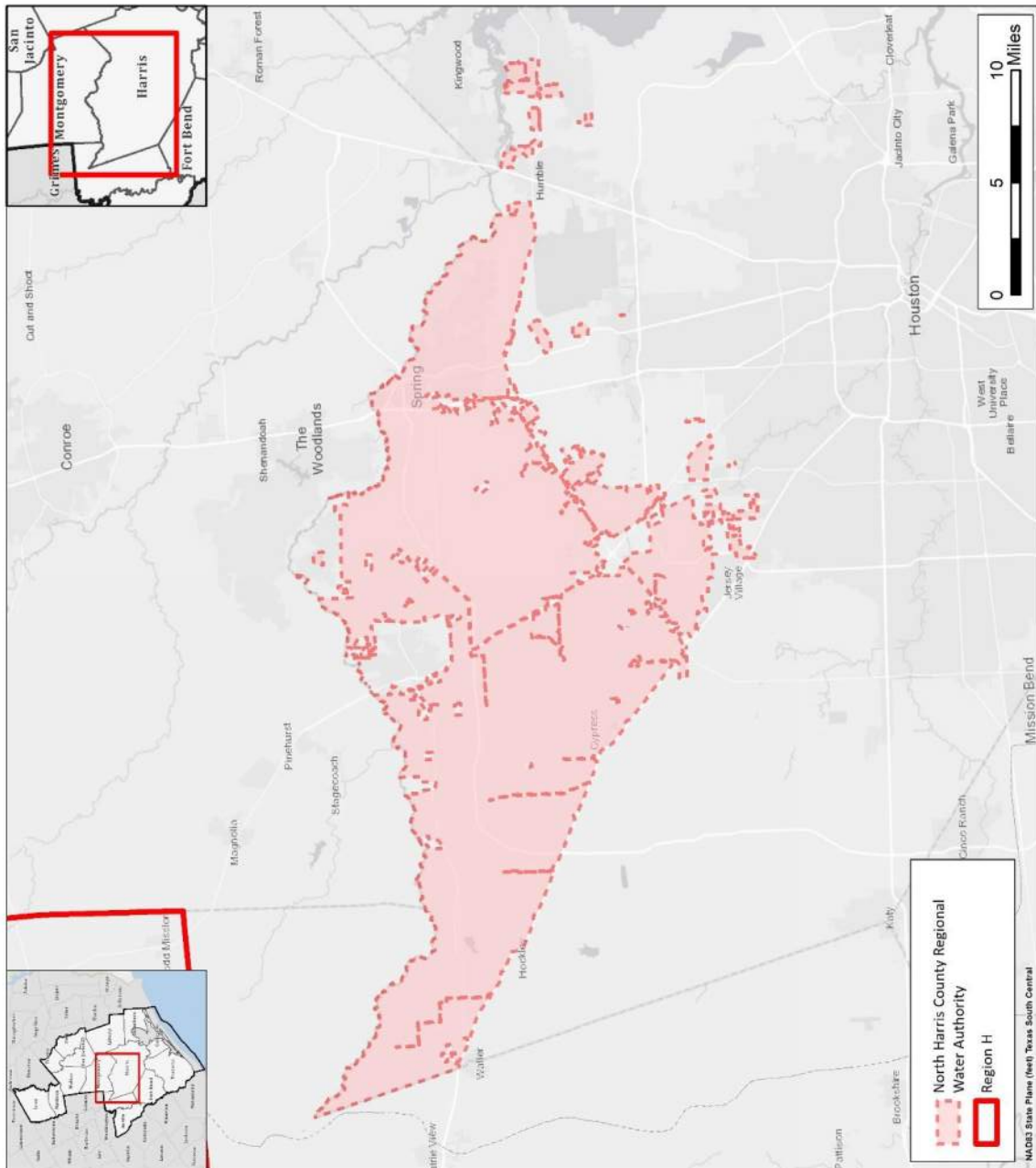
CRITERIA	WUG SUITABILITY
Proximity	Strategy is suited to serving WUGs located in northern Harris County.
Size	Sized to convey the requisite amount of source water.
Water Quality	Treated water of quality appropriate for municipal use.
Unit Cost	Included under other infrastructure projects.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

References

AECOM. *2014 North Harris County Regional Water Authority Groundwater Reduction Plan*, prepared for NHCRWA, June 2014.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



NHCRWA GRP Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Porter SUD Joint Groundwater Reduction Plan
Project ID:	GWRP-012
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	2,240 ac-ft/yr (2.0 mgd)
Implementation Decade:	2020
Development Timeline:	5 years
Project Capital Cost:	\$26,862,532 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,542 per ac-ft (during loan period) \$699 per ac-ft (after loan period)

Strategy Description

In order to address demand growth and protect groundwater resources, Porter SUD, in conjunction with Chateau Woods MUD and Crystal Springs Water Company, developed a Joint Groundwater Reduction Plan (GRP) assessing options for alternative water supply and detailing the planned approach to reducing Gulf Coast Aquifer usage. The Joint GRP participants will meet conversion goals through the construction of a surface water treatment plant and associated infrastructure. The project will be supplied through a contract with the City of Conroe to purchase groundwater-based effluent discharged by Conroe and conveyed to the Porter SUD Joint GRP participants using the bed and banks of the West Fork of the San Jacinto River.

Strategy Analyses

The project analyses for the Porter SUD Joint GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Porter SUD currently has a contract with the City of Conroe for up to 2 mgd (2,240 ac-ft/yr) of groundwater-based effluent from the City's wastewater discharge. Analysis included in the GRP indicates that this supply is reliable, although discharge amounts are anticipated to vary with seasonal conditions. Proposed infrastructure includes a 1.5 mgd water treatment plant, booster pump station, and both elevated and ground storage tanks. A subsequent expansion of treatment capacity by year 2029 is anticipated to be necessary to meet demand growth. The contract with the City of Conroe also grants Porter SUD first right of refusal on the sale of additional supply from the reuse source, which could be used to meet any needs beyond those met by the 2 mgd contract. Any additional amount would require treatment either through the proposed GRP infrastructure or, if large enough

in volume, through additional treatment capacity development beyond that specified in the Joint GRP. The assessment presented in this memorandum is limited to infrastructure and contractual supplies presented in the GRP.

Environmental Considerations

Some potential surface impacts are possible due to infrastructure construction but would likely be minor. The diversion of the groundwater-based effluent source supply would also be expected to have some degree of impact in terms of reduction of instream flows downstream of the diversion point for any portion of the source supply originating from current levels of return flow.

Permitting and Development

Permitting efforts directly associated with the Porter SUD Joint GRP infrastructure development are anticipated to be limited. Because the participants are public water systems, coordination and potential permitting or review by TCEQ will be required. If site selection results in the potential for impacts to wetlands, permitting through the US Army Corps of Engineers would also be required. In addition to permitting associated with construction, the use of a State watercourse to convey the effluent supply to Porter SUD requires a bed and banks authorization from TCEQ. The City of Conroe has applied for and received this authorization.

Cost Analysis

The Joint GRP, as amended, includes a summary of estimated capital cost for infrastructure associated with the development of a surface water treatment plant for the participants' initial phase of conversion to surface water, as well as subsequent expansion by year 2029. *Table 1* summarizes the costs of key facilities. Costs are presented in September 2018 dollars and include a contingency of 35% including professional services. Debt service and costs for operations and maintenance shown in the table are calculated using the default Region H cost estimation methodology; debt service is assumed to occur at a 3.5 percent rate for a 20-year term. Pumping energy costs were not included as they were not shown in the GRP and will vary based on specific intake and distribution system design.

Table 1 –Porter SUD Joint GRP Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$18,733,842	\$18,733,842	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$6,556,845	\$6,556,845	
3	LAND AND EASEMENTS	1	LS	\$72,749	\$72,749	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$79,392	\$79,392	
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,419,704	\$1,419,704	
PROJECT CAPITAL COST					\$26,862,532	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$1,292,546	\$1,890,077	\$597,531	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$969,045	\$1,564,908	\$1,564,908	\$1,564,908	\$1,564,908	\$1,564,908
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$2,261,591	\$3,454,985	\$2,162,439	\$1,564,908	\$1,564,908	\$1,564,908

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$2,261,591	\$3,454,985	\$2,162,439	\$1,564,908	\$1,564,908	\$1,564,908
2	YIELD	1,680	2,240	2,240	2,240	2,240	2,240
3	UNIT COST	\$1,346	\$1,542	\$965	\$699	\$699	\$699
TOTAL UNIT COST		\$976					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WATER TREATMENT PLANTS	1	LS	\$15,338,882	\$15,338,882	
2	WATER STORAGE TANKS	1	LS	\$1,191,369	\$1,191,369	
3	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1	LS	\$1,202,841	\$1,202,841	
4	OTHER TREATMENT COMPONENTS	1	LS	\$1,000,750	\$1,000,750	
PROJECT COST					\$18,733,842	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WATER TREATMENT PLANTS	1.0	LS	\$1,530,959	\$1,530,959	
2	WATER STORAGE TANKS	1.0	%	\$1,191,369	\$11,914	
3	WATER DISTRIBUTION SYSTEM IMPROVEMENTS	1.0	%	\$1,202,841	\$12,028	
4	OTHER TREATMENT COMPONENTS	1.0	%	\$1,000,750	\$10,008	
ANNUAL OPERATION AND MAINTENANCE COST					\$1,564,908	

Water Management Strategy Evaluation

Based on the analysis provided above, the Porter SUD Joint GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Proposed project is expected to deliver at a high cost but will decrease substantially after debt service completion.
Location	4	Bed and banks conveyance to treatment facility required
Water Quality	3	No known issues regarding water quality.
Environmental Land and Habitat	4	Minimal known impacts.
Environmental Flows	2	Diversion of discharges would create reduction in environmental flows.
Local Preference	4	Project identified in participant's Joint GRP. Minimal opposition.
Institutional Constraints	5	Bed-and-banks permit has been issued and source water has been procured under contract.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	5	Project is identified as a component of the sponsors' GRP.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The Porter SUD Joint GRP includes no additional pipeline construction for subsequent phases of conversion. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The Porter SUD Joint GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project diversion point located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the conversion target demands identified in the GRP.
Water Quality	This project is expected to provide water of acceptable quality.

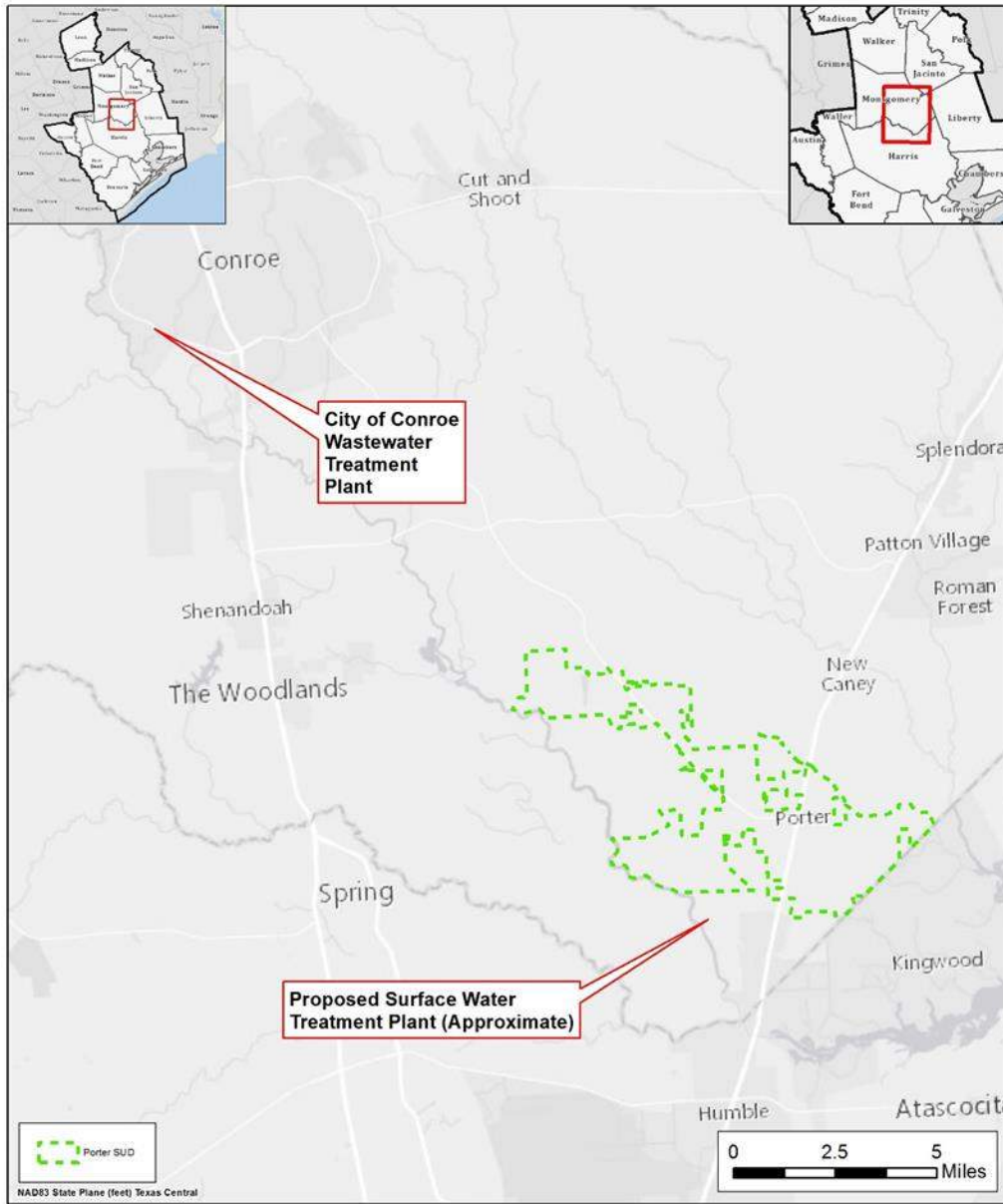
CRITERIA	WUG SUITABILITY
Unit Cost	The cost of this project is high but decreases substantially after completion of debt service.
Other Factors	Porter SUD holds first right of refusal on additional supply from the project source.

References

Bleyl and Associates, *Porter Special Utility District, Chateau Woods Municipal Utility District, Crystal Springs Water Company Joint Groundwater Reduction Plan*, prepared for Porter SUD, March 2011.

Bleyl and Associates, *Porter SUD Joint GRP Amendment No. 1 Revised*, prepared for Porter SUD, July 2014.

Location Map



Porter SUD Joint GRP Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	River Plantation and East Plantation Joint GRP
Project ID:	GWRP-013
Project Type:	Reuse
Potential Supply Quantity (Rounded):	51 ac-ft/yr (0.05 mgd)
Implementation Decade:	2030
Development Timeline:	5 years
Project Capital Cost:	\$0 (Sept. 2018)
Unit Water Cost (Rounded):	\$0 per ac-ft (during loan period) \$0 per ac-ft (after loan period)

Strategy Description

In order to address demand growth and protect groundwater resources, River Plantation MUD in conjunction with East Plantation UD and the River Plantation Country Club developed a Joint Groundwater Reduction Plan (GRP) assessing options for alternative water supply and detailing the planned approach to reducing groundwater dependence. The Joint GRP participants will meet conversion goals through use of reclaimed water to offset groundwater use for golf course and green space irrigation. River Plantation MUD has operated reuse infrastructure since 1988 and is already producing sufficient volumes of reuse water to fully supply water demands for golf course irrigation. In order to continue reducing dependence on groundwater in the Joint GRP participant service areas, it is anticipated that the amount of reuse applied to irrigation demands will need to be increased from current levels of approximately 83 million gallons per year (mgy) to 100 mgy by Year 2030.

Strategy Analyses

The project analyses for River Plantation and East Plantation Joint GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Assessment of supply availability for the River Plantation and East Plantation Joint GRP was evaluated and summarized within the GRP document and supporting analysis. River Plantation MUD has operated reuse infrastructure since 1988 and currently produces approximately 83 mgy (256 ac-ft/yr) of reclaimed water for golf course irrigation, with the capacity to convey up to 100 mgy (307 ac-ft/yr) to its reuse irrigation system. The GRP indicates that the source wastewater treatment plant currently regularly produces over 100 million gallons of effluent per year.

Environmental Considerations

Environmental impacts of the project would be examined in detail during the Texas Commission on Environmental Quality (TCEQ) permitting or permit amendment process. The study includes areas within the San Jacinto River Basin, which is subject to environmental flow requirements, including those established in accordance with 30 TAC §298 which establish seasonal requirements for flows. Any increase in reuse of current levels of wastewater flows would cause some reduction in return flows. Any portion of the supply based on return flow from future growth rather than existing development would not be expected to further reduce streamflow.

Infrastructure required for implementation of this project would consist primarily of limited conveyance infrastructure to connect to points of use. Use of existing easements or replacement of existing groundwater supply conveyances would minimize habitat impacts.

Permitting and Development

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

The River Plantation and East Plantation Joint GRP indicates that costs associated with future expanded reuse for irrigation have not yet been determined but are expected to be minimal, as much of the treatment and transmission infrastructure is currently in place. Implementation of this project would result in additional annual costs for increased volume of advanced treatment, pumping energy, and O&M, although increased annual costs for a project of the scale specified are likely minimal as well. As this project includes the use of a future water supply that does not result in additional infrastructure cost, no project cost is included for the strategy.

Water Management Strategy Evaluation

Based on the analysis provided above, the River Plantation and East Plantation Joint GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Proposed project is expected to deliver at a very low cost due limited need for additional infrastructure.
Location	5	Source located near points of demand with minimal conveyance infrastructure required.

CRITERIA	RATING	EXPLANATION
Water Quality	3	No known issues regarding water quality.
Environmental Land and Habitat	5	No impacts / minimal impacts.
Environmental Flows	2	Minor reduction in environmental flows.
Local Preference	4	Project identified in participant’s Joint GRP. No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	4	Project is identified as a component of the sponsors’ GRP.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The Joint GRP includes no additional pipeline construction for subsequent phases of conversion. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

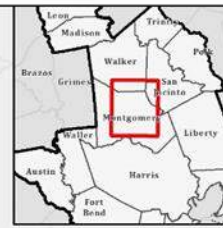
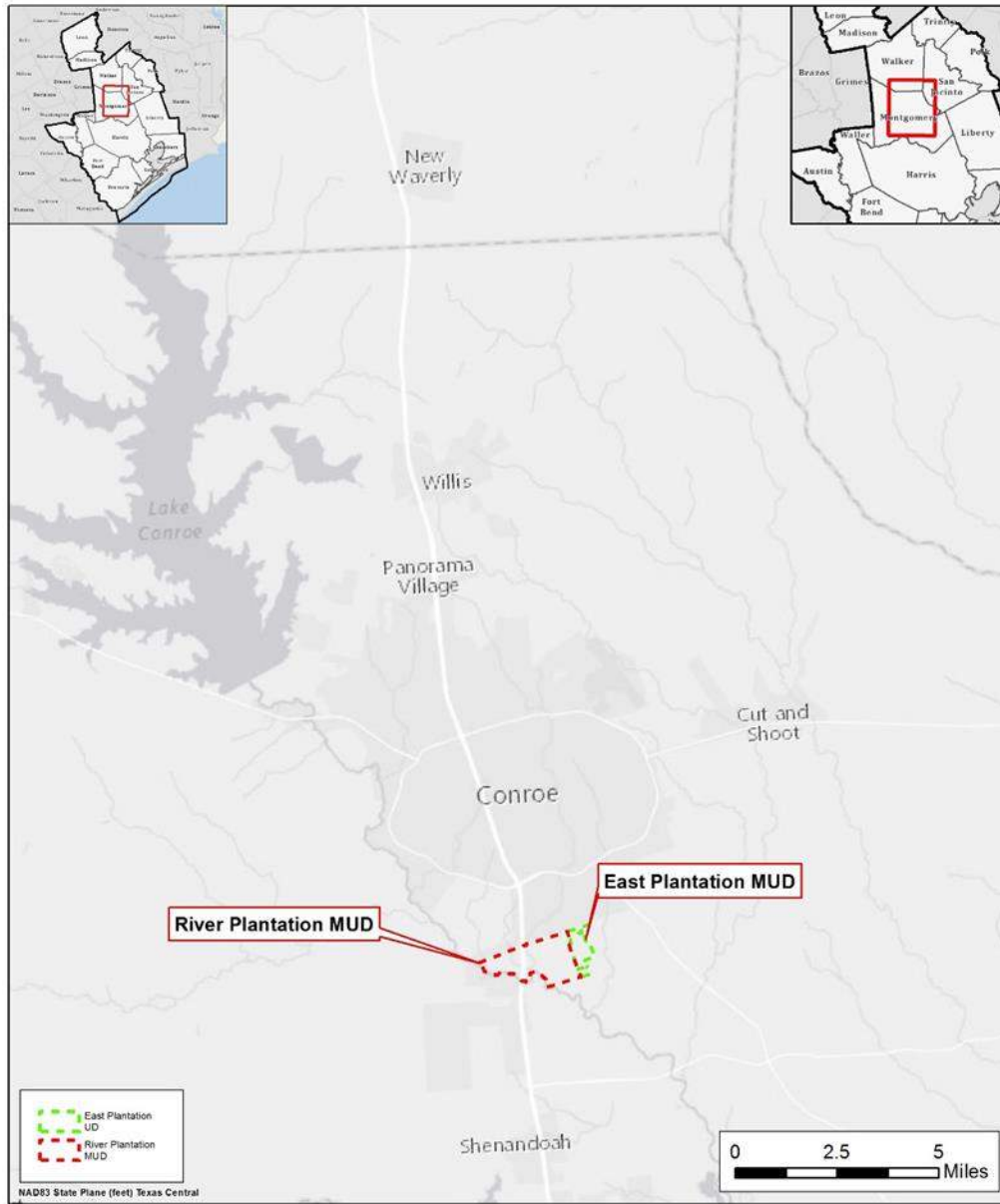
Determination of the Water User Groups (WUGs) to which the River Plantation and East Plantation Joint GRP project may be applied was evaluated based on the entities identified in the GRP document. This information was considered in context of the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the project as well as other factors that may relate to the applicability of the project to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Overall project supply volume is relatively small but is appropriate to the target greenspace and golf course irrigation demands.
Water Quality	This project provides a high-quality raw water source that may be used to meet greenspace and golf course demands.
Unit Cost	The cost of this project is minimal and appropriate to the target use.
Other Factors	Some reuse permitting or permit amendment effort may be necessary for the sponsor WUGs to implement this project.

References

Bleyl and Associates, *River Plantation Municipal Utility District, East Plantation Utility District, River Plantation Country Club Joint Groundwater Reduction Plan*, prepared for River Plantation MUD, March 2011.

Location Map



River Plantation and East Plantation GRP Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	San Jacinto River Authority Groundwater Reduction Plan
Project ID:	GWRP-014
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	100,000 ac-ft/yr (89 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	5 years
Project Capital Cost:	\$998,910,850 (Sept. 2018)
Unit Water Cost (Rounded):	\$697 per ac-ft (during loan period) \$95 per ac-ft (after loan period)

Strategy Description

The San Jacinto River Authority (SJRA) is a wholesale water provider for various municipal, industrial, and irrigation retail customers in the San Jacinto River Basin, including numerous customers in Montgomery County. In order to address demand growth and protect groundwater resources, the San Jacinto River Authority (SJRA) has developed a Groundwater Reduction Plan (GRP) to reduce groundwater use by implementing conversion to surface water and other alternative sources besides the Gulf Coast Aquifer. Several phases of infrastructure development have been planned to implement these alternative supplies as demands grow in Montgomery County.

Strategy Analyses

The project analyses for SJRA GRP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The SJRA has partnered with over 100 entities in Montgomery County for purposes of reducing dependence on groundwater from the Gulf Coast Aquifer. The primary approach for reducing groundwater pumping is phased conversion to surface water from Lake Conroe, with other alternative sources of water being integrated during later decades. Due to the physical and logistic challenges associated with converting all participants to partial surface water supply, the GRP specifies conversion of a portion of the SJRA service area, allowing other co-participants to continue growth on groundwater. The GRP also includes a provision for potential future inclusion of additional partner entities as less developed areas urbanize and water demands increase. SJRA has already developed the initial stage of the surface water treatment facility and associated transmission infrastructure and began providing surface water to some of its customers in 2016; this surface water supply is reflected

as an existing supply in the Regional Plan. The GRP indicates that additional treatment and transmission facilities will be required to meet the growth in population and water demand projected for Montgomery County; these expansions are reflected in the Regional Plan as conversion of additional GRP partner entities to alternative water sources (primarily surface water) and increased alternative water supply to already-converted partners. The GRP indicates potential infrastructure expansion phases of varying nature and capital cost for years 2025, 2035, 2045, and 2055.

Environmental Considerations

One impact associated with the implementation of this project is the increase in diversions from the San Jacinto River and Lake Conroe. Increased diversion of water will result in some decreases in instream flow downstream of the Lake Conroe diversion point. However, these diversions will be made from existing water rights currently owned by the SJRA and the City of Houston, and no new water rights permits are required for this project. Some surface disturbance may be associated with development of expanded water plant facilities and transmission infrastructure. However, this construction would occur primarily on existing plant sites or in previously urbanized areas and would cause little disturbance to undeveloped habitat. Implementation of this project should produce limited additional environmental impacts.

Permitting and Development

Because the surface water supply source for this project is from existing water rights, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Permitting efforts specific to additional water supply sources, which may be incorporated in later decades, are considered in the analysis of projects specific to those sources. Construction of expansions of the surface water treatment facility and distribution system will be required to utilize portions of the source supply, which may entail minor permitting.

Cost Analysis

Capital costs for decadal phased expansion of surface water treatment plant and transmission capacity are summarized in the SJRA GRP. Capital costs associated with engineering and legal services, land acquisition, environmental studies, and mitigation are not identified as separate items in the GRP and were assumed for the Regional Plan to be included in the indicated capital cost. Costs shown in the GRP for the 2055 phase of surface water conversion, which represent the largest single decadal capital cost, were assumed to be inclusive of costs for major transmission infrastructure reflected under other projects in the Regional Plan. To prevent double-counting of capital costs, costs for the 2055 conversion phase were instead assumed to be similar to those from the 2035 phase of conversion. Interest during construction and annualized costs (debt service and operations and maintenance) are not identified as separate items in the GRP and were estimated using standard Regional Planning costing reference data. Capital costs were scaled to a September 2018 equivalent cost in accordance with TWDB guidance. Estimated costs are presented in *Table 1*.

Table 1 – SJRA GRP Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$946,117,686	\$946,117,686	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$0	\$0	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$52,793,164	\$52,793,164	
PROJECT CAPITAL COST					\$998,910,850	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2025 PHASE)	\$0	\$6,180,713	\$6,180,713	\$0	\$0	\$0
2	DEBT SERVICE (2035 PHASE)	\$0	\$0	\$24,543,314	\$24,543,314	\$0	\$0
3	DEBT SERVICE (2045 PHASE)	\$0	\$0	\$0	\$15,017,101	\$15,017,101	\$0
4	DEBT SERVICE (2055 PHASE)	\$0	\$0	\$0	\$0	\$24,543,314	\$24,543,314
5	OPERATION AND MAINTENANCE (2025 PHASE)	\$0	\$832,002	\$832,002	\$832,002	\$832,002	\$832,002
6	OPERATION AND MAINTENANCE (2035 PHASE)	\$0	\$0	\$3,303,841	\$3,303,841	\$3,303,841	\$3,303,841
7	OPERATION AND MAINTENANCE (2045 PHASE)	\$0	\$0	\$0	\$2,021,492	\$2,021,492	\$2,021,492
8	OPERATION AND MAINTENANCE (2055 PHASE)	\$0	\$0	\$0	\$0	\$3,303,841	\$3,303,841
9	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
10	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$7,012,715	\$34,859,871	\$45,717,751	\$49,021,592	\$34,004,491

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$7,012,715	\$34,859,871	\$45,717,751	\$49,021,592	\$34,004,491
2	YIELD	-	25,000	50,000	75,000	100,000	100,000
3	UNIT COST	\$0	\$281	\$697	\$610	\$490	\$340
TOTAL UNIT COST							\$487

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	TREATMENT AND TRANSMISSION EXPANSIONS (2025 PHASE)	1	LS	\$83,200,232	\$83,200,232	
2	TREATMENT AND TRANSMISSION EXPANSIONS (2035 PHASE)	1	LS	\$330,384,120	\$330,384,120	
3	TREATMENT AND TRANSMISSION EXPANSIONS (2045 PHASE)	1	LS	\$202,149,214	\$202,149,214	
4	TREATMENT AND TRANSMISSION EXPANSIONS (2055 PHASE)	1	LS	\$330,384,120	\$330,384,120	
PROJECT COST					\$946,117,686	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	TREATMENT AND TRANSMISSION EXPANSIONS (2025 PHASE)	1.0	%	\$83,200,232	\$832,002	
2	TREATMENT AND TRANSMISSION EXPANSIONS (2035 PHASE)	1.0	%	\$330,384,120	\$3,303,841	
3	TREATMENT AND TRANSMISSION EXPANSIONS (2045 PHASE)	1.0	%	\$202,149,214	\$2,021,492	
4	TREATMENT AND TRANSMISSION EXPANSIONS (2055 PHASE)	1.0	%	\$330,384,120	\$3,303,841	
ANNUAL OPERATION AND MAINTENANCE COST					\$9,461,177	

Water Management Strategy Evaluation

Based on the analysis provided above, the SJRA GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	Cost is moderate and decreases in later decades after debt service completion.
Location	4	Transmission infrastructure required to convert additional entities to surface water.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion point. Diversion is from an existing water right.
Local Preference	3	Some local support. Limited opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected for future conversion infrastructure.
Development Timeline	5	Individual phases of project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	5	Sponsor has identified project and is in development.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The SJRA GRP includes the construction of several pipeline segments. Some of this impact will be in developed areas with limited impacts to habitat and limited short-term impacts to agriculture. The project will not directly impact environmental flows.

Water User Group Application

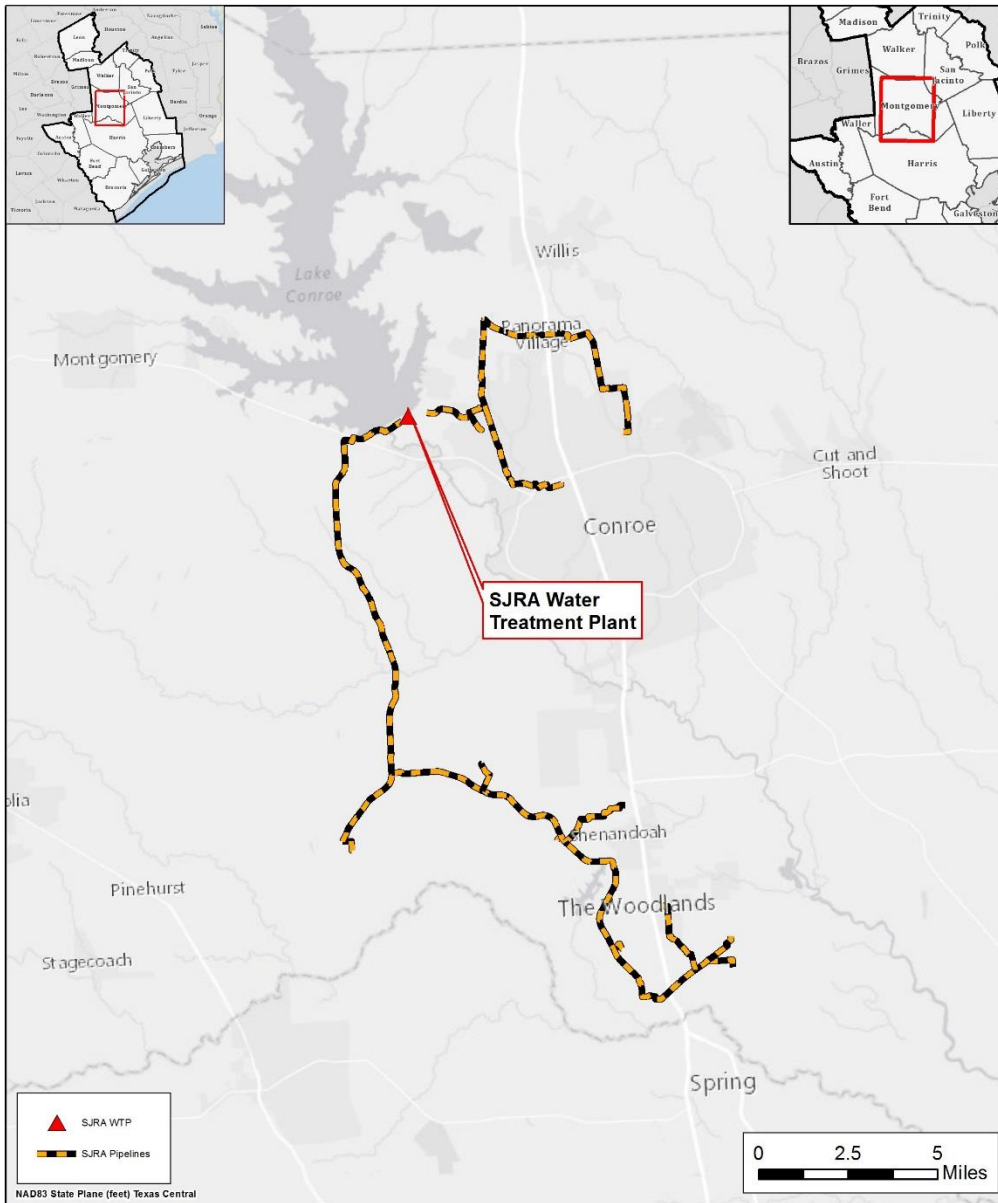
The SJRA GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use. Some major transmission infrastructure is required.
Size	Project is of appropriate size to meet customer demands.
Water Quality	This project is expected to provide water of acceptable quality.
Unit Cost	The cost of this project is moderate and decreases after completion of debt service.
Other Factors	This project reduces groundwater dependence.

References

Brown and Gay Engineers, Inc. *San Jacinto River Authority Joint Groundwater Reduction Plan*, prepared for SJRA, March 2011.

Location Map



San Jacinto River Authority Groundwater Reduction Plan Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	West Harris County Regional Water Authority Groundwater Reduction Plan
Project ID:	GWRP-015
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	92,288 ac-ft/yr (82.4 mgd)
Implementation Decade:	2030 (2025)
Development Timeline:	5 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The Harris-Galveston Subsidence District (HGSD) and Fort Bend Subsidence District (FBSD) have established requirements for entities within their boundaries to limit groundwater pumpage to a specified percentage of total water use to address the issue of land surface subsidence caused by prolonged, excess pumping from the Gulf Coast Aquifer; as demands are expected to grow with time, the allowable percentage from groundwater is scheduled to decrease. In order to meet these requirements, the West Harris County Regional Water Authority (WHCRWA) has contracted with the City of Houston (COH) to receive treated surface water. The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH. In order to utilize sufficient supplies to meet future surface water conversion obligations, WHCRWA is participating in multiple infrastructure projects related to the treatment and distribution of surface water.

Strategy Analyses

The project analyses for the WHCRWA Groundwater Reduction Plan (GRP) include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Authority has already developed transmission and distribution infrastructure to meet its initial obligations for reducing groundwater demand and is receiving water from COH, which is reflected in the Regional Plan as an existing supply. In order to meet future water demands and regulatory conversion obligations, the Authority has continued development and implementation of its GRP program. WHCRWA partnered with other Regional Water Authorities and COH in development of the

Luce Bayou Interbasin Transfer Project to convey supplies from the Trinity River to Lake Houston and is also a participant in the expansion of the treatment capacity of the COH Northeast Water Purification Plant (NEWPP). The Authority has also increased its supply reservation from these facilities from an original reservation of 28.25 mgd (31,640 ac-ft/yr) currently applied in the Regional Plan as existing supply to 110.65 mgd (123,943 ac-ft/yr). WHCRWA is partnering with North Fort Bend Water Authority (NFBWA) to develop a new shared transmission pipeline system, referred to by the sponsors as the Surface Water Supply Project (formerly the Second Source Transmission Line), which will convey increased treated surface water supplies from the NEWPP. A portion of this shared transmission system is anticipated to be active in 2023, with the remainder completed by the end of 2025. WHCRWA is also developing an expansion of the infrastructure network through which it supplies its member districts, allowing for greater overall volume conveyed and conversion of additional districts to surface water.

Environmental Considerations

Any environmental impacts related to the GRP project are a factor of the associated source and infrastructure projects. Infrastructure development may result in some construction disturbance which could require mitigation. The most significant impact associated with the GRP is the source supply, which requires the interbasin transfer of surface water supplies.

Permitting and Development

The permitting and development requirements necessary for implementation of the WHCRWA GRP are associated with the source supply and infrastructure projects. WHCRWA is subject to contractual requirements established by COH as well as any relevant permitting required by the State of Texas and HGSD. Much of the permitting associated with implementation of large-scale shared infrastructure is primarily being addressed by COH.

For shared transmission with NFBWA, environmental clearance has been received from TWDB and the Authority has received USACE clearance under a nationwide permit. Some mitigation for construction in forested wetlands is required for the shared transmission. WHCRWA has also received TWDB environmental clearance for expansion of its distribution system.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the WHCRWA GRP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Costs for project are related to the infrastructure projects which allow physical implementation of the GRP.
Location	3	Source supply requires an interbasin transfer of surface water and extensive conveyance infrastructure.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	Project does not directly impact flows. Source projects will result in decreased instream flows downstream of diversion location in source basin.
Local Preference	4	Local support. Limited opposition.
Institutional Constraints	3	Permits expected with minimal problems. Some permits already obtained. Property available.
Development Timeline	5	Project to be developed by 2025, with some portions active earlier.
Sponsorship	5	Sponsors identified and project is in development.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	No known significant impacts to other projects.

The WHCRWA GRP is not anticipated to affect vulnerable species or agricultural land and production. The project will not directly impact environmental flows.

Water User Group Application

The WHCRWA GRP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve WHCRWA, its wholesale customers, and GRP participants.

CRITERIA	WUG SUITABILITY
Proximity	Strategy is suited to serving WUGs located in western Harris County.
Size	Sized to convey the requisite amount of source water.
Water Quality	Treated water of quality appropriate for municipal use.

CRITERIA	WUG SUITABILITY
Unit Cost	Included under other infrastructure projects.
Other Factors	Reduces dependence on Gulf Coast Aquifer groundwater.

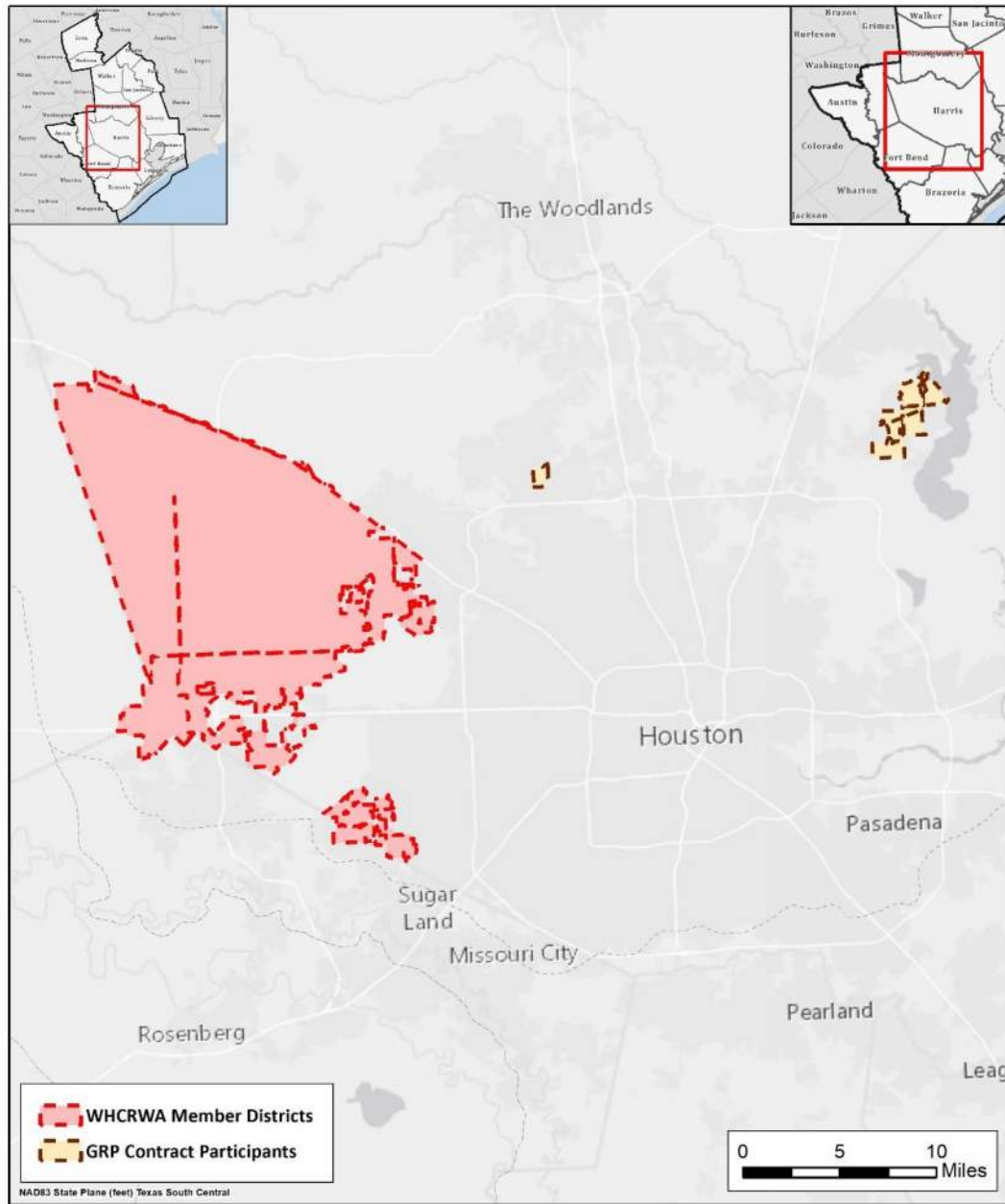
References

Dannenbaum Engineering Corporation. *West Harris County Regional Water Authority Groundwater Reduction Plan*, prepared for WHCRWA, June 2014.

Fort Bend Subsidence District. *Fort Bend Subsidence District 2013 Regulatory Plan*, August 2013.

Harris-Galveston Subsidence District. *Harris-Galveston Subsidence District 2013 District Regulatory Plan*, May 2013.

Location Map



WHCRWA GRP Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston Reuse
Project ID:	REUS-001
Project Type:	Reuse
Potential Supply Quantity (Rounded):	Up to 242,554 ac-ft/yr (Up to 216.5 mgd)
Implementation Decade:	2040
Development Timeline:	5-10 years
Project Capital Cost:	\$555,093,731 (Sept. 2018)
Unit Water Cost (Rounded):	\$58 to 2,667 per ac-ft (during loan period) \$12 to 1,088 per ac-ft (after loan period)

Strategy Description

The City of Houston (COH) holds Water Right (WR) 5827 that permits the diversion and reuse of up to 580,923 ac-ft/yr in the San Jacinto River Basin or in the Trinity, Trinity-San Jacinto, and San Jacinto-Brazos Basins through interbasin transfer. This permit relates to more than 30 individual wastewater treatment plant (WWTP) discharges located on the Houston Ship Channel, Greens Bayou, Buffalo Bayou, Cole Creek, Berry Bayou, Keegans Bayou, Brickhouse Gully, White Oak Bayou, Evans Gully, and Lake Houston. In an effort to protect and maintain freshwater inflows to Galveston Bay, the permit limits diversions to 50 percent of the volume discharged on a daily basis from each wastewater treatment plant.

Although this permit was granted in 2011, COH has not yet implemented this permit through infrastructure development, as alternative water supplies have been readily available. Currently, the permit is only used to account for diversions from Lake Houston related to upstream WWTPs in the Kingwood area. This project examines various alternatives for utilizing this water as a supply in the 2021 Region H Regional Water Plan (RWP). Several options for water supply development were considered in detail after a comprehensive review of the permit and potential demands:

1. Greens Bayou Diversion
2. East Water Purification Plant Reuse Supply Diversion
 - a. 69th Street WWTP Diversion
 - b. Sims Bayou North WWTP Diversion
3. Southwest WWTP Diversion

Option 1 provides for the diversion of water from Greens Bayou at the site of the Northeast WWTP from 10 different WWTPs as a source of water to the West Canal to supply industrial customers downstream as well as the EWPP. Permitted discharges from these 10 WWTPs are as much as 45.5 MGD.

Option 2 is a blended, potable reuse alternative to provide water to the EWPP. Water may be diverted from Buffalo Bayou at the 69th Street WWTP site and/or from Sims Bayou at the Sims Bayou North WWTP, each of which receive flow from seven WWTPs upstream. Diverted return flows may be conveyed through pipeline to the EWPP where it would be blended with water from Lake Houston or the Trinity River Basin before being treated for use as a potable supply. The permitted discharges amount to 267.9 and 143.8 MGD of potential diversions at the 69th Street and Sims Bayou North WWTPs, respectively.

Option 3 involves diverting flow from Brays Bayou at a diversion point at the current location of the Southwest WWTP. Permitted discharges from this location and the four upstream WWTPs are as much as 121.6 MGD. However, Option 3 considers decommissioning the Southwest WWTP, which is currently permitted to discharge up to 60 MGD of treated effluent. Wastewater flows currently treated at this site would be redirected to the Almeda Sims WWTP, increasing the permitted discharges at and upstream from the Sims Bayou North WWTP to as much as 203.8 MGD and decreasing potential diversions at the location of the Southwest WWTP. An advanced water treatment facility (AWTF) would be constructed on the site of the decommissioned WWTP to treat diversions permitted under WR 5827. This option includes a transmission line to convey treated, potable reuse from the AWTF to a connection point in the COH water supply system. To account for the removal of the WWTP co-located with the diversion point, diversions for this option are limited to flows available from the four upstream WWTPs.

Another alternative for the development of reclaimed water supplies utilizing flows captured in this permit is the development of a reclaimed water supply to industrial customers along the Houston Ship Channel originating from the 69th Street and Sims Bayou North WWTPs. This alternative has been studied in past RWP and has not been recommended as a strategy in the 2021 RWP.

Strategy Analyses

The project analyses for City of Houston Reuse include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The potential supply available from each of the take points is limited by a number of different factors including:

- Discharge rate of upstream WWTPs as varying over the course of the planning horizon,
- Consideration for bay and estuary inflows as stipulated by WR 5827,
- The instantaneous diversion rate as specified by WR 5827 and infrastructure in place to capture flows,
- Instream flow requirements as specified by WR 5827, and
- Basin hydrology.

In order to evaluate these factors and their impacts on the options presented above, the analysis utilized a model based on existing data sources in order to predict availability over time. This model was used for the evaluation of water availability from all project options.

Naturalized flows from the Texas Commission on Environmental Quality (TCEQ) San Jacinto Basin

Water Availability Model (WAM) were extracted to provide a basis for natural stream flows on a monthly basis for a historic period from January 1940 through December 1996. These flows represent naturalized conditions without diversions and discharges made following development of the basin. This data was developed for all four of the proposed diversion points considered by Options 1 through 3. Daily streamflow data was investigated for each diversion point as a basis with which to disaggregate these monthly flow values into daily flow records. Only two points, the 69th Street and Southwest WWTP diversion points, were found to have nearby sources of daily streamflow records that provided an adequate data set for assessment. Daily records for the 69th Street Plant were used in the analysis of the Northeast and Sims Bayou North WWTP points to provide a pattern of daily flow variation although the monthly magnitude for both of these sites was taken from the unique WAM output for each site.

Flows from WWTPs associated with WR 5827 were identified for the year 2010 using information from Environmental Protection Agency (EPA) Discharge Monitoring Report (DMR) data. These discharges were compared against the discharges permitted in WR 5827 to determine the remaining capacity in each plant. The COH population projections for the decades from 2010 through 2070 were used to scale the total wastewater flow from these WWTPs over time, and the total increase in flow was apportioned to the individual WWTPs based on their remaining capacity in 2010. In that way, plants with larger shares of the remaining WWTP capacity were assumed to bear more of the burden as wastewater flows increased over time. These discharges for plants upstream of a diversion point could be added to the naturalized flows identified above to represent actual flow in the channels.

Finally, diversions were assumed to be limited by a number of factors including the maximum diversion rate at the identified diversion point, a limit of 50 percent of the upstream discharges to protect bay and estuary inflows, and the instream flow limits associated with each diversion point. Diversions of effluent from upstream were limited in such a way that diversions could not cause the downstream instream flow targets to not be met on any given day.

Output from the model provided the potential yield that could be developed from the various alternatives in each decade from 2010 through 2070 and also provided a distribution of daily diversion rates at each site over time for use in sizing pump station and pipeline infrastructure. *Table 1* and *Table 2*, below, summarize the potential firm yield of each option and the required plant capacity to develop the supply, respectively.

Table 1 – Potential Firm Yield by Option (ac-ft/yr)

OPTION		2020	2030	2040	2050	2060	2070
1	Greens Bayou	3,060	3,839	4,825	6,118	8,161	10,548
2a	69th Street WWTP	107,823	112,682	117,406	122,174	127,025	132,018
2b	Sims Bayou North WWTP	37,800	44,677	51,365	58,113	64,993	72,151
3	Southwest WWTP	16,984	19,288	21,489	23,587	25,671	27,837
TOTAL		165,667	180,486	195,085	209,992	225,850	242,554

Table 2 – Required Pump Station Capacity by Option (MGD)¹

OPTION		2020	2030	2040	2050	2060	2070
1	Greens Bayou Diversion	15	15	15	15	20	20
2a	69th Street WWTP	100	105	110	110	115	120
2b	Sims Bayou North WWTP	35	40	50	55	60	65
3	Southwest WWTP	15	20	20	25	25	25

¹ In 5 MGD increments.

Environmental Considerations

The majority of the infrastructure required for development of the COH Reuse options would be constructed in developed areas. For instance, Options 2a and 2b both involve construction in industrial areas along the Ship Channel and are not likely to significantly impact habitat. Option 1 has the greatest potential to impact undeveloped areas although the majority of this conveyance is to be constructed within existing right-of-way. *Table 3* lists the threatened and endangered species of Harris and Fort Bend Counties.

Table 3 – Threatened and Endangered Species of Harris and Fort Bend Counties

AMPHIBIANS		FEDERAL STATUS	STATE STATUS
Houston toad	<i>Anaxyrus houstonensis</i>	LE	E

BIRDS		FEDERAL STATUS	STATE STATUS
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Piping plover	<i>Charadrius melodus</i>	LT	T
Red-cockaded woodpecker	<i>Picooides borealis</i>	LE	E
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
White-tailed hawk	<i>Buteo albicaudatus</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	LT	T
Sharpnose shiner	<i>Notropis oxyrinchus</i>	LE	E
Shortfin mako shark	<i>Isurus oxyrinchus</i>		T
Western creek chubsucker	<i>Erimyzon claviformis</i>		T

MAMMALS		FEDERAL STATUS	STATE STATUS
Blue whale	<i>Balaenoptera musculus</i>	LE	E
Gulf of Mexico bryde's whale	<i>Balaenoptera edeni</i>	LE	E
Humpback whale	<i>Megaptera novaeangliae</i>	LE	
Louisiana black bear	<i>Ursus americanus luteolus</i>		T
North Atlantic right whale	<i>Eubalaena glacialis</i>	LE	E
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T
Sei whale	<i>Balaenoptera borealis</i>	LE	E
Sperm whale	<i>Physeter macrocephalus</i>	LE	E

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Louisiana pigtoe	<i>Pleurobema riddellii</i>		T
Sandbank pocketbook	<i>Lampsilis satura</i>		T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Loggerhead sea turtle	<i>Caretta caretta</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T

PLANTS		FEDERAL STATUS	STATE STATUS
Houston daisy	<i>Rayjacksonia aurea</i>		T
Texas prairie dawn	<i>Hymenoxys texana</i>	LE	E

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT – Federal Proposed for Listing; T - State Listed Endangered/Threatened;.

Permitting and Development

The existing WR 5827 provides for the discharge, conveyance, and diversion of effluent throughout the COH service area. However, the use of this water may require additional permitting depending upon use. Of particular concerns are options that will make use of reclaimed water for potable uses through blending with alternative supplies. This approach to water management is an emerging source of supply and projects will require some consideration of how to safely and effectively incorporate these projects into existing water portfolios.

Based on a preliminary desktop review, the following environmental permits and permitting activities are likely to apply:

- U.S. Army Corps of Engineers (USACE) Section 404 Permit – All proposed pipeline rights-of-way (ROW), temporary workspace, and access road locations should be delineated for waters of the U.S., including wetlands. The proposed pipeline construction would likely be permitted

under Nationwide Permit (NWP) 12-Utility Line Activities either with or without a Pre-construction Notification (PCN) to the USACE depending on the amount of impacts to waters of the U.S. The proposed pipeline that would cross the Houston Ship Channel would require a PCN and a Section 10 permit since the Houston Ship Channel is considered a navigable water of the U.S. by the USACE.

- Texas Historical Commission (THC) Coordination - Projects sponsored by public entities that affect a cumulative area greater than five acres or that disturb more than 5,000 cubic yards require advance consultation with the Texas Antiquities Committee according to Section 191.0525 (d) of the Antiquities Code of Texas. Because the proposed project may exceed these thresholds, coordination with the THC would be required. The THC may determine that archeological and/or historical surveys are needed.
- Threatened and Endangered Species – All proposed pipeline ROW, temporary workspace, and access road locations should be surveyed for potential threatened and endangered species habitat. If preferred habitat for threatened or endangered species is present, presence/absence surveys for the species would be required.
- Discharge and Diversion Points of Redirected WWTP Flows – WR 5827 may require minor amendment to reflect the redirection of wastewater inflows from the Southwest WWTP to the Almeda Sims WWTP and the associated reuse diversion point at Sims Bayou North WWTP.

The construction of pipelines would likely require a Stormwater Pollution Prevention Plan (SWPPP) and a TCEQ Construction General Permit (TXR 150000).

Cost Analysis

Costs were developed for Options 1, 2a, 2b, and 3 using default costing methods for regional plan development, as outlined by TWDB guidance. Cost estimates for each option are summarized below in *Table 4*, and detailed estimates are shown in *Table 5* through *Table 8*. At this time, it has been assumed that flows diverted from the channel will not require additional treatment before being blended with other raw water sources and treated to potable standards. Options 1, 2a, and 2b primarily consist of transmission infrastructure from diversion points to existing water purification plants. Costs for Option 3 are substantially higher than those for Options 1, 2a, and 2b due to the construction of an advanced water treatment facility on the site of the existing Southwest WWTP. The City of Houston Reuse project for the 2021 RWP includes all four of these options, with a projected total capital cost in September 2018 dollars of \$555,093,731.

Table 4 – Project Cost Summary

	Option	Project Cost	Potential Firm Yield (ac ft/yr)	Initial Unit Cost (\$/ac ft)
1	Greens Bayou	\$14,875,324	10,548	\$275
2a	69th Street WWTP	\$75,194,436	132,018	\$58
2b	Sims Bayou North WWTP	\$80,820,650	72,151	\$141
3	Southwest WWTP	\$384,203,322	27,837	\$2,667
Total		\$555,093,731	242,554	

Table 5 – Option 1 Project Cost Summary

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$6,919,526	\$6,919,526
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$2,403,473	\$2,403,473
3	LAND AND EASEMENTS	1	LS	\$2,973,300	\$2,973,300
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,182,972	\$2,182,972
5	INTEREST DURING CONSTRUCTION	1	LS	\$396,054	\$396,054
PROJECT CAPITAL COST					\$14,875,324

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$1,046,644	\$1,046,644	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$167,480	\$167,480	\$167,480	\$167,480
3	PUMPING ENERGY COSTS	\$0	\$0	\$111,311	\$111,311	\$111,311	\$111,311
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$1,325,435	\$1,325,435	\$278,791	\$278,791

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$1,325,435	\$1,325,435	\$278,791	\$278,791
2	YIELD	-	-	4,825	6,118	8,161	10,548
3	UNIT COST	\$0	\$0	\$275	\$217	\$34	\$26
TOTAL UNIT COST							\$108

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$6,552,300	\$6,552,300
2	PIPELINES	1	LS	\$302,487	\$302,487
3	PIPELINE CROSSINGS	1	LS	\$64,739	\$64,739
PROJECT COST					\$6,919,526

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$6,552,300	\$163,808
2	PIPELINES	1.0	%	\$302,487	\$3,025
3	PIPELINE CROSSINGS	1.0	%	\$64,739	\$647
ANNUAL OPERATION AND MAINTENANCE COST					\$167,480

Table 6 – Option 2a Project Cost Summary

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$39,329,321	\$39,329,321	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$12,369,856	\$12,369,856	
3	LAND AND EASEMENTS	1	LS	\$19,170,800	\$19,170,800	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,322,413	\$2,322,413	
5	INTEREST DURING CONSTRUCTION	1	LS	\$2,002,045	\$2,002,045	
PROJECT CAPITAL COST					\$75,194,436	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$5,290,761	\$5,290,761	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$564,611	\$564,611	\$564,611	\$564,611
3	PUMPING ENERGY COSTS	\$0	\$0	\$988,734	\$988,734	\$988,734	\$988,734
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$6,844,106	\$6,844,106	\$1,553,345	\$1,553,345

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$6,844,106	\$6,844,106	\$1,553,345	\$1,553,345
2	YIELD	-	-	117,406	122,174	127,025	132,018
3	UNIT COST	\$0	\$0	\$58	\$56	\$12	\$12
TOTAL UNIT COST		\$34					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$11,421,200	\$11,421,200	
2	PIPELINES	1	LS	\$25,377,377	\$25,377,377	
3	PIPELINE CROSSINGS	1	LS	\$2,530,744	\$2,530,744	
PROJECT COST					\$39,329,321	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$11,421,200	\$285,530	
2	PIPELINES	1.0	%	\$25,377,377	\$253,774	
3	PIPELINE CROSSINGS	1.0	%	\$2,530,744	\$25,307	
ANNUAL OPERATION AND MAINTENANCE COST					\$564,611	

Table 7 – Option 2b Project Cost Summary

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$43,979,538	\$43,979,538
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$14,471,946	\$14,471,946
3	LAND AND EASEMENTS	1	LS	\$17,905,800	\$17,905,800
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,311,523	\$2,311,523
5	INTEREST DURING CONSTRUCTION	1	LS	\$2,151,843	\$2,151,843
PROJECT CAPITAL COST					\$80,820,650

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$5,686,628	\$5,686,628	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$823,221	\$823,221	\$823,221	\$823,221
3	PUMPING ENERGY COSTS	\$0	\$0	\$721,169	\$721,169	\$721,169	\$721,169
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$7,231,018	\$7,231,018	\$1,544,390	\$1,544,390

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$7,231,018	\$7,231,018	\$1,544,390	\$1,544,390
2	YIELD	-	-	51,365	58,113	64,993	72,151
3	UNIT COST	\$0	\$0	\$141	\$124	\$24	\$21
TOTAL UNIT COST							\$71

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$25,561,700	\$25,561,700
2	PIPELINES	1	LS	\$15,442,056	\$15,442,056
3	PIPELINE CROSSINGS	1	LS	\$2,975,782	\$2,975,782
PROJECT COST					\$43,979,538

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$25,561,700	\$639,043
2	PIPELINES	1.0	%	\$15,442,056	\$154,421
3	PIPELINE CROSSINGS	1.0	%	\$2,975,782	\$29,758
ANNUAL OPERATION AND MAINTENANCE COST					\$823,221

Table 8 – Option 3 Project Cost Summary

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$260,990,000	\$260,990,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$90,907,104	\$90,907,104
3	LAND AND EASEMENTS	1	LS	\$11,100,650	\$11,100,650
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$10,976,188	\$10,976,188
5	INTEREST DURING CONSTRUCTION	1	LS	\$10,229,379	\$10,229,379
PROJECT CAPITAL COST					\$384,203,322

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$27,032,959	\$27,032,959	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$29,856,977	\$29,856,977	\$29,856,977	\$29,856,977
3	PUMPING ENERGY COSTS	\$0	\$0	\$428,521	\$428,521	\$428,521	\$428,521
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$57,318,457	\$57,318,457	\$30,285,498	\$30,285,498

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$57,318,457	\$57,318,457	\$30,285,498	\$30,285,498
2	YIELD	-	-	21,489	23,587	25,671	27,837
3	UNIT COST	\$0	\$0	\$2,667	\$2,430	\$1,180	\$1,088
TOTAL UNIT COST							\$1,777

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$8,323,800	\$8,323,800
2	PIPELINES	1	LS	\$7,133,503	\$7,133,503
3	PIPELINE CROSSINGS	1	LS	\$1,654,429	\$1,654,429
4	ADVANCED WATER TREATMENT FACILITY	1	LS	\$243,878,268	\$243,878,268
PROJECT COST					\$260,990,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$8,323,800	\$208,095
2	PIPELINES	1.0	%	\$7,133,503	\$71,335
3	PIPELINE CROSSINGS	1.0	%	\$1,654,429	\$16,544
4	ADVANCED WATER TREATMENT FACILITY	1.0	LS	\$29,561,002	\$29,561,002
ANNUAL OPERATION AND MAINTENANCE COST					\$29,856,977

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Houston Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1-5	Options 1, 2a, and 2b provide raw water and are very economical compared to alternative raw water supply projects. Option 3 provides treated water at a high cost.
Location	4	Water supplies are already permitted for use in the identified basins of need. Projects include transmission infrastructure to convey water to existing treatment plants and/or connect to existing water supply system.
Water Quality	3	The project takes advantage of existing and planned discharges in the Houston area.
Environmental Land and Habitat	4	Majority of projects are to be constructed in already-developed areas or existing rights-of-way.
Environmental Flows	2	Projects will reduce the level of flows returned to streams to a level planned for during permitting process.
Local Preference	4	Support for reuse and water-efficient projects in the area.
Institutional Constraints	3	Property acquisition required for project development.
Development Timeline	4	Larger alternatives may take approximately 10 years to implement although others may be developed much sooner.
Sponsorship	4	City of Houston is committed to reuse as a long-term project.
Vulnerability	4	Potential impacts from water quality events upstream and the opportunity for damage to critical infrastructure.
Impacts on Other WMS	3	This project is not expected to impact other strategies.

The COH Reuse concepts presented include up to 15 miles of pipelines depending on final configuration of the project which will impact an associated 90 acres of land. The majority of this impact will be in urbanized areas with limited impacts to habitat. The project may potentially reduce return flows to various basins by as much as 242,554 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of surface water from other basins. These diversions are already permitted for consumptive use under the City of Houston's Water Right 5827 which accounts for environmental flows. COH Reuse is not anticipated to impact agricultural land or production.

Water User Group Application

The City of Houston Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water

provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Withdrawal of the identified reclaimed source is generally limited to the permitted diversion points. However, use of existing and proposed infrastructure may make the supply available for use by COH and its customers.
Size	The concentration of reclaimed supplies through bed and banks transfer makes it possible to develop this project to fairly significant volumes of water commensurate with the demands projected for COH and its service area.
Water Quality	The reclaimed water projects will deliver raw water to two treatment plants which may be treated and used for meeting any potential need. Option 3 will provide treated water of quality that is acceptable for municipal use.
Unit Cost	The unit cost for the project varies based on capacity and the specifics of each option. However, the identified unit costs of the raw water options are economical compared to other long-term raw water options.
Other Factors	This project requires the use of reclaimed water blended with other sources as a potable drinking water supply in Options 1 and 2 and the direct treatment and reuse of reclaimed water as a potable supply in Option 3. These are emerging practices and may take some time to be fully adopted.

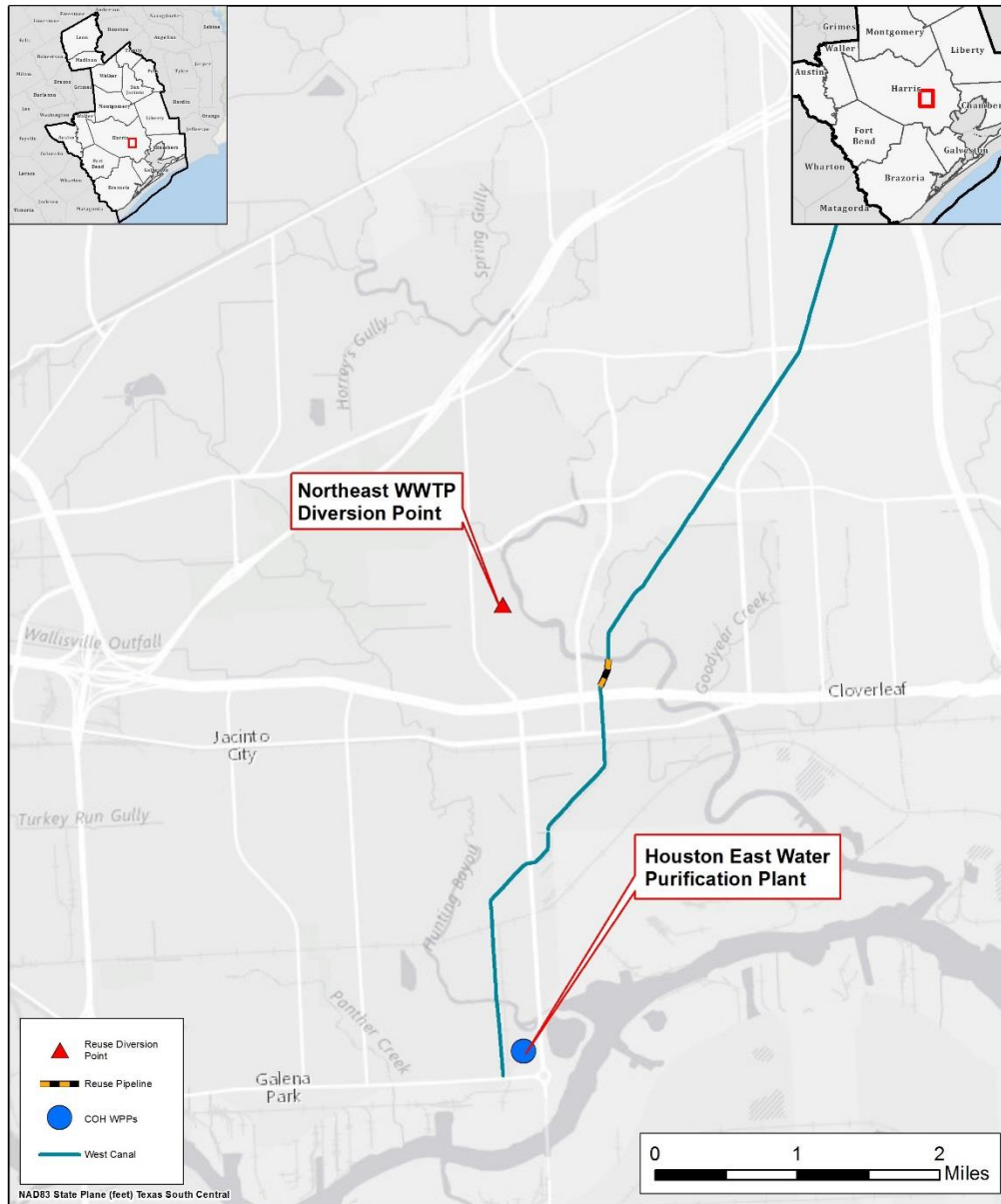
References

Texas Commission on Environmental Quality. *Water Right Permit Number 5827*, May 2011.

Texas Parks and Wildlife, https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/, Accessed May 16, 2019.

Texas Parks and Wildlife, <https://tpwd.texas.gov/gis/rtest/>, Accessed April 8, 2019.

Location Map – Option 1

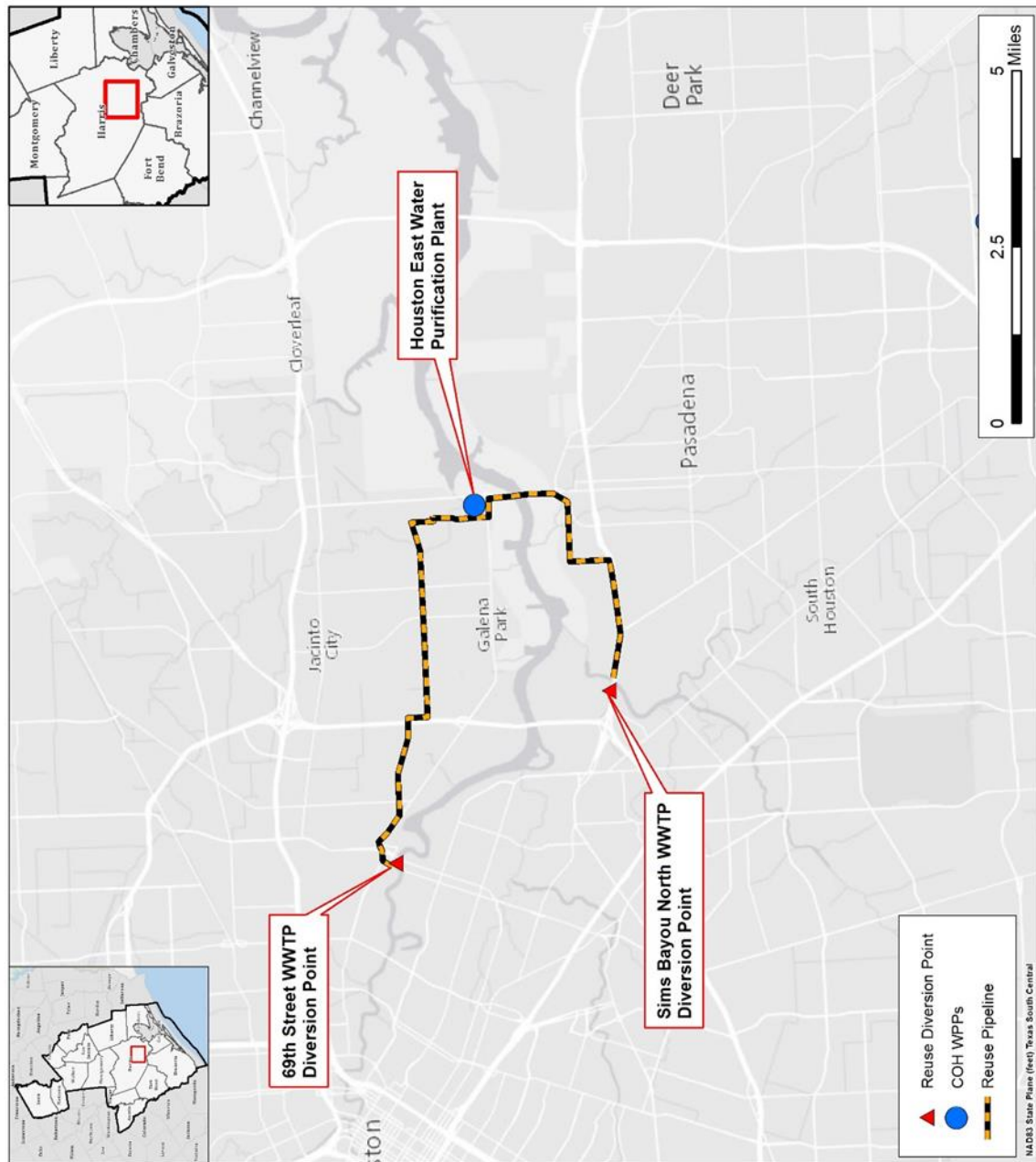


Houston Reuse Option 1 Location Map



Texas

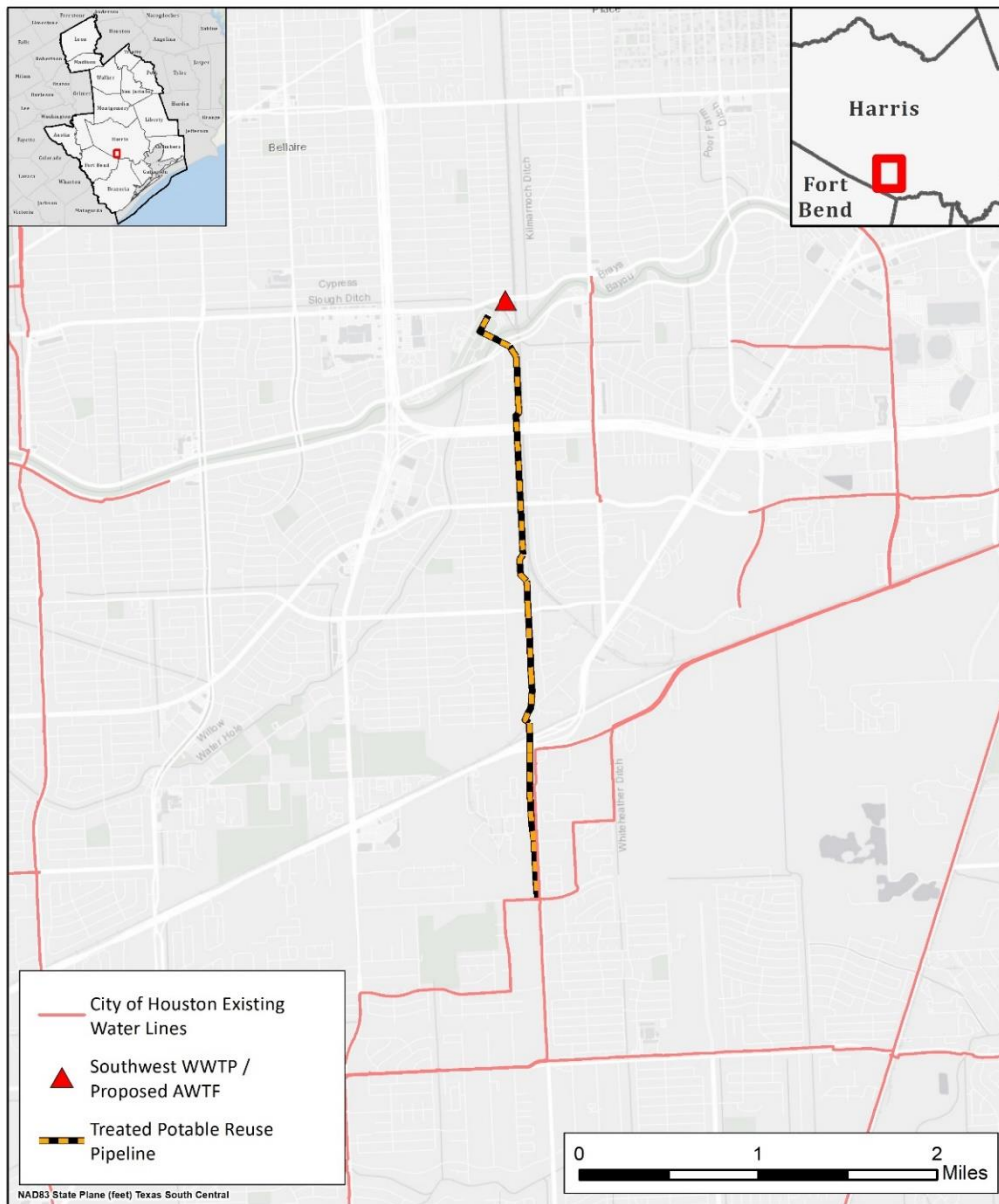
Location Map – Options 2a and 2b



Houston Reuse Option 2 Location Map



Location Map – Option 3



Houston Reuse Option 3 Location Map



Texas

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Pearland Reuse
Project ID:	REUS-002
Project Type:	Reuse
Potential Supply Quantity (Rounded):	314 - 1,154 ac-ft/yr (0.25 - 1 mgd)
Implementation Decade:	2020
Development Timeline:	<5 years per phase
Project Capital Cost:	\$12,648,000 (Sept. 2018)
Unit Water Cost (Rounded):	\$913 per ac-ft (during loan period) \$142 per ac-ft (after loan period)

Strategy Description

To plan for future growth and reduce dependence on groundwater, the City of Pearland has identified opportunities to meet irrigation and other demands through effluent reuse from its existing wastewater treatment facilities.

Strategy Analyses

The project analyses for the City of Pearland Reuse project include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The City of Pearland has five wastewater treatment plants (WWTPs) which are capable of producing Type 1 effluent for reuse. Type 1 indicates a high-quality effluent treated to acceptable standards for application where contact with the public is likely. Pearland plans to utilize a portion of this effluent for municipal irrigation at two locations by year 2020; one site will use approximately 0.25 MGD (280 ac-ft/yr) while the other smaller location will receive 0.03 MGD (34 ac-ft/yr). The City of Pearland anticipates increasing this amount in subsequent decades. While Pearland has not yet established a target volume for this expanded reuse, for purposes of the Regional Plan it was assumed that, at a minimum, it would be possible for Pearland to supply three additional irrigation locations with 280 ac-ft/yr of reuse supply each. Considered in context of the City of Pearland's projected year 2020 water demand of 18,335 ac-ft, this is intended to serve as a conservative estimate, and it is possible that Pearland could elect to utilize reuse in excess of this amount.

Environmental Considerations

The direct reuse of the effluent source supply would be expected to have some degree of impact in

terms of reduction of instream flows downstream of the WWTP discharge point for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged.

Permitting and Development

The source WWTP facilities for the project already generate effluent treated to the required standards for the intended use and therefore limited permitting effort is anticipated. Some minor permitting effort may be required as part of transmission infrastructure development.

Cost Analysis

A detailed estimate of project cost is not available for the project at this time. A preliminary planning estimate of project cost was developed using standard cost estimate procedures for Region H. It was assumed for this estimate that 314 ac-ft of supply would be developed for year 2020, with infrastructure limited to three miles of 6-inch pipeline, a booster pump station, and a ground storage tank. Future reuse expansion was estimated with three additional reuse areas, each requiring similar infrastructure. It was assumed for both phases that all construction could be accommodated within existing easements and plant sites. Costs presented in *Table 1*, including debt service and costs for operations and maintenance, were calculated using standard cost estimation procedures for Region H.

Table 1 – City of Pearland Reuse Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST September 2018

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$8,528,373	\$8,528,373
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$2,904,422	\$2,904,422
3	LAND AND EASEMENTS	1	LS	\$65,281	\$65,281
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$481,468	\$481,468
5	INTEREST DURING CONSTRUCTION	1	LS	\$668,456	\$668,456
PROJECT CAPITAL COST					\$12,648,000

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (PHASE 1)	\$225,949	\$225,949	\$0	\$0	\$0	\$0
2	DEBT SERVICE (PHASE 2)	\$0	\$663,978	\$663,978	\$0	\$0	\$0
3	OPERATION AND MAINTENANCE (PHASE 1)	\$35,193	\$35,193	\$35,193	\$35,193	\$35,193	\$35,193
4	OPERATION AND MAINTENANCE (PHASE 2)	\$0	\$102,596	\$102,596	\$102,596	\$102,596	\$102,596
5	PUMPING ENERGY COSTS	\$7,136	\$25,949	\$25,949	\$25,949	\$25,949	\$25,949
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$268,278	\$1,053,666	\$827,717	\$163,739	\$163,739	\$163,739

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$268,278	\$1,053,666	\$827,717	\$163,739	\$163,739	\$163,739
2	YIELD	314	1,154	1,154	1,154	1,154	1,154
3	UNIT COST	\$854	\$913	\$717	\$142	\$142	\$142
TOTAL UNIT COST		\$434					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$3,500,405	\$3,500,405
2	PIPELINES	1	LS	\$1,610,184	\$1,610,184
3	WATER STORAGE TANKS	1	LS	\$3,417,784	\$3,417,784
PROJECT COST					\$8,528,373

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$3,500,405	\$87,510
2	PIPELINES	1.0	%	\$1,610,184	\$16,102
3	WATER STORAGE TANKS	1.0	%	\$3,417,784	\$34,178
ANNUAL OPERATION AND MAINTENANCE COST					\$137,790

Water Management Strategy Evaluation

Based on the analysis provided above, the City of Pearland Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Costs are moderately high during debt service and are reduced considerably after completion of debt service.
Location	4	Source located near points of demand with some conveyance infrastructure required.
Water Quality	3	No known issues regarding water quality. The project is expected to produce Type 1 effluent suitable for the intended use.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below WWTPs.
Local Preference	4	No known opposition.
Institutional Constraints	5	Minimal or no permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	4	Sponsor is identified and committed to project.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

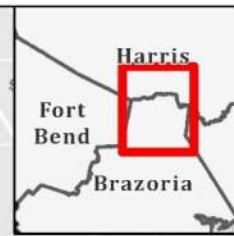
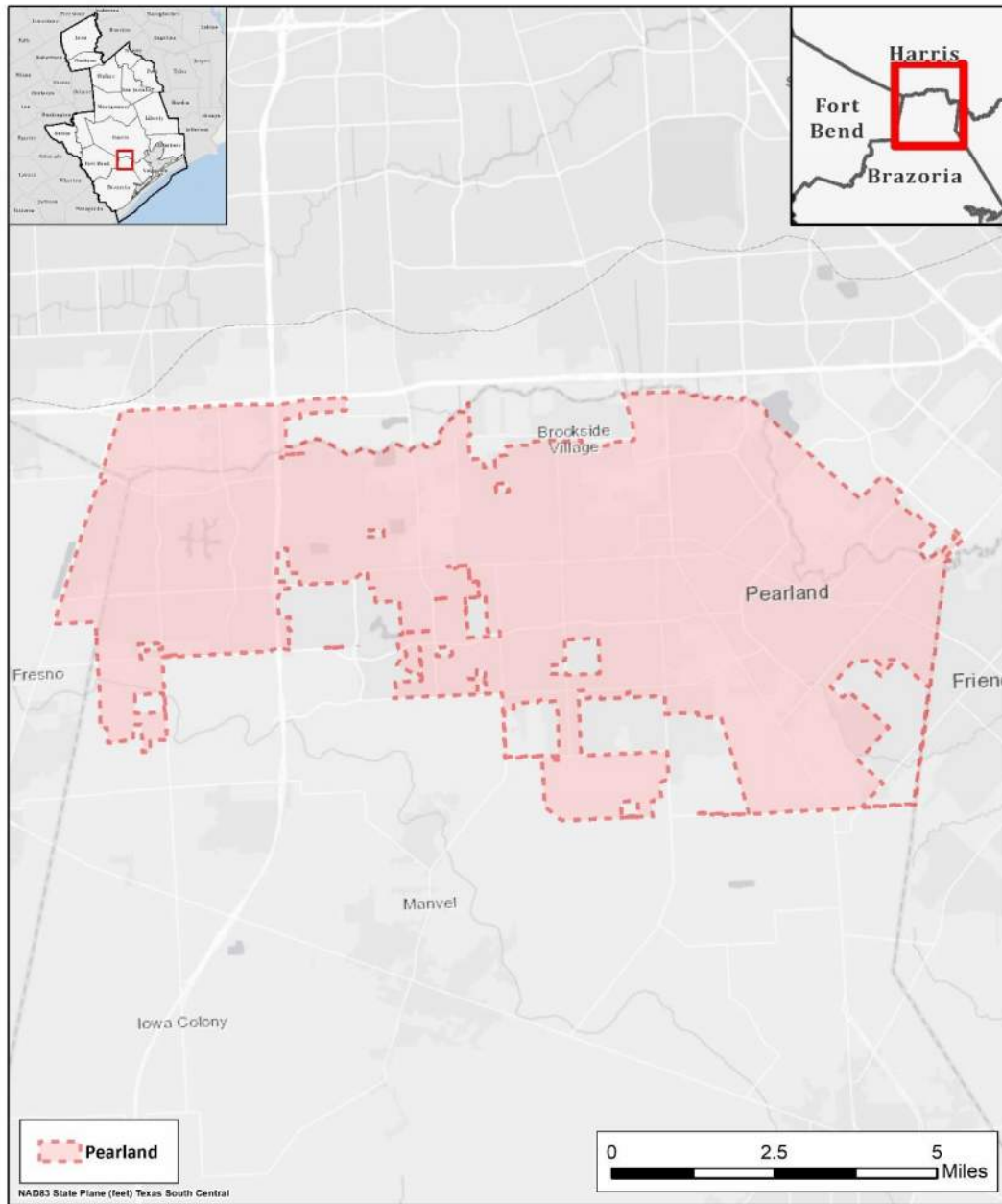
City of Pearland Reuse is not anticipated to affect acreage or vulnerable species. The project may potentially reduce return flows by as much as 1,154 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of surface water from other basins. City of Pearland Reuse is not anticipated to impact agricultural land or production.

Water User Group Application

The City of Pearland Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve the City of Pearland and any entities that it provides with water supply.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use, with some limited conveyance infrastructure required.
Size	Project begins with a relatively small volume but is anticipated to expand with time.
Water Quality	This WWTPs which would provide the effluent supply for this project are able to produce high quality Type 1 effluent.
Unit Cost	The cost of this project is moderately high and decreases substantially after completion of debt service.
Other Factors	This project reduces groundwater dependence.

Location Map



City of Pearland Reuse Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Galveston County Industrial Reuse
Project ID:	REUS-003
Project Type:	Reuse
Potential Supply Quantity (Rounded):	22,400 ac-ft/yr (20 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years
Project Capital Cost:	\$90,746,960 (Sept. 2018)
Unit Water Cost (Rounded):	\$564 per ac-ft (during loan period) \$279 per ac-ft (after loan period)

Strategy Description

Gulf Coast Water Authority (GCWA) supplies a number of industrial and agricultural customers in Galveston County with surface water from the Brazos River Basin and San Jacinto-Brazos Coastal Basin. GCWA holds several water rights in these basins and supplies its customers with surface water from these rights as well as contractual supplies purchased from the Brazos River Authority (BRA). In addition to these surface water sources, GCWA is evaluating a wastewater reclamation project for the treatment and reuse of industrial wastewater by customers in Galveston County.

Strategy Analyses

The project analyses for Galveston County Industrial Reuse include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Galveston County Industrial Reuse project is in the concept development process. For the purposes of the 2021 Region H Regional Water Plan (RWP), a yield of 20 mgd has been assumed from available wastewater discharges from likely project participants. Treated industrial discharges in the Texas City industrial area would subsequently be conveyed to additional treatment infrastructure and finished to quality standards as required by the end users before being conveyed back to participating GCWA industrial customers.

Environmental Considerations

Infrastructure development may result in some construction disturbance. However, conveyance infrastructure is expected to follow existing easements in a developed area and is unlikely to impact habitat.

Permitting and Development

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 Texas Administrative Code (TAC) §210. TCEQ classifies reclaimed industrial water as Level 1 (certain on-site uses) or Level 2 (off-site use, mixed domestic and industrial wastewater, and other categories). Due to the removal of effluent to off-site treatment, supplies for this project would likely be categorized as Level 2 reclaimed water. If approved for use, the reclaimed water would have to be regularly sampled and analyzed. Additional minor permitting may be associated with construction activities.

Cost Analysis

A preliminary planning-level cost estimate was developed for the Galveston County Industrial Reuse project based on standard regional planning assumptions. Components of capital cost include construction of finishing treatment capacity, ground storage tanks, a pump station, and conveyance. Interest during construction, annualized debt service, pumping energy costs, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Costs are presented in September 2018 equivalent costs in *Table 1*.

Table 1 – Galveston County Industrial Reuse Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$53,894,978	\$53,894,978
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$18,441,779	\$18,441,779
3	LAND AND EASEMENTS	1	LS	\$2,188,560	\$2,188,560
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$11,425,600	\$11,425,600
5	INTEREST DURING CONSTRUCTION	1	LS	\$4,796,043	\$4,796,043
PROJECT CAPITAL COST					\$90,746,960

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$6,385,054	\$6,385,054	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$5,935,115	\$5,935,115	\$5,935,115	\$5,935,115	\$5,935,115
3	PUMPING ENERGY COSTS	\$0	\$311,462	\$311,462	\$311,462	\$311,462	\$311,462
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$12,631,630	\$12,631,630	\$6,246,577	\$6,246,577	\$6,246,577

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$12,631,630	\$12,631,630	\$6,246,577	\$6,246,577	\$6,246,577
2	YIELD	-	22,400	22,400	22,400	22,400	22,400
3	UNIT COST	\$0	\$564	\$564	\$279	\$279	\$279
TOTAL UNIT COST							\$393

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$24,133,283	\$24,133,283
2	PIPELINES	1	LS	\$8,429,256	\$8,429,256
3	WATER STORAGE TANKS	1	LS	\$4,769,020	\$4,769,020
4	WASTEWATER RECLAMATION PLANTS	1	LS	\$16,563,419	\$16,563,419
PROJECT COST					\$53,894,978

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$24,133,283	\$603,332
2	PIPELINES	1.0	%	\$8,429,256	\$84,293
3	WATER STORAGE TANKS	1.0	%	\$4,769,020	\$47,690
4	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$5,199,800	\$5,199,800
ANNUAL OPERATION AND MAINTENANCE COST					\$5,935,115

Water Management Strategy Evaluation

Based on the analysis provided above, the Galveston County Industrial Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	Project provides treated water at a moderate cost.
Location	4	Some infrastructure will be required to convey treated water to end users.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Project would reduce local bay inflow through the reduction of return flows, but would not reduce instream flows.
Local Preference	3	Local preference is unknown.
Institutional Constraints	3	Permits expected with minimal problems. Property is available.
Development Timeline	5	Project can be developed within 5 years.
Sponsorship	4	Sponsors are identified and are investigating project options.
Vulnerability	5	Minimal risk from natural and man-made disasters.
Impacts on Other WMS	3	This project is not expected to impact other WMS.

Development of the Galveston County Industrial Reuse project is anticipated to cause minimal impacts to habitat, due to construction within a heavily industrialized area. The project may potentially reduce bay inflows by as much as 22,400 ac-ft/yr. Because the source return flows are currently returned directly to the bay system, the project would not directly impact instream flows. It should also be noted that the reduction in bay return flows may also correlate to a reduction in diversions of surface water from other basins. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The Galveston County Industrial Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located relatively near industrial demands served from the lower Brazos River Basin.
Size	Project provides a substantial volume of supply to meet the needs of wholesale, industrial users.
Water Quality	Project will treat wastewater to a quality suitable for industrial use.
Unit Cost	Unit cost is suitable for industrial applications.
Other Factors	Project is intended for use by current and potential future industrial customers of GCWA.

Location Map



Galveston County Industrial Reuse Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Fort Bend Water Authority Member District Reuse
Project ID:	REUS-004
Project Type:	Reuse
Potential Supply Quantity (Rounded):	3,816 ac-ft/yr (3.41 mgd)
Implementation Decade:	2020
Development Timeline:	1 – 3 years
Project Capital Cost:	\$46,640,088 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,695 per ac-ft (during loan period) \$835 per ac-ft (after loan period)

Strategy Description

Population growth in Region H over recent decades has spurred the development of direct wastewater reuse facilities to assist water systems in meeting water demands from golf courses, greenspace, and maintenance of amenity lakes. The North Fort Bend Water Authority (NFBWA) has identified a number of existing Municipal Utility Districts (MUDs) within its boundaries which are developing new wastewater reclamation projects for the purpose of supplying outdoor water demands.

Strategy Analyses

The project analyses for NFBWA Member District Reuse include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The water systems within NFBWA are supplied primarily by treated surface water delivered by NFBWA or by groundwater from the Gulf Coast Aquifer pumped by the member districts. Reuse of wastewater flows would create a new supply of water for meeting outdoor water demands. Reuse systems of this type would produce high quality effluent, which would have to be treated to TCEQ Type 1 reclaimed water standards due to the potential for public contact.

NFBWA has identified a number of member districts, listed in *Table 1*, with reuse projects in various stages of design and construction. For purposes of the Regional Water Plan, effluent supply availability was estimated from projected population for the applicable member districts and projected per-capita demands for NFBWA after application of recommended conservation and water loss reduction WMS. A return flow factor of 40 percent based on analyses from the 2016 RWP was then applied, with availability also constrained by the anticipated infrastructure capacity for each

system. Due to potential variations among systems regarding future growth in outdoor water needs, supplies for the project were conservatively assumed to remain level through year 2070.

Table 1 – NFBWA Member Districts Pursuing Reuse Projects

Municipal Utility Districts
Cinco Southwest MUD No. 1
Fort Bend County MUD No. 34
Fort Bend County MUD No. 35
Fort Bend County MUD No. 57
Fort Bend County MUD No. 118
Fort Bend County MUD No. 122
Fort Bend County MUD No. 123
Fort Bend County MUD No. 133
Fort Bend County MUD No. 146
Fort Bend County MUD No. 151
Fort Bend County MUD No. 182
Fort Bend County MUD No. 185
Fort Bend County MUD No. 194
Grand Lakes MUD

Environmental Considerations

The diversion of the effluent source supply would be expected to have some degree of impact in terms of reduction of instream flows downstream of plant facilities for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged.

Permitting and Development

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 Texas Administrative Code (TAC) §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

A preliminary planning level cost estimate was prepared for NFBWA Member District Reuse using default costing methods for regional plan development. Costs were developed based on basic costing guidelines as outlined by TWDB guidance. Cost calculations assumed infrastructure components would include a tertiary treatment facility, ground storage tanks, a pump station, and one mile of pipeline for each participating member district. Costs for interest during construction and annualized costs (debt service, operations and maintenance, and energy) were estimated using standard Regional Planning costing reference data. Estimated costs are presented in *Table 2*.

Table 2 – NFBWA Member District Reuse Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$32,185,730	\$32,185,730
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$11,171,507	\$11,171,507
3	LAND AND EASEMENTS	1	LS	\$216,534	\$216,534
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$601,354	\$601,354
5	INTEREST DURING CONSTRUCTION	1	LS	\$2,464,963	\$2,464,963
PROJECT CAPITAL COST					\$46,640,088

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$3,281,647	\$3,281,647	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$3,103,403	\$3,103,403	\$3,103,403	\$3,103,403	\$3,103,403	\$3,103,403
3	PUMPING ENERGY COSTS	\$84,659	\$84,659	\$84,659	\$84,659	\$84,659	\$84,659
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$6,469,709	\$6,469,709	\$3,188,062	\$3,188,062	\$3,188,062	\$3,188,062

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$6,469,709	\$6,469,709	\$3,188,062	\$3,188,062	\$3,188,062	\$3,188,062
2	YIELD	3,816	3,816	3,816	3,816	3,816	3,816
3	UNIT COST	\$1,695	\$1,695	\$835	\$835	\$835	\$835
TOTAL UNIT COST		\$1,122					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$8,218,577	\$8,218,577
2	PIPELINES	1	LS	\$1,869,964	\$1,869,964
3	WATER STORAGE TANKS	1	LS	\$9,000,640	\$9,000,640
4	WASTEWATER RECLAMATION PLANTS	1	LS	\$13,096,549	\$13,096,549
PROJECT COST					\$32,185,730

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$8,218,577	\$205,464
2	PIPELINES	1.0	%	\$1,869,964	\$18,700
3	WATER STORAGE TANKS	1.0	%	\$9,000,640	\$90,006
4	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$2,789,233	\$2,789,233
ANNUAL OPERATION AND MAINTENANCE COST					\$3,103,403

Water Management Strategy Evaluation

Based on the analysis provided above, the NFBWA Member District Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Cost is high but decreases after completion of debt service.
Location	5	Direct reuse infrastructure would be located in close proximity to points of water use.
Water Quality	3	The project is expected to produce Type 1 effluent suitable for the intended use.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Diversion of discharges would create reduction in environmental flows.
Local Preference	3	No known opposition to the proposed project.
Institutional Constraints	3	Permits expected with minimal problems.
Development Timeline	5	Project could be developed in a relatively short period of time.
Sponsorship	5	Individual member districts have notified NFBWA of intent to pursue reuse and are in various stages of planning and construction.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other project.

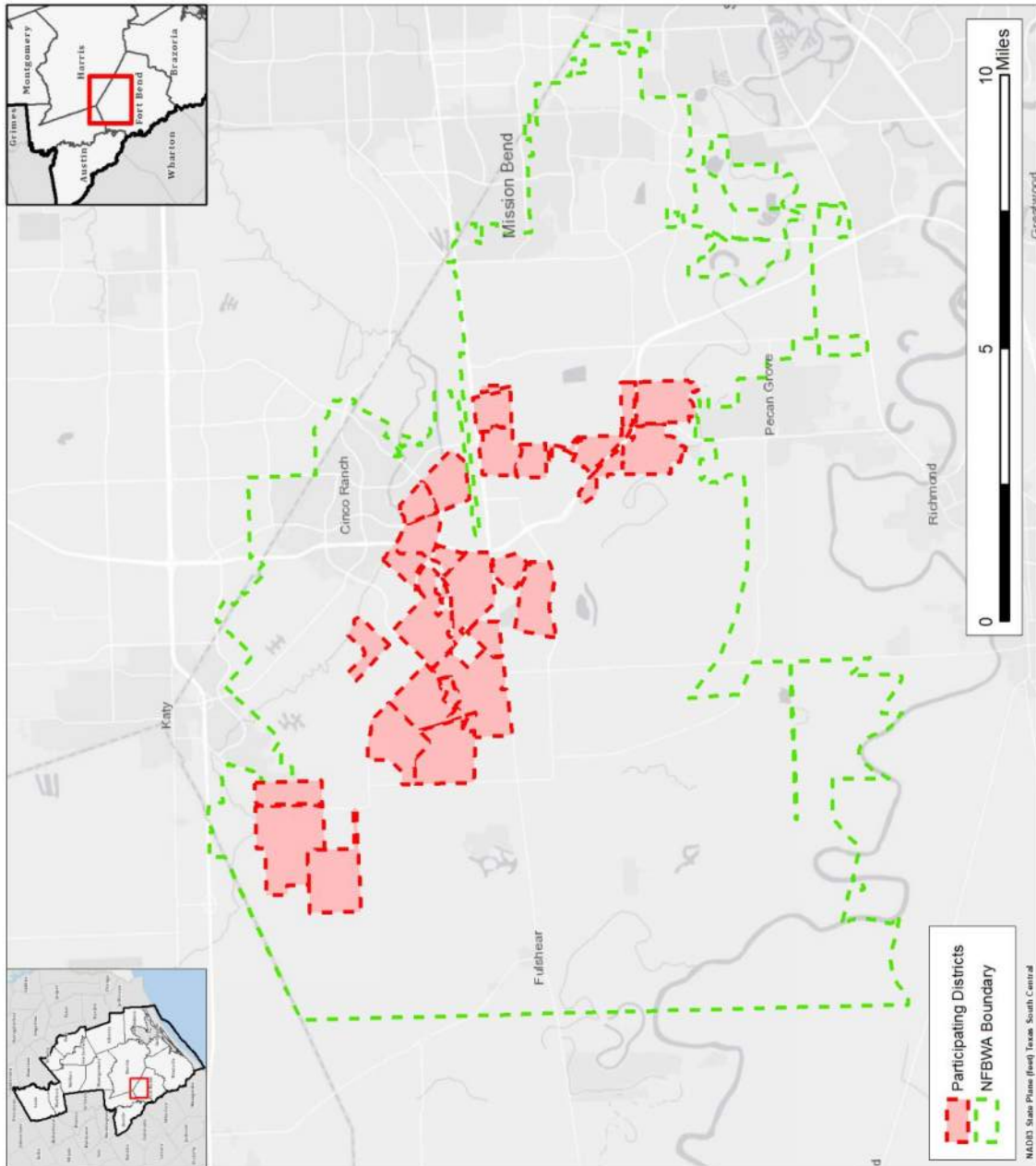
The NFBWA Member District Reuse project is not anticipated to affect acreage or vulnerable species and is not anticipated to impact agricultural land or production. The project may potentially reduce return flows by as much as 3,816 ac-ft/yr.

Water User Group Application

The NFBWA Member District Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve the member districts in NFBWA developing reuse infrastructure.

CRITERIA	WUG SUITABILITY
Proximity	Project diversion point located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the intended use.
Water Quality	The project is expected to produce Type 1 effluent suitable for the intended use.
Unit Cost	Cost is high but decreases after completion of debt service.
Other Factors	Implementation of supply from this project requires permitting through TCEQ.

Location Map



NFBWA Member District Reuse Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	North Harris County Regional Water Authority Member District Reuse
Project ID:	REUS-005
Project Type:	Reuse
Potential Supply Quantity (Rounded):	300 ac-ft/yr (0.3 mgd)
Implementation Decade:	2020
Development Timeline:	1 – 3 years
Project Capital Cost:	\$4,295,775 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,913 per ac-ft (during loan period) \$905 per ac-ft (after loan period)

Strategy Description

Population growth in Region H over recent decades has spurred the development of direct wastewater reuse facilities to assist water systems in meeting water demands from golf courses and greenspace. The North Harris County Regional Water Authority (NHCRWA) has identified the potential for one or more of its member districts to develop new wastewater reclamation projects for the purpose of supplying existing golf course or green space water demands.

Strategy Analyses

The project analyses for NHCRWA Member District Reuse include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The water systems within NHCRWA are supplied primarily by treated surface water delivered by NHCRWA or by groundwater from the Gulf Coast Aquifer pumped by the member districts. Reuse of wastewater flows would create a new supply of water for meeting golf course or greenspace irrigation demands. A reuse system of this type would produce high quality effluent, which would have to be treated to TCEQ Type 1 reclaimed water standards due to the potential for public contact. Supply volume was conservatively estimated as 300 ac-ft/yr to approximate the supply for a single golf course; implementation of reclaimed water infrastructure by multiple member districts could generate a larger supply.

Environmental Considerations

The diversion of the effluent source supply would be expected to have some degree of impact in terms

of reduction of instream flows downstream of plant facilities for any portion of the source supply originating from current levels of return flow. Any reuse from the portion of return flow generated from future demand growth would not be expected to create additional instream flow reductions, as this portion of potential supply is not yet generated or discharged.

Permitting and Development

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 Texas Administrative Code (TAC) §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

A preliminary planning level cost estimate was prepared for NHCRWA Member District Reuse using default costing methods for regional plan development. Costs were developed based on basic costing guidelines as outlined by TWDB guidance. Cost calculations assumed infrastructure components would include a tertiary treatment facility, ground storage tanks, a pump station, and one mile of pipeline. Costs for interest during construction and annualized costs (debt service, operations and maintenance, and energy) were estimated using standard Regional Planning costing reference data. Estimated costs are presented in *Table 1*.

Table 1 – NHCRWA Member District Reuse Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$2,949,536	\$2,949,536	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$1,025,628	\$1,025,628	
3	LAND AND EASEMENTS	1	LS	\$21,589	\$21,589	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$71,987	\$71,987	
5	INTEREST DURING CONSTRUCTION	1	LS	\$227,035	\$227,035	
PROJECT CAPITAL COST						\$4,295,775

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$302,255	\$302,255	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$266,309	\$266,309	\$266,309	\$266,309	\$266,309	\$266,309
3	PUMPING ENERGY COSTS	\$5,226	\$5,226	\$5,226	\$5,226	\$5,226	\$5,226
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$573,791	\$573,791	\$271,535	\$271,535	\$271,535	\$271,535

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$573,791	\$573,791	\$271,535	\$271,535	\$271,535	\$271,535
2	YIELD	300	300	300	300	300	300
3	UNIT COST	\$1,913	\$1,913	\$905	\$905	\$905	\$905
TOTAL UNIT COST		\$1,241					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$828,239	\$828,239	
2	PIPELINES	1	LS	\$134,182	\$134,182	
3	WATER STORAGE TANKS	1	LS	\$858,018	\$858,018	
4	WASTEWATER RECLAMATION PLANTS	1	LS	\$1,129,097	\$1,129,097	
PROJECT COST						\$2,949,536

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$828,239	\$20,706	
2	PIPELINES	1.0	%	\$134,182	\$1,342	
3	WATER STORAGE TANKS	1.0	%	\$858,018	\$8,580	
4	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$235,682	\$235,682	
ANNUAL OPERATION AND MAINTENANCE COST						\$266,309

Water Management Strategy Evaluation

Based on the analysis provided above, the NHCRWA Member District Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Cost is high but decreases after completion of debt service.
Location	5	Direct reuse infrastructure would be located in close proximity to points of water use.
Water Quality	3	The project is expected to produce Type 1 effluent suitable for the intended use.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	2	Diversion of discharges would create reduction in environmental flows.
Local Preference	3	No known opposition to the proposed project.
Institutional Constraints	3	Permits expected with minimal problems.
Development Timeline	5	Project could be developed in a relatively short period of time.
Sponsorship	3	Commitment level by individual member districts is uncertain.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

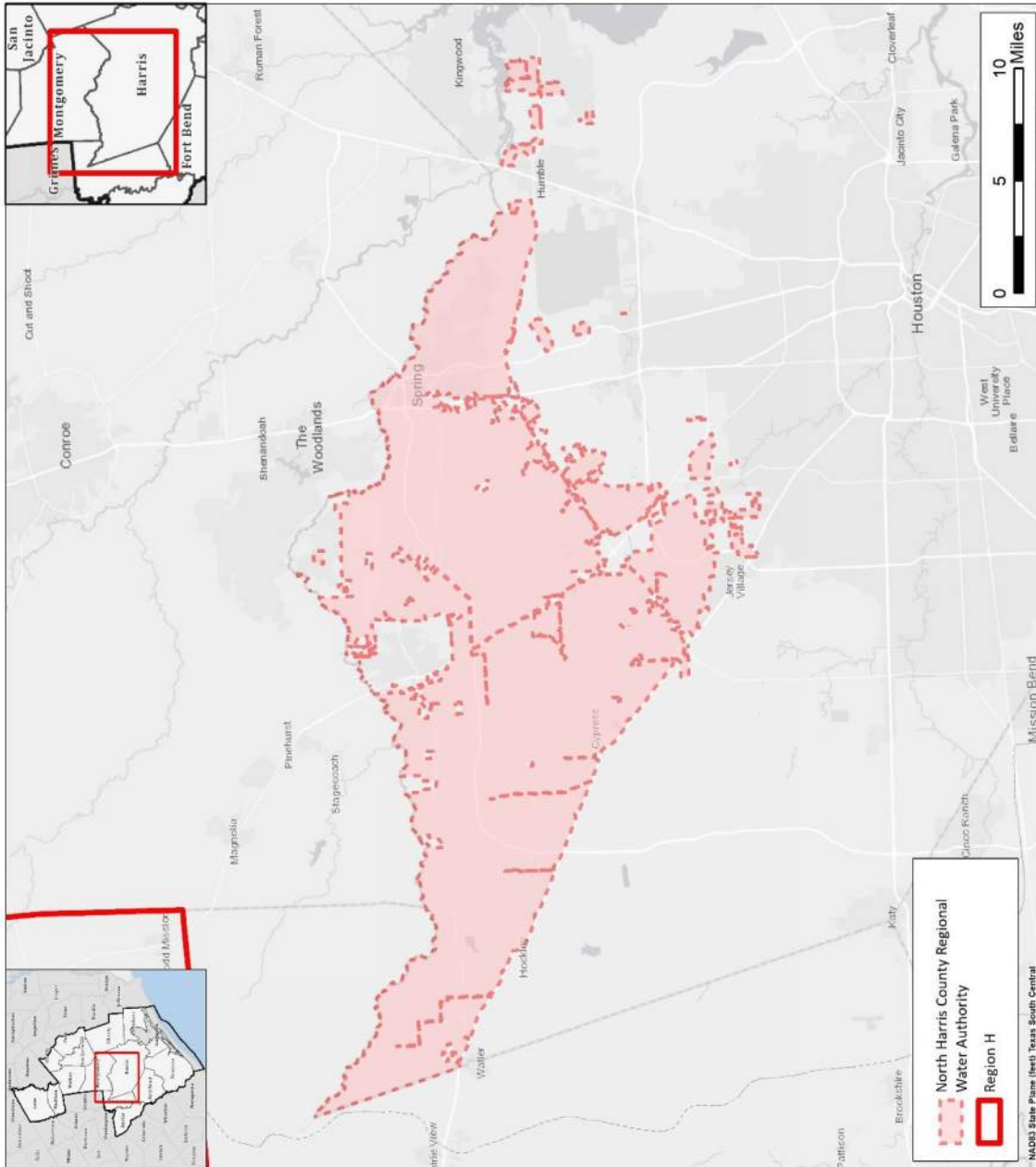
The NHCRWA Member District Reuse project is not anticipated to affect acreage or vulnerable species and is not anticipated to impact agricultural land or production. The project may potentially reduce return flows by as much as 300 ac-ft/yr.

Water User Group Application

The NHCRWA Member District Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve the member districts on NHCRWA developing reuse infrastructure.

CRITERIA	WUG SUITABILITY
Proximity	Project diversion point located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the intended use.
Water Quality	The project is expected to produce Type 1 effluent suitable for the intended use.
Unit Cost	Cost is high but decreases after completion of debt service.
Other Factors	Implementation of supply from this project requires permitting through TCEQ.

Location Map



NHCRWA Member District Reuse Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	San Jacinto Basin Regional Return Flows
Project ID:	REUS-006
Project Type:	Reuse
Potential Supply Quantity (Rounded):	60,888 – 119,673 ac-ft/yr (54.4 to 106.8 mgd)
Implementation Decade:	2020
Development Timeline:	5 years
Project Capital Cost:	\$0 (Sept. 2018)
Unit Water Cost (Rounded):	\$0 per ac-ft

Strategy Description

Lake Houston is located at the confluence of the East and West Forks of the San Jacinto River and receives flow from the Spring Creek Watershed. This entire area is anticipated to undergo considerable growth over the upcoming decades which will inevitably contribute to increased return flows to Lake Houston, which serves as an ideal location for capturing available flows for use as an additional water supply.

Several existing water right permits dictate the use of water diverted from Lake Houston. These rights are owned by COH and the San Jacinto River Authority (SJRA); some benefit from storage in Lake Houston while others are run-of-the-river diversions that share a diversion point with the reservoir. These rights are summarized in *Table 1*, below. Water Right 4964 serves SJRA's Highlands System and is diverted from Lake Houston although it does not benefit from storage in the reservoir. Water Right 4965 is the original right associated with Lake Houston and both permits and benefits from the reservoir's 160,000 ac-ft of storage. In 2003, COH and SJRA jointly permitted excess yield identified in Lake Houston totaling 32,500 ac-ft/yr. In addition, 80,000 ac-ft/yr of excess flows were also permitted for diversion when available. Conceptually, this permit allows for the diversion of return flows from the upper portion of the basin. However, since these return flows are not specifically called out in the permit, they are not considered in the firm yield analysis for Region H. SJRA's Water Right 5809 permits the use of return flows from wastewater treatment plants in The Woodlands in Montgomery County up to 14,944 ac-ft/yr. Finally, COH's permit 5827 includes diversion of as much as 12,770 ac-ft/yr (11.4 mgd) of return flows from the Kingwood Central and Kingwood West Wastewater Treatment Plants (WWTPs).

Table 1 – Existing Water Rights at Lake Houston

Permit	Priority Year	Diversion (Ac Ft/Yr)	Owner(s)	Lake Houston Storage?
4964	1942/44	55,000	SJRA	No
4965	1940/44	168,000	COH	Yes
5807	2003	32,500	COH/SJRA	Yes
5808	2003	80,000	COH/SJRA	No
5809	2003	14,944	SJRA	No
5827	2004	12,770*	COH	No

**Includes only the portion of WR 5827 that may be diverted at Lake Houston, which is the permitted discharge of the City of Houston's Kingwood West and Kingwood Central WWTPs as referenced in WR 5827.*

Besides permits for diversions from Lake Houston, several reuse permits already exist in the San Jacinto River Basin. SJRA and the City of Conroe obtained approval in 2018 for a permit to use up to 10 mgd (11,200 ac-ft/yr) of return flows generated by the City of Conroe, which are discharged to the West Fork of the San Jacinto River upstream of Lake Houston. Other permits for use of return flows in the San Jacinto River Basin include indirect/direct reuse permits owned by the City of Huntsville in Walker County and Montgomery County MUDs 8 and 9, River Plantation MUD, the City of Panorama Village, and The Woodlands in Montgomery County. All return flows modeled by Region H as available for use under existing permits would have to be deducted from a Regional Return Flows permit.

As Montgomery County grows, return flows are expected to increase along with development and overall water use. In developing its Groundwater Reduction Plan (GRP), SJRA contractually retained the right to return flows related to surface water provided to its customers. The City of Conroe has also pursued indirect reuse opportunities and has applied for and received a permit for the groundwater-sourced portion of its effluent.

This project aims to capture, on a firm yield basis, return flows associated with current unpermitted wastewater discharges and future growth in the San Jacinto River Basin above Lake Houston.

Strategy Analyses

The project analyses for San Jacinto Basin Regional Return Flows include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Identification of potential return flows was aided by the existence of a Geographic Information System (GIS) layer of spatial location of projected population growth throughout Harris and Montgomery Counties used for the development of population projections at the census block level. This is a similar layer to the one used for the development of population and demand projections for the 2021 Region H Regional Water Plan (RWP) and the 2013 Regional Groundwater Update performed for Harris-Galveston Subsidence District (HGSD), Fort Bend Subsidence District (FBSD), and Lone Star Groundwater Conservation District (LSGCD). The project contributing area also includes portions of Grimes, San Jacinto, Liberty, Walker, and Waller Counties, for which Regional Planning population projections were available only at the county-basin-WUG (Water User Group) level. For WUGs in these counties, a ratio of project contributing area coverage to total WUG area was applied to Regional Planning population projections. Population projections at the most detailed level available were intersected with the Region H WUG spatial dataset and drainage sub-areas of the San Jacinto River Basin to determine estimated population in each section of the project contributing area. Intersected areas with a density less than a threshold of 0.75 persons per acre (a value determined in the development of the SJRA Raw Water Supply Master Plan based on records of on-site septic systems in the Lake Conroe watershed) were assumed to use on-site treatment and therefore not to generate return flows until the projected population density exceeded that threshold. Per-capita demand values were determined for each municipal WUG after application of Advanced Municipal Conservation and Water Loss Reduction strategies. In areas meeting or exceeding the population density threshold, populations were then multiplied by the post-conservation per-capita demand values to estimate projected water demand associated with the project area.

A return flow factor of 40 percent was applied to estimate effluent generated that could potentially be permitted. Although return flow ratios to demand are typically higher than 40 percent in many parts of the greater Houston area, the selected factor is similar to observed return flows from suburban growth north of Houston where most of the contributing demands for this project occur.

As noted previously, not all return flows generated within the project contributing area will be available to the project due to pre-existing reuse authorizations. Flows for existing reuse authorizations were deducted from the project availability estimate. An additional five percent loss factor was applied to account for channel losses. Return flow availability estimates are summarized by the drainage sub-area in which they are generated in *Table 2*. The project supply volume includes projected effluent originating from both surface water and groundwater-based supplies, the proportions of which will change over time. The project supply listed in *Table 2* reflects the highest level of supply available to the project; any additional constraints applied to an associated reuse permit could impact project yield.

Table 2 – Summary of Reuse Authorizations and Availability

	Permitted Amount	Flow Volume (ac ft/yr)					
		2020	2030	2040	2050	2060	2070
Post-Conservation Water Demand ^a		247,440	276,029	305,846	339,279	381,625	428,913
Total Return Flows		86,829	93,568	118,531	131,541	148,038	166,463
Availability Reductions ^b		25,941	28,801	32,965	36,803	41,480	46,790
<i>Huntsville</i>	2,240	2,240	2,240	2,240	2,240	2,240	2,240
<i>Montgomery County MUDs 8 and 9</i>	1,009	528	531	589	647	660	697
<i>City of Conroe / SJRA</i>	11,200	4,989	5,790	6,548	7,248	8,016	8,834
<i>River Plantation MUD</i>	307	252	261	307	307	307	307
<i>City of Panorama Village</i>	92	92	92	92	92	92	92
<i>COH Permit 5827 ^c</i>	12,770	4,839	4,862	4,937	5,027	5,147	5,147
<i>SJRA Permit 5809</i>	14,944	9,224	9,580	10,018	10,549	11,373	12,377
<i>The Woodlands</i>	310	310	310	310	310	310	310
<i>Municipal Non-Potable Reuse WMS ^d</i>		261	1,726	3,420	5,396	7,727	10,488
<i>Channel Losses ^e</i>		3,206	3,409	4,504	4,987	5,608	6,298
Maximum Project Supply		60,888	64,767	85,566	94,738	106,558	119,673

a. Projected demands after reductions based on recommended strategies: Advanced Municipal Conservation and Water Loss Reduction.

b. Availability reductions for existing authorizations reflect the anticipated effluent available to each permit up to the permitted amount.

c. Includes only the portion of WR 5827 that may be diverted at Lake Houston, which is the permitted discharge of the City of Houston's Kingwood West and Kingwood Central WWTPs as referenced in WR 5827.

d. Deductions applied to account for other recommended reuse water management strategies in the 2021 Region H RWP that utilize return flows generated in the project contributing area.

e. Estimated as five percent of effluent remaining after deducting existing authorizations.

Environmental Considerations

Environmental impacts of the project would be examined in detail during the TCEQ permitting process. The San Jacinto Basin is subject to environmental flow requirements, including those established in accordance with 30 TAC §298 which establishes seasonal requirements for flows. As the measurement points associated with 30 TAC §298 pulse flow requirements are located between the discharge locations and the diversion point, return flows associated with this project would be conveyed through the associated channels regardless of the project diversion and should therefore not reduce frequency of pulse flow target achievement. Furthermore, these flows should increase with population growth over time.

Diversions from the current level of return flows could potentially show some impacts below Lake Houston. A detailed environmental analysis would be performed during the permitting phase, with impacts dependent on permit terms. During the development of the 2016 Region H Regional Water

Plan, Region H examined the potential impacts of the Regional Return Flows project on bay and estuary inflows using the TCEQ Water Availability Models (WAMs). The WAMs were modified to include diversions of potential project supply from return flows at the estimated 2020 project supply level, which was similar to the estimated 2020 supply determined for the 2021 RWP. A worst-case analysis assuming full consumptive use of diverted return flows indicated that for most moisture conditions and seasons, impacts of the project would be limited and attainment of flow requirements under 30 TAC §298 would be achieved.

Since no construction or soil disturbance would occur, permitting and/or coordination with the U.S. Army Corps of Engineers and Texas Historical Commission would not be required. Also, no impacts to threatened or endangered species due to construction or soils disturbance are anticipated.

Permitting and Development

This project would require a water right permit from TCEQ to establish legal authorization over the source return flows. Due to the location-specific nature of reuse authorizations, exact permit requirements would be determined by TCEQ during the application review process. At a minimum the permit would, by the nature of its water right priority date, be subject to existing environmental flow requirements including those established in accordance with 30 TAC §298. However, a diversion point at Lake Houston would be downstream of environmental flow monitoring locations and thus unlikely to be impacted by these instream flow requirements. A permit would also be expected to include water conservation plan requirements as well as specified monitoring and reporting requirements.

Also, any permit granted would be limited in volume to the authorized discharge of source wastewater treatment plants (WWTPs). During development of the 2016 RWP, a query was performed on the Environmental Protection Agency (EPA) Integrated Compliance Information System (ICIS), which determined that 98,963 ac-ft/yr of existing wastewater discharge capacity had been permitted as of 2014 in the Lake Houston watershed below Lake Conroe. Facilities associated with existing reuse authorizations, as discussed previously, were excluded from this query. As such, the Regional Return Flows project could be initiated with this level of target permit volume. Later in the planning horizon, when anticipated available project supply exceeds this amount, a permit amendment would be required in order to capture additional availability.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects that will make use of the supply developed by this strategy.

Water Management Strategy Evaluation

Based on the analysis provided above, the San Jacinto Basin Regional Return Flows project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	This project provides a raw water supply though permit that would rely upon other infrastructure to perfect it as a source of supply.
Location	4	Conveyance may be performed through existing and potential future conveyances considered under separate projects.
Water Quality	3	Project takes advantage of existing and planned discharges in the San Jacinto basin and does not contribute additional wastewater flows.
Environmental Land and Habitat	5	No impacts from permit project.
Environmental Flows	2	Project will reduce the amount of flows returned to streams at a level to be determined through the permitting process.
Local Preference	3	No known opposition to the proposed project.
Institutional Constraints	3	Permit process must be initiated.
Development Timeline	5	Permit could be developed in a relatively short period of time.
Sponsorship	3	No stakeholders have yet come forward to support this project on a regional scale although potential stakeholders have implemented similar projects within the basin and region.
Vulnerability	5	Minimal risk to availability of supply.
Impacts on Other WMS	5	The project would provide substantial additional supply which could be utilized by other projects.

San Jacinto Basin Regional Return Flows are not anticipated to affect vulnerable species or agricultural land and production. This project may potentially reduce return flows to the San Jacinto River Basin by as much as 119,673 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of surface water from various basins. Additionally, this appropriation would be bound by the limits of instream and bay and estuary flow requirements in place for the San Jacinto River Basin.

Water User Group Application

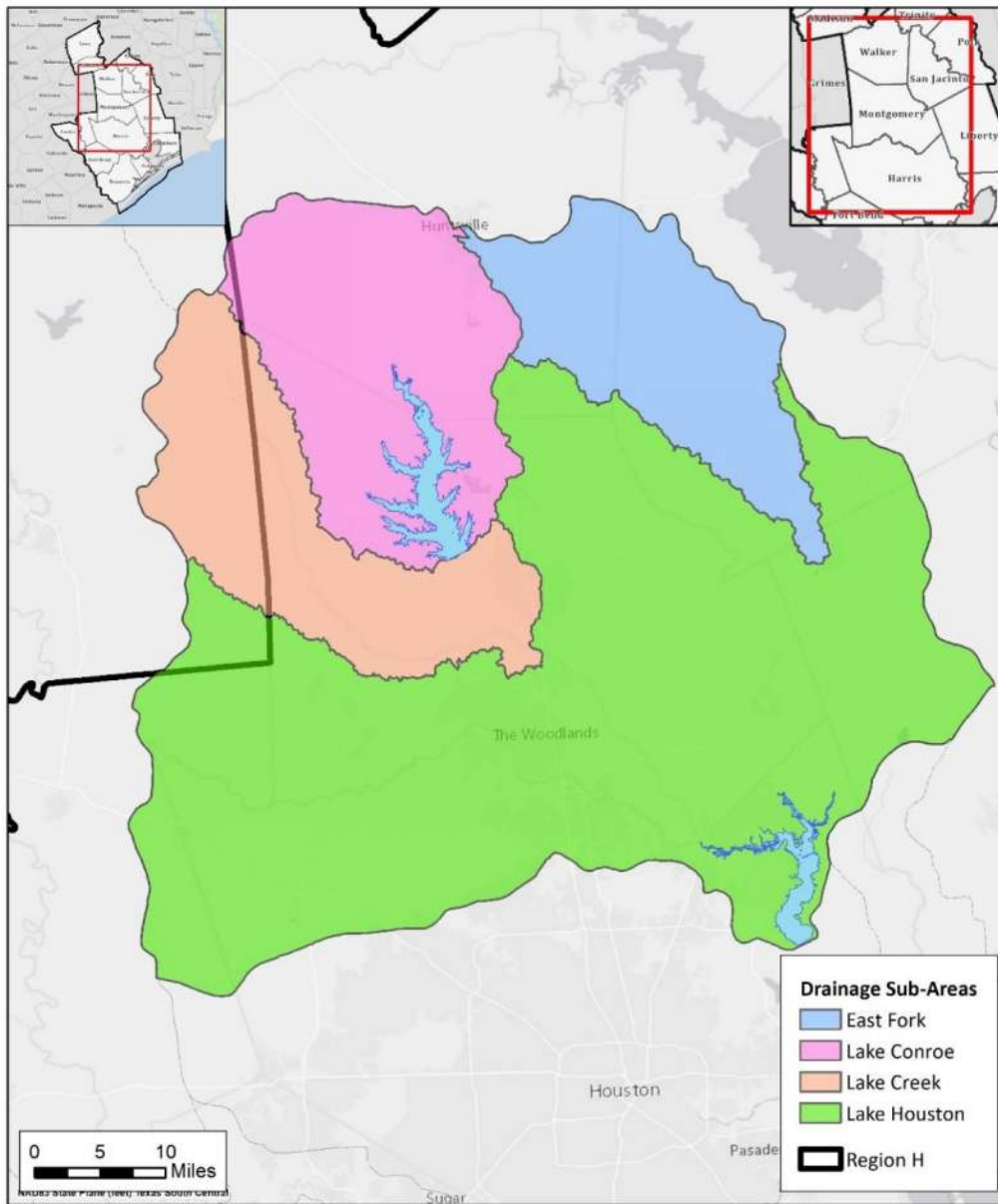
The San Jacinto Basin Regional Return Flows project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project potentially provides water to users in the vicinity of Lake Houston but also to COH customers served by the NEWPP and EWPP and SJRA customers served by the Highlands System. Conveyance to other customers will be considered under separate infrastructure projects.
Size	This project is easily scaled to meet needs of various sizes.
Water Quality	This project provides a raw water source that may be used to meet a number of demands in the basin including potable demands through existing and future treatment projects.
Unit Cost	The project is a low-cost project although other infrastructure projects would be required to fully utilize its potential.
Other Factors	There is potential for the availability of this source to increase over time.

References

- Texas Commission on Environmental Quality, Water Right Permit Number 3960, March 1986.
- Texas Commission on Environmental Quality, Water Right Permit Number 4964, February 1987.
- Texas Commission on Environmental Quality, Water Right Permit Number 4965, February 1987.
- Texas Commission on Environmental Quality, Water Right Permit Number 5807, December 2008.
- Texas Commission on Environmental Quality, Water Right Permit Number 5808, September 2009.
- Texas Commission on Environmental Quality, Water Right Permit Number 5809A, July 2012.
- Texas Commission on Environmental Quality, Water Right Permit Number 5827, May 2011.
- Texas Commission on Environmental Quality, Water Right Permit Number 12510, August 2017.
- Texas Commission on Environmental Quality, Water Right Permit Number 12754, August 2017.
- Texas Commission on Environmental Quality, Water Right Permit Number 12788, August 2018.

Location Map



Regional Return Flows Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Wastewater Reclamation for Industry
Project ID:	REUS-007
Project Type:	Reuse
Potential Supply Quantity (Rounded):	67,200 ac-ft/yr (60 mgd)
Implementation Decade:	2060
Development Timeline:	10 years
Project Capital Cost:	\$441,724,121 (Sept. 2018)
Unit Water Cost (Rounded):	\$990 per ac-ft (during loan period) \$527 per ac-ft (after loan period)

Strategy Description

The City of Houston (COH) holds Water Right Permit 5827 that allows the diversion and reuse of up to 580,923 ac-ft/yr in the San Jacinto River Basin or in the Trinity, Trinity-San Jacinto, and San Jacinto-Brazos basins through interbasin transfer. This permit relates to more than 30 individual wastewater treatment plant (WWTP) discharges located on the Houston Ship Channel, Greens Bayou, Buffalo Bayou, Cole Creek, Berry Bayou, Keegans Bayou, Brickhouse Gully, White Oak Bayou, Evans Gully, and Lake Houston. In an effort to protect and maintain freshwater inflows to Galveston Bay, the permit limits diversions to 50% of the volume discharged on a daily basis from each wastewater treatment plant.

In addition to other alternatives for reclaimed water use, this permit may also be used for service to industrial customers. One concept for service to industry has existed in the Region H Regional Water Plan (RWP) since the first plan in 2001. This approach considers using reclaimed wastewater effluent to replace existing surface water supplies that serve industrial demands for process and boiler feed waters. Under this project, municipal wastewater currently discharged to Buffalo Bayou will receive further treatment and will be offered as a high-quality water supply to industries. Reclaimed wastewater will be superior in quality to the raw water currently supplied, thus allowing industrial consumers to significantly reduce or eliminate their onsite water treatment costs. This project is applied within the industrial corridor of State Highway 225 and the Houston Ship Channel (San Jacinto Basin).

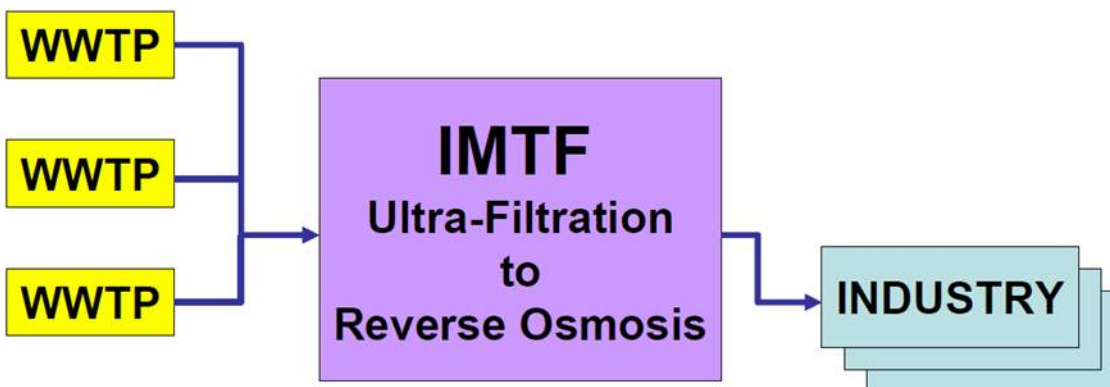
Strategy Analyses

The project analyses for Wastewater Reclamation for Industry include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Effluent from three of the City’s wastewater treatment plants (Sims North, Sims South, and 69th Street) would be utilized. Secondary effluent would be pumped to an Integrated Membrane Treatment Facility (IMTF) as shown in *Figure 1*. After treatment, the reclaimed water would be piped to the industrial users along the south side of the Houston Ship Channel corridor.

Figure 1 – Proposed Reuse Project



Environmental Considerations

Effluent currently being discharged to Buffalo Bayou, Sims Bayou, and the Houston Ship Channel would be diverted to the new IMTF. A discharge of brine concentrate from the IMTF into the Houston Ship Channel could affect water quality, although the proposed discharge would be into the dredged channel below the saline elevation. Reclaiming effluent will reduce the impacts of the current WWTP discharges. Less effluent will be discharged into the receiving stream. However, these issues were addressed during the permitting of WR 5827. Minimal impact to the terrestrial habitats and terrestrial organisms adjacent to these bayous is expected as a result of the reduction of wastewater treatment plant discharges.

Current levels of wastewater discharge by industries into the Houston Ship Channel would remain unchanged. There are no water rights on the Houston Ship Channel that would be negatively impacted by this project. This project will treat 83 mgd of effluent to produce 60 mgd of delivered high-quality water (the other 23 mgd being brine discharge). This will offset an existing raw water demand which is currently met from other City of Houston surface water sources in the Trinity and San Jacinto basins.

Permitting and Development

Water rights permitting for this project has already been accomplished under Water Right Permit 5827. The terms of this permit specify the diversion rates and other terms for utilization of this supply. It should be noted that, since the identified supply would be taken directly from the plants without entry into waters of the state, the instream flow targets for diversion are not applicable. However, the 50 percent provision for bay and estuary inflows would be applied and would serve to protect baseflows from wastewater plants contributing to Galveston Bay.

Cost Analysis

Estimated costs for the project are shown in *Table 1*. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. The costs presented in this memorandum do not include the purchase cost of water.

Table 1 – Wastewater Reclamation for Industry Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$273,460,000	\$273,460,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$93,215,000	\$93,215,000
3	LAND AND EASEMENTS	1	LS	\$9,691,000	\$9,691,000
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$8,810,000	\$8,810,000
5	INTEREST DURING CONSTRUCTION	1	LS	\$56,548,121	\$56,548,121
PROJECT CAPITAL COST					\$441,724,121

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$0	\$31,080,185	\$31,080,185
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$0	\$33,753,700	\$33,753,700
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$1,671,887	\$1,671,887
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$0	\$66,505,772	\$66,505,772

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$0	\$66,505,772	\$66,505,772
2	YIELD	-	-	-	-	67,200	67,200
3	UNIT COST	\$0	\$0	\$0	\$0	\$990	\$990
TOTAL UNIT COST						\$990	\$990

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$24,980,000	\$24,980,000
2	PIPELINES	1	LS	\$32,370,000	\$32,370,000
3	PIPELINE CROSSINGS	1	LS	\$17,550,000	\$17,550,000
4	WASTEWATER RECLAMATION PLANTS	1	LS	\$198,560,000	\$198,560,000
PROJECT COST					\$273,460,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$24,980,000	\$624,500
2	PIPELINES	1.0	%	\$32,370,000	\$323,700
3	PIPELINE CROSSINGS	1.0	%	\$17,550,000	\$175,500
4	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$32,630,000	\$32,630,000
ANNUAL OPERATION AND MAINTENANCE COST					\$33,753,700

This project has a unique cost dynamic. The industries will participate in this project only if it can be proven that their specific total water cost can be reduced. Reclamation saves an equivalent quantity of existing City of Houston Trinity River water supplies. The exact cost benefit of this project can only

be determined through negotiation of firm supply contracts with the industry customers.

Substitution of reclaimed wastewater would potentially increase the industries' cost of water. However, the reclaimed water could save the industries money since reclaimed water will require less treatment (and in many cases no additional treatment) after it is delivered to the industrial consumers. The use of reclaimed municipal wastewater may be an economical alternative to current supplies.

Water Management Strategy Evaluation

Based on the analysis provided above, the Wastewater Reclamation for Industry project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	High costs related to treatment of water prior to delivery. However, this may be offset through water rate for providing higher quality water to industry.
Location	4	Conveyance required for project implementation.
Water Quality	4	Proposed project would provide a higher quality water to industrial customers.
Environmental Land and Habitat	4	Majority of projects are to be constructed in already-developed areas or existing rights-of-way.
Environmental Flows	2	Project will reduce the level of flows returned to streams to a level planned for during permitting process.
Local Preference	3	Mixed support between COH and industrial stakeholders.
Institutional Constraints	3	Property acquisition required for project development.
Development Timeline	4	Project will require lead time to get stakeholders on board, develop final project concept, and design and construct the project.
Sponsorship	3	COH requires support from industrial stakeholders in order to push the project forward.
Vulnerability	4	Potential impacts related to damage to critical infrastructure.
Impacts on Other WMS	2	This project competes with water that may be utilized by the COH Reuse project.

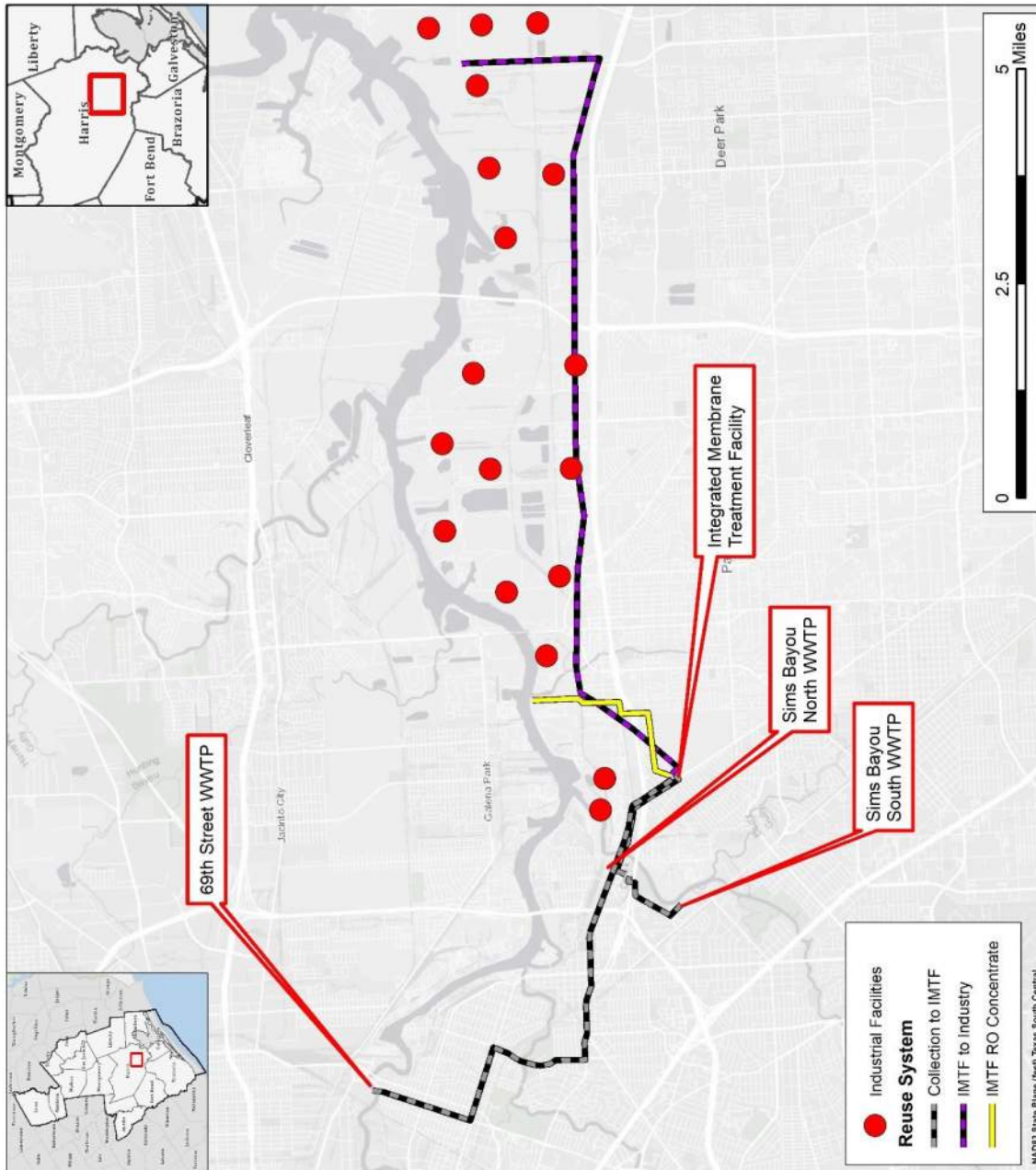
The Wastewater Reclamation for Industry concept includes up to 22 miles of pipelines for collection of effluent and distribution to industries. The majority of this development will be in urbanized areas with limited impacts to habitat such as existing industrial facilities. The project may potentially reduce return flows to the Houston Ship Channel by as much as 67,200 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of surface water from other basins. These diversions are already permitted for consumptive use under the City of Houston's Water Right 5827 which accounts for environmental flows. Wastewater Reclamation for Industry is not anticipated to impact agricultural land or production.

Water User Group Application

The Wastewater Reclamation for Industry project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is intended to serve customers along the Houston Ship Channel.
Size	The capacity of this project is intended to serve a portion of water demands by industry and may allow for reapplication of their current raw water supplies to other users.
Water Quality	This project provides treated but non-potable water for industrial use. This represents an improvement over the raw water currently sold to the target industries and may reduce their treatment burden.
Unit Cost	This high unit cost may be offset by reduced needs for treatment. However, the cost makes this water suitable only for industrial purposes.
Other Factors	The reliability of this supply is potentially higher than the current raw water supplies that may be curtailed by drought conditions, making it more attractive to industry.

Location Map



Wastewater Reclamation for Industry Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Wastewater Reclamation for Municipal Irrigation
Project ID:	REUS-008
Project Type:	Reuse
Potential Supply Quantity (Rounded):	3,792 – 19,776 ac-ft/yr (3.4 – 17.6 mgd)
Implementation Decade:	2030
Development Timeline:	1 – 3 years
Project Capital Cost:	\$181,028,437 (Sept. 2018)
Unit Water Cost (Rounded):	Varies by WUG

Strategy Description

Population growth in Region H over recent decades has included the development of a large number of master-planned communities (MPCs) near the urbanized areas in the region. A number of these communities have adopted direct wastewater reuse technology to assist in meeting water demands from golf courses and greenspace. Wastewater reuse for municipal irrigation of golf courses and maintenance of green spaces and amenity ponds in new MPCs provides a potential means of utilizing reclaimed supplies. With growth expected to increase by several million people in the Houston metropolitan area over the next 50 years, it can be expected that new master-planned communities will be developed in many of the urbanizing areas within Brazoria, Fort Bend, Harris, and Montgomery Counties, and this growth will also provide possible candidates for reclaimed wastewater.

Strategy Analyses

The project analyses for Wastewater Reclamation for Municipal Irrigation include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

This study examined the potential for development of direct wastewater reuse supplies to meet municipal irrigation water demands in Brazoria, Fort Bend, Harris, and Montgomery Counties. Population growth in future MPCs was identified as the most likely candidate for using this project. Future MPCs are assumed to represent a portion of the growth within County-Other water user groups (WUGs) in the region. There is additional potential for MPC development within the boundaries of the regional water authorities in Region H, including the North Harris County Regional Water Authority (NHCRWA), West Harris County Regional Water Authority (WHCRWA), Central Harris County Regional Water Authority (CHCRWA), and North Fort Bend Water Authority (NFBWA) WUGs.

Potential growth within MPCs was analyzed through a Geographic Information System (GIS) analysis of the portion of estimated recent growth associated with existing MPCs. Detailed block-level population estimates from the Harris-Galveston Subsidence District Regional Groundwater Update were overlaid with boundaries for known existing and in-development MPCs provided by the Fort Bend Economic Development Council. The results of this analysis indicated that approximately 45.4 percent of projected year 2010 – 2020 population growth in Fort Bend County is associated with MPCs. This value, which is substantially higher than the estimate of 25.64 percent MPC development estimated for prior Region H RWPs, reflects an increasing prevalence of MPC development over recent years. Since Fort Bend County leads the state in the number of MPCs, it was assumed that a value of approximately 45.4 percent would be representative of the growing trend toward master-planned development within Region H. This percentage was then applied to the total population growth in County-Other and regional water authority WUGs within the growing suburban areas of Region H to determine the population that would be expected to occur in MPCs.

In previous RWP cycles, golf courses predicted for future development within Region H MPCs were considered as a potential demand center for utilization of direct reuse supplies. Due to gradual changes in land use patterns in the Region, this assumption was reassessed for the 2021 RWP. An examination of location, size, and development period data for golf courses within Fort Bend County indicates that development of new golf course facilities has been extremely limited over the past 20 years. Therefore, potential golf course demand was not included in the analysis of wastewater reclamation for municipal irrigation for the 2021 RWP.

For the 2006 RWP, the acreage of green space areas projected to accompany future development was estimated from GIS data for Cinco Ranch and Greatwood MPCs in Fort Bend County. The area of irrigated esplanades and parks was compared to the total population of each development at ultimate development to find the average per-capita acreage of green space for the two communities. For the 2021 RWP, MPC total acreage and green space data from the Fort Bend Economic Development Council was examined in conjunction with detailed population projection data to identify potential changes in per-capita green space development. The results of this analysis indicate that per-capita green space development in MPCs has increased approximately sevenfold from the results of the 2006 RWP. However, recent land use trends include a focus on natural areas including forested parks and stands of native vegetation in addition to more traditional irrigated green space. Therefore, the green space acreage per-capita rate from previous RWPs was retained for this project. This per-capita rate was applied to the percentage of County-Other growth expected within MPCs to determine the projected green space acreage for each county through 2070.

Irrigation demands for the expected green space acreage were determined from evapotranspiration and precipitation data obtained from the Texas Water Development Board (TWDB) using a method adapted from Richard Duble of Texas Cooperative Extension. This methodology yielded the ideal average annual application rate for turfgrass irrigation and was used with the projected acreage found above to determine the projected irrigation water demands for green spaces throughout the planning period. This value for the ideal application rate was determined for the 2006 RWP and is retained for this planning round.

Water demands from amenity lakes associated with population growth in MPCs were estimated from well data from the Fort Bend Subsidence District. Wells that were associated with amenity lakes and were located within named WUGs were identified. The population associated with these WUGs, as reported by TWDB, was compared to the annual pumpage for the wells to determine a per-capita amenity lake demand. This per-capita demand was then applied to the portion of population growth

within County-Other that was expected to occur within MPCs. This value for per-capita amenity lake demand was determined for the 2006 RWP and is retained for this planning round.

The projected demands for reclaimed wastewater in each county are shown below in *Table 1*.

Table 1 – Projected Potential Demands for Reclaimed Wastewater

County	Potential Reuse Application	Wastewater Reuse Demands (ac ft/yr)				
		2030	2040	2050	2060	2070
Brazoria	Green Spaces	147	289	448	623	816
	Amenity Lakes	167	326	507	705	924
	Total	314	615	955	1,328	1,740
Fort Bend	Green Spaces	712	1,138	1,645	2,180	2,763
	Amenity Lakes	808	1,291	1,864	2,469	3,129
	Total	1,520	2,429	3,509	4,649	5,892
Harris	Green Spaces	485	888	1,243	1,563	1,865
	Amenity Lakes	548	1,006	1,408	1,770	2,111
	Total	1,033	1,894	2,651	3,333	3,976
Montgomery	Green Spaces	434	1,011	1,748	2,681	3,830
	Amenity Lakes	491	1,146	1,980	3,037	4,338
	Total	925	2,157	3,728	5,718	8,168
Total Potential Reuse Demands		3,792	7,095	10,843	15,028	19,776

The amount of wastewater that could potentially be reclaimed for non-potable uses is subject to both the potential demands for and the supply of treated wastewater. Because wastewater treatment plant discharge is often lowest during summer months when irrigation demands are at their highest, it is important to apply conservative assumptions in evaluating potential source availability for non-potable reuse for irrigation. Decadal per-capita demands for the target WUGs were adjusted to reflect the impacts of recommended advanced municipal conservation and water loss reduction water management strategies. A conservative return flow factor of 40 percent based on analyses from the 2016 RWP was then applied to County-Other and regional water authority adjusted demand projections to generate a decadal estimate of available effluent for direct non-potable reuse. Resultant post-conservation wastewater discharge rates for the target WUGs ranged from 28.9 to 77.6 gallons per capita per day. Estimated available effluent from this analysis is intended to be exclusive of return flows utilized in other potential reuse projects in the 2021 RWP. Based on the above methodology, the projected availability of reclaimed wastewater throughout the planning period within each county is shown in *Table 2*.

Table 2 – Projected Potential Supplies for Reclaimed Wastewater

County	Wastewater Reuse Supply (ac ft/yr)				
	2030	2040	2050	2060	2070
Brazoria	944	1,778	2,707	3,719	4,851
Fort Bend	5,773	9,308	12,794	16,067	19,441
Harris	3,013	5,292	7,222	8,947	10,602
Montgomery	2,234	5,023	8,556	12,995	18,457
Total Potential Reuse Supplies	11,964	21,401	31,279	41,728	53,351

As noted previously, application of this project is limited not only by the available supply but by the potential demands. Therefore, the potential reclaimed water supply for irrigation in a given county and decade would be the lesser of the available effluent supply (*Table 2*) and the demand for that effluent (*Table 1*). The resultant usable project supply volume is shown in *Table 3*.

Table 3 – Projected Useable Reclaimed Wastewater Supply

County	Wastewater Reuse Supply (ac ft/yr)				
	2030	2040	2050	2060	2070
Brazoria	314	615	955	1,328	1,740
Fort Bend	1,520	2,429	3,509	4,649	5,892
Harris	1,033	1,894	2,651	3,333	3,976
Montgomery	925	2,157	3,728	5,718	8,168
Total Usable Reuse Supplies	3,792	7,095	10,843	15,028	19,776

Environmental Considerations

Because the supply source for this project is based on return flow from future growth rather than existing development, this project would not be expected to reduce instream flows below current levels.

Infrastructure required for implementation of this project would consist primarily of reclamation facilities located at MPC wastewater treatment plants and conveyance infrastructure to connect to points of use. Because wastewater reclamation infrastructure would presumably be constructed concurrently with other community water and wastewater facilities, proper planning would minimize habitat impacts beyond those inherently associated with MPC development.

Permitting and Development

Construction of direct wastewater reuse facilities as part of overall MPC development would likely allow for a simplified construction permitting process relative to retrofitting direct reuse components into a preexisting system. At a minimum, MPC construction would require a Stormwater Pollution Prevention Plan (SWPPP) and a TCEQ Construction General Permit (TXR 150000).

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

A preliminary planning level cost estimate was prepared for the Wastewater Reclamation for Municipal Irrigation project using default costing methods for regional plan development. Costs were developed based on basic costing guidelines as outlined by TWDB guidance. For purposes of this assessment, it was assumed that each WWTP within the participating MPCs would have an average production based on the decadal increase of potential reuse demand volumes in each WUG and would

require one mile of pipeline to reach points of use. Because the project is not implemented completely within one decade but rather increases in volume over time as more MPCs implement direct reuse, cost estimates developed for the project reflect incremental development of infrastructure and supply capacity. For this reason, annualized costs vary across the planning period as some users retire debt service and others begin project development. While overall annual costs increase across the planning period, unit costs decrease as more project supply volume is added with development of new MPCs. *Table 4* summarizes the component costs of key facilities. Costs are presented in September 2018 dollars.

Table 4 – Wastewater Reclamation for Municipal Irrigation Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$125,119,474	\$125,119,474
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$43,461,625.34	\$43,461,625
3	LAND AND EASEMENTS	1	LS	\$347,818.58	\$347,819
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,532,034.25	\$2,532,034
5	INTEREST DURING CONSTRUCTION	1	LS	\$9,567,484.47	\$9,567,484
PROJECT CAPITAL COST					\$181,028,437

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$2,587,075	\$5,046,515	\$4,928,280	\$5,043,792	\$5,222,001
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$2,308,739	\$4,604,574	\$6,948,262	\$9,474,596	\$12,161,840
3	PUMPING ENERGY COSTS	\$0	\$63,756	\$119,150	\$182,383	\$252,409	\$333,933
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$4,959,570	\$9,770,239	\$12,058,925	\$14,770,797	\$17,717,774

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$4,959,570	\$9,770,239	\$12,058,925	\$14,770,797	\$17,717,773
2	YIELD	-	3,792	7,095	10,843	15,028	19,776
3	UNIT COST	\$0	\$1,308	\$1,377	\$1,112	\$983	\$896
TOTAL UNIT COST							\$1,049

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$30,976,783	\$30,976,783
2	PIPELINES	1	LS	\$6,603,813	\$6,603,813
3	WATER STORAGE TANKS	1	LS	\$35,805,621	\$35,805,621
4	WASTEWATER RECLAMATION PLANTS	1	LS	\$51,733,257	\$51,733,257
PROJECT COST					\$125,119,474

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$30,976,783	\$774,420
2	PIPELINES	1.0	%	\$6,603,813	\$66,038
3	WATER STORAGE TANKS	1.0	%	\$35,805,621	\$358,056
4	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$10,963,326	\$10,963,326
ANNUAL OPERATION AND MAINTENANCE COST					\$12,161,840

Water Management Strategy Evaluation

Based on the analysis provided above, the Wastewater Reclamation for Municipal Irrigation project was evaluated across eleven different criteria for the purpose of quick comparison against alternative projects that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Project cost is relatively high but potentially reduces development of other costly water supplies for municipal irrigation.
Location	5	Direct reuse infrastructure would be located in close proximity to points of water use.
Water Quality	3	No known impacts to water quality. The project is expected to produce Type 1 effluent suitable for the intended use.
Environmental Land and Habitat	5	Impacts from project are unlikely to exceed regular land development impacts for master planned communities.
Environmental Flows	2	Project will reduce the level of flows returned to streams.
Local Preference	3	No known opposition to the proposed project.
Institutional Constraints	3	Permits expected to be obtainable with minimal problems.
Development Timeline	5	Project could be developed in a relatively short period of time.
Sponsorship	3	Various stakeholders, many of which are not identified as named WUGs in the RWP, have implemented similar projects and this trend is expected to continue.
Vulnerability	5	Minimal risk to availability of supply.
Impacts on Other WMS	3	The project would be developed in such a way to prevent detrimental impacts to other projects under development.

Wastewater Reclamation for Municipal Irrigation is not anticipated to affect acreage or vulnerable species, but actual impacts will depend upon local development of each potential project. The projects may potentially reduce return flows to various basins by as much as 19,776 ac-ft/yr. However, this reduction in return flows may also correlate to a reduction in diversions of surface water from other basins. Wastewater Reclamation for Municipal Irrigation is not anticipated to impact agricultural land or production.

Water User Group Application

The Wastewater Reclamation for Municipal Irrigation project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the project as well as other factors that may relate to the suitability of the project to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	This project provides water to new MPC developments (County-Other and regional water authority WUGs) in Brazoria, Fort Bend, Harris, and Montgomery Counties.
Size	This project is easily scaled with the size of the implementing MPCs.
	This project provides a high-quality raw water source that may be used to meet greenspace and amenity pond water demands.
Unit Cost	This project is of relatively high cost but potentially reduces demand for development of expensive new supplies for amenity use. Unit costs for individual MPCs will decrease substantially after closure of debt service.
Other Factors	This project provides water to new MPC developments (County-Other and regional water authority WUGs) in Brazoria, Fort Bend, Harris, and Montgomery Counties.

References

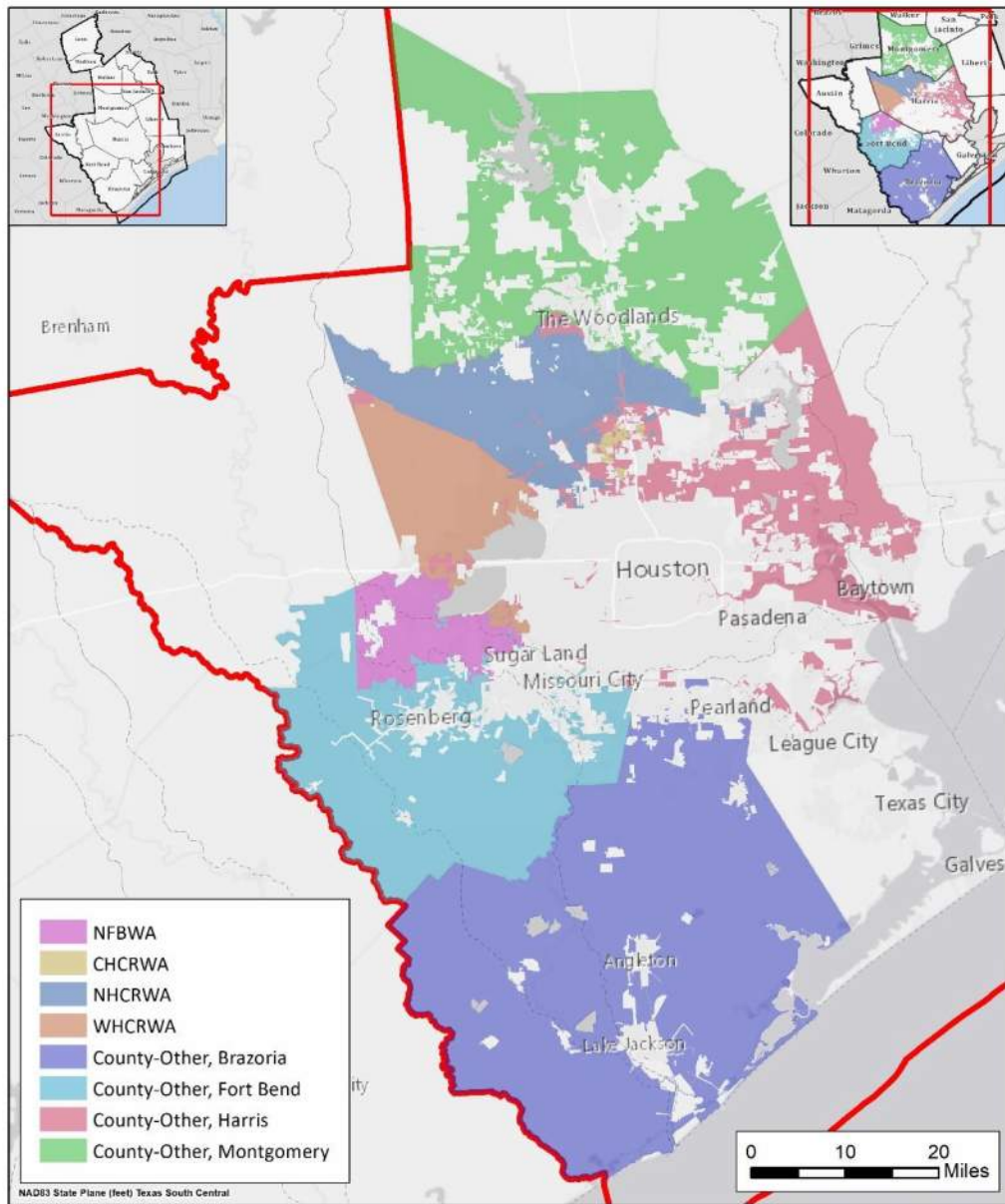
Fort Bend County Economic Development Council - Business Resources & County Data.
www.fortbendcounty.com/resources/#maps. Accessed 10 May 2019.

Texas Commission on Environmental Quality, https://www.tceq.texas.gov/assistance/water/reclaimed_water.html, Accessed May 23, 2019.

Texas Parks and Wildlife, https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/, Accessed May 16, 2019.

Texas Parks and Wildlife, <https://tpwd.texas.gov/gis/rtest/>, Accessed April 8, 2019.

Location Map



Wastewater Reclamation for Municipal Irrigation Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Westwood Shores MUD Reuse
Project ID:	REUS-009
Project Type:	Reuse
Potential Supply Quantity (Rounded):	150 ac-ft/yr (0.13 mgd)
Implementation Decade:	2020
Development Timeline:	<5 years
Project Capital Cost:	\$2,031,251 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,921 per ac-ft (during loan period) \$968 per ac-ft (after loan period)

Strategy Description

Westwood Shores Municipal Utility District (MUD) is a water and wastewater utility provider located adjacent to Lake Livingston in Trinity County. Currently, irrigation for the Westwood Shores Golf Course, operated by the Westwood Shores Property Owners Association (POA) is supplied by up to 155 ac-ft/yr of raw water diverted from Lake Livingston to Westwood Lake. Westwood Shores MUD has proposed a reuse project to replace some of the raw water diversions with up to 150 ac-ft/yr of reclaimed water from the MUD's wastewater treatment plant (WWTP).

Strategy Analyses

The project analyses for Westwood Shores MUD Reuse include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Westwood Shores MUD anticipates providing 150 ac-ft/yr of reclaimed water for golf course irrigation.

Environmental Considerations

The reuse of effluent is intended to directly replace raw water diversions from Lake Livingston. Because the WWTP discharges into Lake Livingston near the intake point for current raw water diversions, no impact on streamflow is expected.

Permitting and Development

Use of reclaimed wastewater effluent requires approval and permitting by the TCEQ under the

requirements of 30 TAC §210. TCEQ classifies reclaimed water as Type 1 (higher quality for use where public contact is likely) or Type 2 (for uses with limited risk of human contact). Due to the potential for human contact, supplies for this project would have to be treated to Type 1 quality standards. If approved for use, the reclaimed water would have to be sampled and analyzed a minimum of twice per week.

Cost Analysis

An estimate of the project capital cost is available in the Clean Water State Revolving Fund Intended Use Plan for State Fiscal Year 2020. This cost was assumed to include all capital cost components except for interest during construction, including costs associated with construction, land acquisition, easements, and environmental studies and mitigation. It is anticipated that the project will include enhancements to the WWTP, a reuse pump station, and minor conveyance infrastructure. The cost of interest during construction and annualized costs of debt service, operation and maintenance, and pumping energy were estimated using standard regional planning assumptions. Estimated costs are presented in September 2018 dollars in *Table 1*.

Table 1 – Westwood Shores MUD Reuse Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$1,923,898	\$1,923,898
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$0	\$0
3	LAND AND EASEMENTS	1	LS	\$0	\$0
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0
5	INTEREST DURING CONSTRUCTION	1	LS	\$107,353	\$107,353
PROJECT CAPITAL COST					\$2,031,251

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$142,921	\$142,921	\$0	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$144,690	\$144,690	\$144,690	\$144,690	\$144,690	\$144,690
3	PUMPING ENERGY COSTS	\$523	\$523	\$523	\$523	\$523	\$523
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$288,134	\$288,134	\$145,213	\$145,213	\$145,213	\$145,213

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$288,134	\$288,134	\$145,213	\$145,213	\$145,213	\$145,213
2	YIELD	150	150	150	150	150	150
3	UNIT COST	\$1,921	\$1,921	\$968	\$968	\$968	\$968
TOTAL UNIT COST		\$1,286					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	WASTEWATER RECLAMATION PLANTS	1	LS	\$1,923,898	\$1,923,898
PROJECT COST					\$1,923,898

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	WASTEWATER RECLAMATION PLANTS	1.0	LS	\$144,690	\$144,690
ANNUAL OPERATION AND MAINTENANCE COST					\$144,690

Water Management Strategy Evaluation

Based on the analysis provided above, the Westwood Shores MUD Reuse project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Cost is high but decreases after completion of debt service.
Location	5	Reclaimed water source is located very near to point of use.
Water Quality	3	The project is expected to produce Type 1 effluent suitable for the intended use.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	3	No impacts anticipated.
Local Preference	3	No known opposition to the proposed project.
Institutional Constraints	3	Permits expected with minimal problems.
Development Timeline	5	Project could be developed in a relatively short period of time.
Sponsorship	5	Sponsor is identified and has applied for project funding.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

Westwood Shores MUD Reuse is not anticipated to affect vulnerable species or to impact agricultural land or production.

Water User Group Application

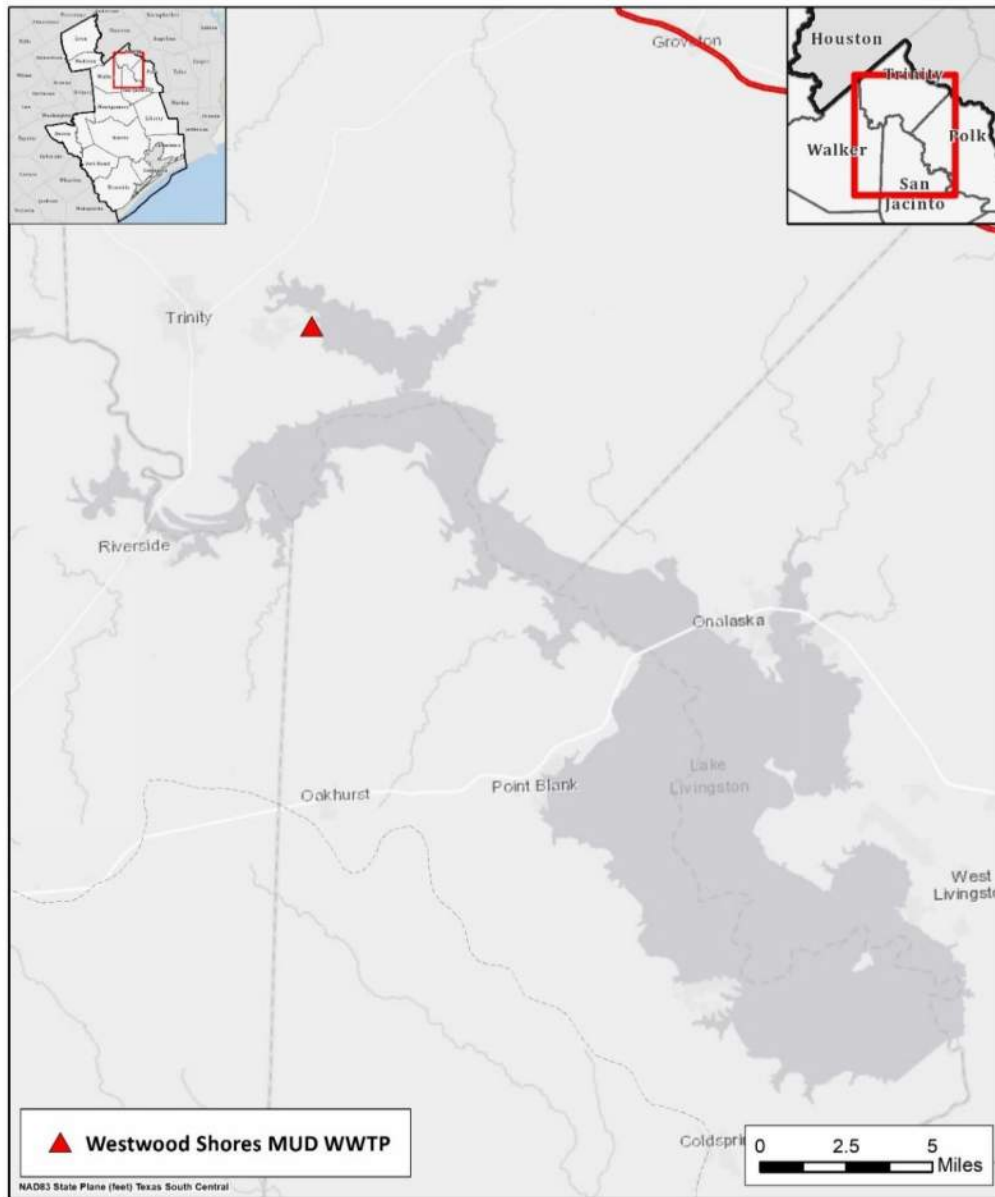
The Westwood Shores MUD Reuse project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve Westwood Shores MUD.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Overall project supply volume is appropriate to the intended use.
Water Quality	The project is expected to produce Type 1 effluent suitable for the intended use.
Unit Cost	Cost is high but decreases after completion of debt service.
Other Factors	Implementation of supply from this project requires permitting through TCEQ.

References

Texas Water Development Board. *Intended Use Plan: Clean Water State Revolving Fund, SFY 2020*, July 2019.

Location Map



Westwood Shores MUD Reuse Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Allens Creek Reservoir
Project ID:	SWDV-001
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	99,650 ac-ft/yr (89 mgd)
Implementation Decade:	2040
Development Timeline:	15 years
Project Capital Cost:	\$365,446,301 (Sept. 2018)
Unit Water Cost (Rounded):	\$211 per ac-ft (during loan period) \$39 per ac-ft (after loan period)

Strategy Description

The Allens Creek Reservoir site is located on Allens Creek, a tributary to the Brazos River in Austin County, one mile north of the City of Wallis. The site was originally permitted by Houston Lighting and Power as a cooling water reservoir for a proposed nuclear power plant. The site was later jointly purchased by the Brazos River Authority (BRA) and the City of Houston (COH).

A water right is granted to the development of Allens Creek Reservoir through permit 2925A granted January 16, 2002 which was amended from the original right of 2925 granted February 2, 2000. This amendment provided for the ownership of the reservoir among COH, BRA, and the Texas Water Development Board (TWDB) that provided funding for the original purchase of the site. The amended permit is a mixed-use permit for municipal, industrial, irrigation, and recreational purposes. The water is permitted for inter-basin transfer to the San Jacinto and San Jacinto-Brazos basins.

The yield of Allens Creek Reservoir was developed through an analysis of flow conditions in the Brazos River Basin along with storage characteristics for the reservoir site. The impoundment is described by permit as being of a capacity not to exceed 145,533 acre-feet at a maximum water surface elevation of 121.0 feet above mean sea level (msl). This reservoir may be filled annually by a volume not to exceed 202,000 acre-feet from the Brazos River resulting in a yield of 99,650 acre-feet per year (approximately 89 MGD) for municipal, industrial, and irrigation purposes. This value was developed in prior studies and does not incorporate impacts from other potential projects or subsequent environmental flow standards. The priority for impoundment and use of water under permit 2925A is September 1, 1999. Seventy percent of the permit (69,750 acre-feet per year) is owned by COH and 30 percent of the permit (29,900 acre-feet per year) is owned by the BRA. The maximum dam height is 53 feet, and the conservation storage is approximately 145,500 acre-feet at an elevation of 121.0 feet msl.

Despite a preliminary ruling of yield for the permit, it was also decided that, once instream flow standards were developed to be applied to the project, these would be retroactively applied to the permit and may result in the revision of the permit yield by up to a 6.4% (approximately 6,378 acre-

feet per year) increase or decrease. In effect, the actual yield of the project may vary between approximately 93,272 and 106,028 acre-feet per year. On August 31, 2012, the Brazos River Basin and Bay Stakeholder Committee (BBASC) submitted an environmental flow regime recommendations report for the basin which would serve as a factor in determining the final yield to be applied to the Allens Creek project.

The yield of Allens Creek Reservoir is primarily produced by the storage of flows diverted from the main stem of the Brazos River. Permit 2925A allows for the construction of one or two pump stations on the river. The maximum combined diversion rate permitted from both of these diversion points is 2,200 cubic feet per second (cfs) or approximately 1,400 million gallons per day (MGD). However, the likely scenario is for the construction of only one pump station to provide for filling of the reservoir. Diversions around the perimeter of the reservoir may be made at a rate of 300 cfs (approximately 190 MGD) while the reservoir outlet works may be used to pass water downstream at a maximum rate of 700 cfs (approximately 450 MGD).

The original issuance of water right permit 2925A included a mandatory date of September 1, 2018 by which construction shall commence with completion of the reservoir within three years following that date. In 2011, the 82nd Legislature adopted Senate Bill 1132 (SB1132) to amend the deadline to September 1, 2025 and this has since been incorporated into a reissued permit for 2925A.

Strategy Analyses

The project analyses for the Allens Creek Reservoir include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The supply from Allens Creek Reservoir is specified in its permit issued by the Texas Commission on Environmental Quality (TCEQ). Additional yield capacity may be available through combined operation with other system reservoirs. This additional yield would be considered in the context of Water Use Permit 12-5851, commonly referred to as the Brazos River Authority (BRA) System Operation Permit. The BRA System Operation Permit authorizes the diversion of additional water supply from existing and future reservoirs and BRA water rights, with the permitted yield generated through operation of reservoir facilities as a coordinated system.

TWDB rules specify the use of an unmodified TCEQ Water Availability Model (WAM) Run 3 for evaluation of relevant water management strategy supply availability. The most recent available WAM Run 3 for the Brazos River Basin includes the Allens Creek Reservoir as one of the system impoundments associated with the BRA System Operation Permit. Due to the nature of the WAM code used to represent this permit, modeling of a stand-alone firm yield from the Allens Creek Reservoir cannot be performed in an unmodified version of the latest WAM Run 3. Evaluating the stand-alone firm diversion from the reservoir would require modifying the WAM Run 3 to remove the reservoir from the BRA System Operation Permit framework to perform the firm diversion analysis. For this reason, the firm yield for the Allens Creek Reservoir reported in the 2021 RWP was based upon the results of modeling from prior RWP cycles utilizing the unmodified WAM Run 3, which indicated a modeled firm diversion of the full permitted amount of 99,650 ac-ft per year. The reliability of the permitted diversion is further supported by modeling analyses performed during the TCEQ permitting process for Water Use Permit 12-5851.

Environmental Considerations

Investigation has been performed into the nature of the permitting required for the development of the project. The general nature and size/scope of the Allens Creek Reservoir project necessitates several environmental permitting considerations. *Table 1* lists the threatened and endangered species of Austin County as well as other species of concern.

Table 1 – Rare, Threatened, and Endangered Species of Austin County

AMPHIBIANS		FEDERAL STATUS	STATE STATUS
Cajun chorus frog	<i>Pseudacris fouquettei</i>		
Houston toad	<i>Anaxyrus houstonensis</i>	LE	E
Southern crawfish frog	<i>Lithobates areolatus areolatus</i>		
Strecker's chorus frog	<i>Pseudacris streckeri</i>		
Woodhouse's toad	<i>Anaxyrus woodhousii</i>		

BIRDS		FEDERAL STATUS	STATE STATUS
Attwater's greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	LE	E
Bald eagle	<i>Haliaeetus leucocephalus</i>		
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Franklin's gull	<i>Leucophaeus pipixcan</i>		
Interior least tern	<i>Sternula antillarum athalassos</i>	LE	E
Piping plover	<i>Charadrius melodus</i>	LT	T
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
Western burrowing owl	<i>Athene cunicularia hypugaea</i>		
White-faced ibis	<i>Plegadis chihi</i>		T
White-tailed hawk	<i>Buteo albicaudatus</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Blackspot shiner	<i>Notropis atrocaudalis</i>		
Sharpnose shiner	<i>Notropis oxyrhynchus</i>	LE	E
Silver chub	<i>Macrhybopsis storeriana</i>		
Silverband shiner	<i>Notropis shumardi</i>		

INSECTS		FEDERAL STATUS	STATE STATUS
American bumblebee	<i>Bombus pensylvanicus</i>		
[No accepted common name]	<i>Sparbarus couchatta</i>		
[No accepted common name]	<i>Plauditus texanus</i>		
A mayfly	<i>Pseudocentropiloides morihari</i>		

MAMMALS		FEDERAL STATUS	STATE STATUS
American badger	<i>Taxidea taxus</i>		
Big brown bat	<i>Eptesicus fuscus</i>		
Big free-tailed bat	<i>Nyctinomops macrotis</i>		
Eastern red bat	<i>Lasiurus borealis</i>		
Eastern spotted skunk	<i>Spilogale putorius</i>		
Hoary bat	<i>Lasiurus cinereus</i>		
Long-tailed weasel	<i>Mustela frenata</i>		
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>		
Mink	<i>Neovison vison</i>		
Mountain lion	<i>Puma concolor</i>		
Plains spotted skunk	<i>Spilogale putorius interrupta</i>		
Southern short-tailed shrew	<i>Blarina carolinensis</i>		
Swamp rabbit	<i>Sylvilagus aquaticus</i>		
Thirteen-lined ground squirrel	<i>Ictidomys tridecemlineatus</i>		
Tricolored bat	<i>Perimyotis subflavus</i>		
Western hog-nosed skunk	<i>Conepatus leuconotus</i>		

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Brazos heelsplitter	<i>Potamilus streckeri</i>		T
Texas fawnsfoot	<i>Truncilla macrodon</i>	C	T

REPTILES		FEDERAL STATUS	STATE STATUS
Common garter snake	<i>Thamnophis sirtalis</i>		
Eastern box turtle	<i>Terrapene carolina</i>		
Slender glass lizard	<i>Ophisaurus attenuatus</i>		
Smooth softshell	<i>Apalone mutica</i>		
Texas garter snake	<i>Thamnophis sirtalis annectens</i>		
Texas horned lizard	<i>Phrynosoma cornutum</i>		T
Texas map turtle	<i>Graptemys versa</i>		
Timber (canebrake) rattlesnake	<i>Crotalus horridus</i>		
Western box turtle	<i>Terrapene ornata</i>		
Western hognose snake	<i>Heterodon nasicus</i>		

PLANTS		FEDERAL STATUS	STATE STATUS
Florida pinkroot	<i>Spigelia texana</i>		
Heartleaf evening-primrose	<i>Oenothera cordata</i>		
Mohlenbrock's sedge	<i>Cyperus grayioides</i>		
Panicled indigobush	<i>Amorpha paniculata</i>		
Shinner's sunflower	<i>Helianthus occidentalis ssp. plantagineus</i>		
Texas meadow-rue	<i>Thalictrum texanum</i>		
Texas sandmint	<i>Rhododon ciliatus</i>		
Texas seymeria	<i>Seymeria texana</i>		
Texas sunnybell	<i>Schoenolirion wrightii</i>		
Texas tauschia	<i>Tauschia texana</i>		

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT - Federal Proposed for Listing; T - State Listed Endangered/Threatened; "blank" - Rare, but with no regulatory listing status.

Permitting and Development

A minimum 10-year schedule is estimated for environmental activities associated with the project. However, the schedule may be accelerated depending on coordination with regulating entities and the proposed project approach. Any approaches that result in favorable impacts to the overall permitting timeline could significantly influence the overall schedule for development of the project.

Based on preliminary desktop investigation, the following environmental permits and permitting activities are likely to apply:

- U.S. Army Corps of Engineers (USACE) Section 404 Permit – Reservoir development will involve modifications to waters of the U.S. As such, the project must be federally permitted under Section 404 of the Clean Water Act. Due to the magnitude of impacts, construction of this reservoir would require a Section 404 Individual Permit.
- National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) – An EIS will likely be required as part of the Section 404 Permitting process.
- Cultural Resources Survey and National Register of Historic Places (NRHP) Testing – As part of the Section 404 Permit processing and EIS development, cultural resources surveys and NRHP testing will likely need to be completed.
- Mitigation Plan – A mitigation plan will be required as part of the Section 404 Permit. Mitigation will most likely involve purchase of mitigation bank credits or construction of mitigation sites to offset impacts to waters of the U.S. Due to substantial impacts to wetlands and other waters of the U.S., mitigation credits may be limited and mitigation may require permittee-responsible mitigation.
- U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) Ancillary Studies – USFWS and TPWD are stakeholders in the Section 404 Permitting process, and, as such, they will require ancillary studies to be completed. These studies will include surveys for federal threatened and endangered species and habitat modeling to assess

impacts of the proposed project.

- Constructing the dam to form the Allens Creek Reservoir will remove a large portion of the Brazos River floodplain from flood storage. This will, in turn, have an effect on flood elevations upstream and downstream from the facility. The reduction of floodplain storage will likely require the establishment of flood storage capacity in the project vicinity to offset this loss.

Commencing near the end of the permitting phase, design and construction periods of 2.5 to 3.5 years are anticipated to bring the project to completion at the end of an overall 15-year development period.

Cost Analysis

A detailed update to the reservoir cost estimate, including new costs for the impoundment, pump station, and conveyance facilities, was prepared for the 2016 RWP. In the 2021 RWP, costs for these infrastructure elements, as well as the reservoir, were developed based on updated information from a combination of recent projects by Freese and Nichols, Inc. and other cost scaling based on the Engineering News Record (ENR) Construction Cost Index (CCI) and the Producer Price Index (PPI). Quantities of embankment fill, slurry trench, and soil cement were updated from the original estimates. Estimates for erosion protection along the Brazos River were also updated. Costs for the pump station and conveyance conceptual design were based on current and previous design studies as well as ratios originating from ENR. Because the project site is already held by a sponsoring entity, land costs are limited to costs for survey and limited purchase or easement costs for associated appurtenances.

Table 2 summarizes the component costs of key facilities. Costs are presented in September 2018 dollars and include a contingency of 35% including professional services.

Based on these costs as presented and assuming full utilization of the reservoir yield of 99,650 acre-feet per year, the unit cost for water from the project is approximately \$211 per acre-foot during the debt term and \$39 per acre-foot following the retirement of the debt on the project (40 years).

Table 2 – Allens Creek Reservoir Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$204,717,419	\$204,717,419
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$71,651,096	\$71,651,096
3	LAND AND EASEMENTS	1	LS	\$861,763	\$861,763
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$50,376,813	\$50,376,813
5	INTEREST DURING CONSTRUCTION	1	LS	\$37,839,210	\$37,839,210
PROJECT CAPITAL COST					\$365,446,301

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$17,112,857	\$17,112,857	\$17,112,857	\$17,112,857
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$3,154,663	\$3,154,663	\$3,154,663	\$3,154,663
3	PUMPING ENERGY COSTS	\$0	\$0	\$768,924	\$768,924	\$768,924	\$768,924
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$21,036,444	\$21,036,444	\$21,036,444	\$21,036,444

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$21,036,444	\$21,036,444	\$21,036,444	\$21,036,444
2	YIELD	-	-	99,650	99,650	99,650	99,650
3	UNIT COST	\$0	\$0	\$211	\$211	\$211	\$211
TOTAL UNIT COST							\$211

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$63,772,000	\$63,772,000
2	APPROACH CHANNEL	1	LS	\$6,796,700	\$6,796,700
3	DISCHARGE CONVEYANCE	1	LS	\$6,310,000	\$6,310,000
4	OFF-CHANNEL RESERVOIRS	1	LS	\$72,971,900	\$72,971,900
5	EROSION PROTECTION	1	LS	\$33,471,700	\$33,471,700
6	RELOCATIONS	1	LS	\$21,395,119	\$21,395,119
PROJECT COST					\$204,717,419

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$63,772,000	\$1,594,300
2	APPROACH CHANNEL	1.0	%	\$6,796,700	\$67,967
3	DISCHARGE CONVEYANCE	1.0	%	\$6,310,000	\$63,100
4	OFF-CHANNEL RESERVOIRS	1.5	%	\$72,971,900	\$1,094,579
5	EROSION PROTECTION	1.0	%	\$33,471,700	\$334,717
6	RELOCATIONS	0.0	%	\$21,395,119	\$0
ANNUAL OPERATION AND MAINTENANCE COST					\$3,154,663

Water Management Strategy Evaluation

Based on the analysis provided above, the Allens Creek Reservoir project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	The project provides raw water at a highly competitive cost for future water supplies from the Brazos River Basin.
Location	5	The project is located upstream of significant future needs identified in the lower Brazos and can be transferred to the western portion of the Houston metropolitan area.
Water Quality	3	No known water quality issues impacted by the project.
Environmental Land and Habitat	4	Project has been configured in such a way to minimize impacts. Off-channel location is preferable to on-channel reservoir development.
Environmental Flows	3	The project will reduce peak flows in the Brazos Basin, but releases will improve dry-weather baseflows downstream.
Local Preference	4	The project is recognized as a priority in the lower Brazos River Basin and the western portion of the Houston metropolitan area for meeting future needs.
Institutional Constraints	4	Project has received a water right permit, and land for reservoir site is already purchased.
Development Timeline	4	The project may be developed within 15 years due to steps that have already been undertaken to further the project.
Sponsorship	4	Project sponsors have been identified and are taking steps to further project development.
Vulnerability	2	Some risk from natural and man-made disasters due to impoundment of water.
Impacts on Other WMS	5	Project has the potential to benefit the overall yield of the BRA System Operation Permit by maximizing the utility of storage in the lower basin.

Allens Creek Reservoir will impact over 7,000 acres of land. The footprint was modified from the original to prevent impacts to notable wetland features. The project may potentially reduce instream flows in the lower Brazos River by as much as 202,000 ac-ft/yr. Actual impacts are provided for by permit and will be bounded by environmental flow standards for the basin. Only the pump station and pipeline facilities have not yet been purchased and set aside for the project and may impact current agricultural operations.

Water User Group Application

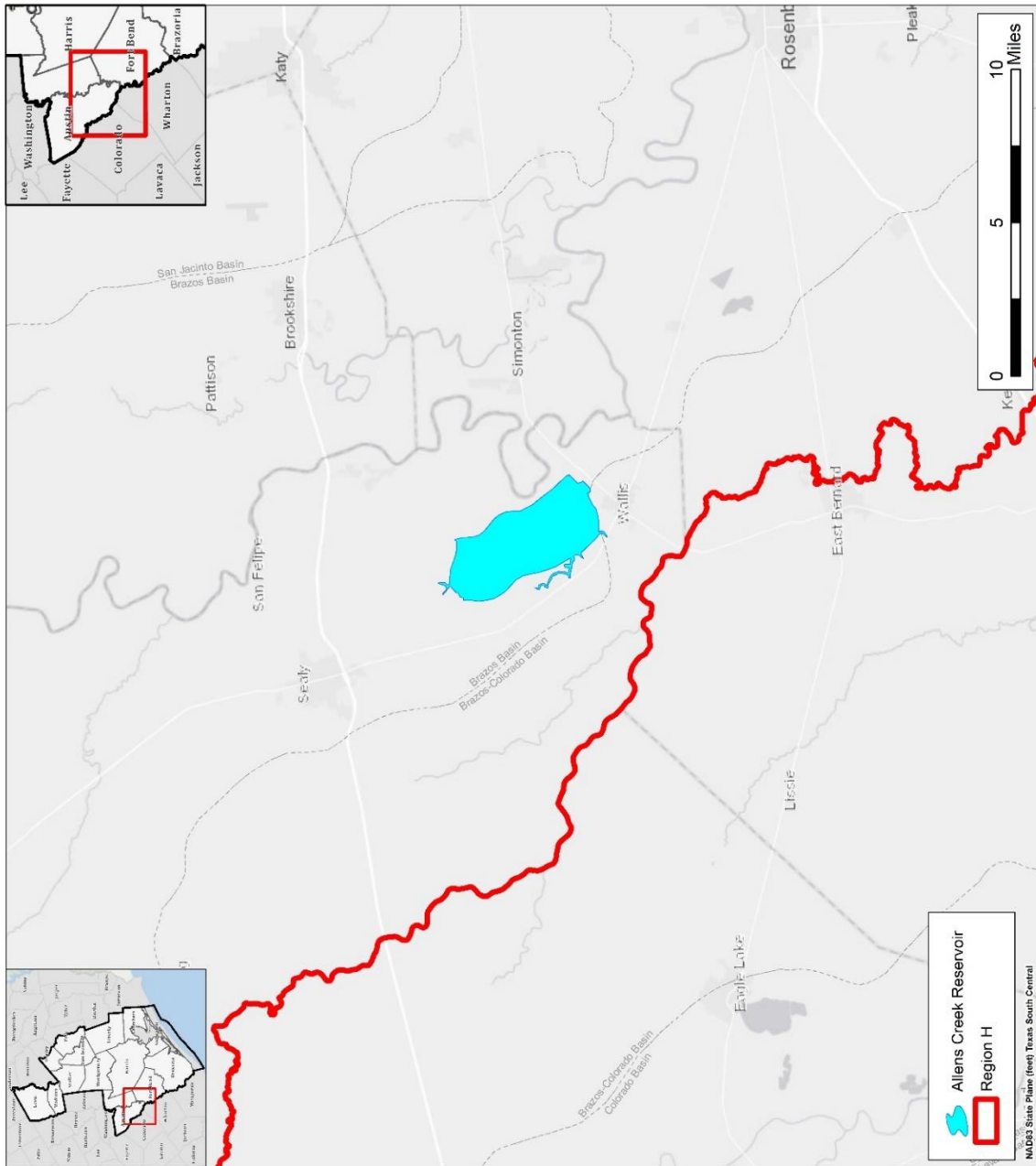
The Allens Creek Reservoir project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

CRITERIA	WUG SUITABILITY
Proximity	The location of the project provides for service to needs in the lower Brazos Basin through bed and banks transfer. Also, the reservoir may serve customers in western Harris County or northern Fort Bend County through the development of pipeline infrastructure.
Size	The magnitude of the project makes it adequate for serving large demands through the sale of water to WWPs that serve a large geographic area.
Water Quality	The project will produce raw water that may be treated through additional projects to provide for treated, potable water.
Unit Cost	The unit cost for the project is relatively low for a reservoir project and highly competitive with other projects from the lower Brazos River basin.

References

Texas Commission on Environmental Quality, *Water Right Permit Number 2925A*, January 2002.
 Texas Parks and Wildlife, <https://tpwd.texas.gov/gis/rtest/>, Accessed October 4, 2019.

Location Map



Allens Creek Reservoir Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	BRA System Operation Permit
Project ID:	SWDV-002
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	78,276 ac-ft/yr (69.9 mgd)
Implementation Decade:	2020
Development Timeline:	<5 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

In 2016, the Texas Commission on Environmental Quality (TCEQ) approved a permit application by the Brazos River Authority (BRA) for the appropriation of additional water made available through system operation of the BRA's existing water rights and reservoirs. The approved Water Use Permit 12-5851 authorizes the utilization of substantial additional supply within the Brazos basin generated by reservoir system operation. BRA has subsequently corresponded with entities within its service area, including a number of water systems within Region H, regarding contracts for a portion of the additional firm supply authorized under this permit.

Strategy Analyses

The project analyses for BRA System Operation Permit include evaluations of the potential supply to be created, environmental factors involved in the project, and permitting and development considerations.

Supply Development

TCEQ has approved a permit for BRA to divert up to an additional 434,703 ac-ft/yr of water from existing and future reservoirs and BRA water rights, with the permitted yield generated through operation of reservoir facilities as a coordinated system. BRA is in the process of contracting for the sale of an estimated 94,996 ac-ft/yr of supply, of which approximately 78,276 ac-ft/yr is anticipated to serve numerous entities in Region H, with the remainder supplying Region G; the yield represented by this strategy in the 2021 Region H Regional Water Plan reflects the contracted amounts. Existing availability of the BRA System Operation supply also includes reserve supply as well as water held for the TPWD water trust.

Environmental Considerations

The primary impact associated with the implementation of this project is an increase in diversions from the Brazos River. Increased diversion of water from the Brazos River will result in some decreases in instream flow downstream of diversion points. However, the permit is subject to environmental flow restrictions in the basin senior to the permit as well as a number of permit-specific requirements. This project creates increased yield from more efficient use of existing infrastructure, which causes less surface disturbance impacts relative to yield increase through reservoir construction.

Permitting and Development

The BRA System Operation Permit was approved in 2016.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the BRA System Operation Permit project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Cost reflected under other strategies for use of additional supply.
Location	4	Transmission infrastructure required for some potential users.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Limited impacts anticipated.
Environmental Flows	2	Some decrease in environmental flows below diversion points.
Local Preference	2	Some opposition.
Institutional Constraints	5	Permitting has been completed.
Development Timeline	5	Permitting has been completed. Associated infrastructure projects could be accomplished in approximately 5 years or less.

CRITERIA	RATING	EXPLANATION
Sponsorship	5	Sponsor has identified project and has received permit for development of this source supply.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	5	Generates substantial volume of firm supply utilized through other WMS and projects.

Water User Group Application

The BRA System Operation Permit project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project requires conveyance infrastructure for some potential users.
Size	Project provides a large volume of water that may be applied through contract to demands of various magnitudes.
Water Quality	Project will provide raw water which will require treatment for some uses such as municipal supply.
Unit Cost	Cost reflected under other strategies for use of additional supply.
Other Factors	This project can be implemented primarily through optimized use of existing infrastructure.

References

Texas Commission on Environmental Quality, *Water Use Permit 5851*, September 2016.

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Dow Reservoir and Pump Station Expansion
Project ID:	SWDV-003
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	80,000 ac-ft/yr (71.4 mgd)
Implementation Decade:	2030 (2026)
Development Timeline:	5 years
Project Capital Cost:	\$350,000,000 (Sept. 2018)
Unit Water Cost (Rounded):	\$373 per ac-ft (during loan period) \$66 per ac-ft (after loan period)

Strategy Description

Dow Inc. plans to increase the total raw water pumping and storage capacity available for use at their industrial site in Freeport, Texas. Increasing the site's reservoir storage capacity and building a new river intake and pump station would give Dow more flexibility in managing their raw water resources and would provide protection during drought conditions when pumping from the Brazos River is limited or curtailed. This project does not require a new water right appropriation because it is intended to firm up existing water rights held by Dow and the Brazosport Water Authority to meet manufacturing and municipal shortages in Brazoria County. The proposed reservoir would provide an additional firm yield supply quantity of 80,000 acre-feet/year.

Strategy Analyses

The project analyses for the Dow Reservoir and Pump Station Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Dow pumps raw water supply from the Brazos River to meet the manufacturing demands of its industrial site, manufacturing demands of fence line partners, and municipal demands of the Brazosport Water Authority (BWA) and its customers. Water is diverted by Dow under Dow's water rights and on behalf of BWA under the authority's water rights. The proposed project would increase the amount of associated off-channel reservoir storage capacity by 56,760 acre-feet and would provide a 4- to 8-month supply for Dow during the driest months of the critical drought, allowing Dow to meet more of its current raw water demand and the demands of the municipal customers of the BWA. A new raw water intake and pump station, with a pumping capacity of 150,000 gpm, will make efficient use of the additional storage capacity and allow Dow to provide an additional 80,000 acre-

feet per year of firm supply when used in conjunction with Dow’s and the BWA’s existing water rights and Dow’s two-tier BRA contract.

Environmental Considerations

The project would impact approximately 2,000 acres of land, which was previously used for agricultural production and grazing. Although a number of federal and state endangered and threatened species are listed for Brazoria County, the existing disturbed condition of the proposed site suggests that impacts to listed species essentially have already occurred and any additional impacts will be moderate to low. As part of the project development and permitting process, Dow has developed a proposed mitigation plan for agency consideration. Large changes in nearby property values are not anticipated due to the rural nature of the existing area. Recreational use of the reservoir will be closely managed by Dow and is anticipated to include fishing and bird watching.

Permitting and Development

The development of a project of this nature will require the study and consideration of many issues. These will include, but are not necessarily limited to: U.S. Army Corps of Engineers (USACE) Section 404 permitting, environmental assessments of the intake and pump station and reservoir sites, Sand, Gravel and Marl permit from the Texas Parks and Wildlife Department (TPWD), compliance with TCEQ dam safety regulations including reviews and construction approvals, revisions to Federal Emergency Management Agency (FEMA) floodplain mapping for the Oyster Creek and Brazos River floodplains, utility relocations, new electrical power supply to the pump station site, road relocations, sediment removal (permitting and facility design), Storm Water Pollution Prevention Plans for construction operations, and site security. Amendment of the associated water right permit for additional off-channel storage capacity has been granted by the Texas Commission on Environmental Quality (TCEQ).

Cost Analysis

Costs were developed for the reservoir expansion project based on the estimated total capital cost provided by the project sponsor. Annualized costs for debt service and operations and maintenance were estimated using standard Regional Planning costing reference data. Estimated costs are presented in *Table 1*.

Table 1 – Dow Reservoir and Pump Station Expansion Project Cost

OPINION OF PROBABLE CONSTRUCTION COST							September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL		
PROJECT CAPITAL COST SUMMARY							
1	CONSTRUCTION COST	1	LS	\$350,000,000	\$350,000,000		
PROJECT CAPITAL COST						\$350,000,000	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$24,626,377	\$24,626,377	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$5,250,000	\$5,250,000	\$5,250,000	\$5,250,000	\$5,250,000
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$29,876,377	\$29,876,377	\$5,250,000	\$5,250,000	\$5,250,000

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$29,876,377	\$29,876,377	\$5,250,000	\$5,250,000	\$5,250,000
2	YIELD	-	80,000	80,000	80,000	80,000	80,000
3	UNIT COST	\$0	\$373	\$373	\$66	\$66	\$66
TOTAL UNIT COST							\$189

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	DAMS AND RESERVOIRS	1	LS	\$350,000,000	\$350,000,000	
PROJECT COST						\$350,000,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	DAMS AND RESERVOIRS	1.5	%	\$350,000,000	\$5,250,000	
ANNUAL OPERATION AND MAINTENANCE COST						\$5,250,000

Water Management Strategy Evaluation

Based on the analysis provided above, the Dow Reservoir and Pump Station Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Reservoir improvements result in a low-cost project for enhancing yields from the Brazos River.
Location	5	Reservoir is already in proximity to demands through existing infrastructure.

CRITERIA	RATING	EXPLANATION
Water Quality	4	Water supply quality is enhanced through the development of additional raw water that is less impacted by intrusion of saltwater in lower reaches of the Brazos River.
Environmental Land and Habitat	4	Limited environmental impacts associated with identified site.
Environmental Flows	2	Reduction in instream flows during periods when the reservoir is filled. These diversions are currently within the limits of the existing water right.
Local Preference	5	Widespread support and opportunity to enhance manufacturing and municipal water supplies.
Institutional Constraints	4	Property acquired and limited permitting in progress.
Development Timeline	5	Project development within 5 years.
Sponsorship	5	Dow is identified as project sponsor and the project is moving forward.
Vulnerability	3	Some risk from natural and man-made disasters due to impoundment of water.
Impacts on Other WMS	4	Project provides additional surface water availability from Dow and BWA water rights.

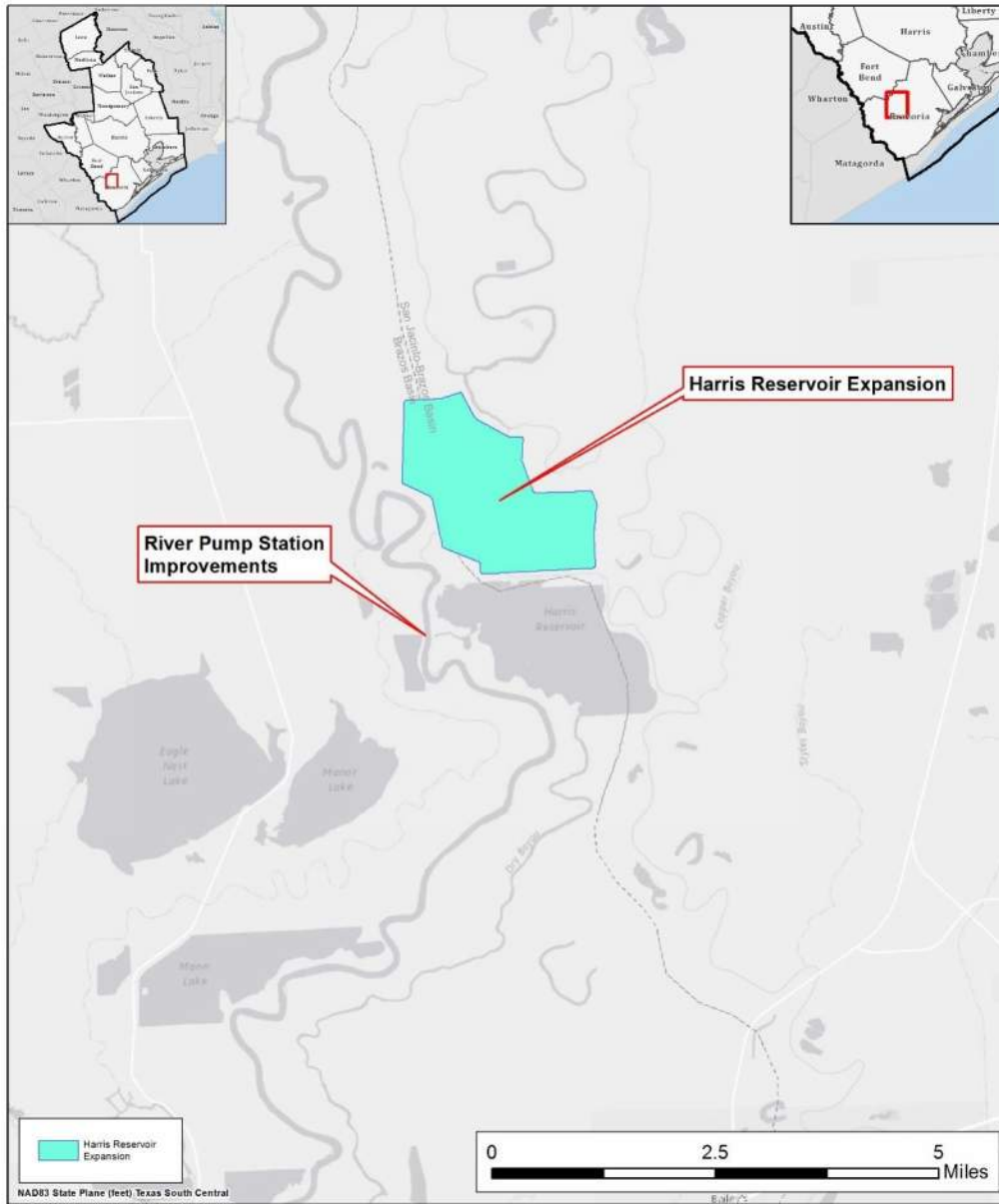
The Dow Reservoir and Pump Station Expansion will impact 2,000 acres of land that was previously under agricultural production and will have limited environmental impacts. The project will not directly impact environmental flows, as it will utilize existing diversions in the basin that are already permitted.

Water User Group Application

The Dow Reservoir and Pump Station Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Location of the project suits it to serving existing customers of the Dow and BWA systems.
Size	Project supply capacity is a considerable benefit to large deficits traditionally associated with the lower Brazos River Basin.
Water Quality	Project produces raw water for use by customers who require raw water or are already prepared to treat raw water for other uses.
Unit Cost	Unit cost is reasonable for municipal and industrial needs.
Other Factors	Project is being sponsored by Dow Inc. and is intended to serve the needs of Dow and their current and future customers.

Location Map



Dow Off-Channel Reservoir Expansion Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Freeport Seawater Desalination
Project ID:	SWDV-004
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	11,200 ac-ft/yr (10 mgd)
Implementation Decade:	2040
Development Timeline:	5 years
Project Capital Cost:	\$155,877,822 (Sept. 2018)
Unit Water Cost (Rounded):	\$2,273 per ac-ft (during loan period) \$1,293 per ac-ft (after loan period)

Strategy Description

The Brazos River Authority (BRA) and Poseidon Water (Poseidon) cooperated on a study of a potential desalination facility in the vicinity of the Dow Inc. facility in Freeport. This study was concluded in 2004 as part of the Texas Water Development Board (TWDB) initiative for desalination research. Since that time, the project has been included as a recommended Water Management Strategy (WMS) in the 2006, 2011, and 2016 Region H Regional Water Plans (RWPs). Over that time, the status of the project has changed from an active pursuit to an inactive concept. Despite this status, the project remains a viable alternative for water supply and may be enhanced in the future through additional technological development in a way which may make the project more cost-effective.

This memorandum summarizes the project as conceptualized in the original study and presented in the TWDB 2004 Biennial Report on Seawater Desalination. Although no active sponsors exist for the project, the site originally identified in the study or similar industrial areas present viable locations for development. Therefore, this concept is still a feasible option for water supply and provides a reference for costs associated with seawater desalination in Region H.

Strategy Analyses

The strategy analyses for Freeport Seawater Desalination include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The concept for the project, as presented, is derived from the concept presented in the 2004 TWDB report. A desalination facility located in Freeport would allow desalinated water to be supplied to such wholesale water providers (WWPs) as the Brazosport Water Authority (BWA), Dow Inc., and/or the Gulf Coast Water Authority (GCWA). These WWPs would then be able to replace or augment their supplies with a reliable, high-quality water supply from an alternative source that would reduce water

quality issues that have been encountered in the past. Additionally, the treated water from a seawater desalination facility could offset current WWP municipal supplies, including diversion rights from the Brazos River; in turn, this could free up existing sources to provide for industrial raw water demands rather than for use to meet municipal shortages.

The proposed strategy calls for a 10-MGD reverse osmosis (RO) treatment facility within the Dow Inc. complex in Freeport with capability to scale to as much as 100 MGD. Currently, Dow is not interested in sponsoring a desalination project in the near term. The proposed location of the project benefits the project in several ways that include, but are not limited to:

- Pre-existing infrastructure for supporting large-scale industrial processes to reduce costs and expedite project implementation.
- Access to saline and fresh water sources and discharge points.
- Pre-existing permits for withdrawal and discharge.
- Discharge into the Gulf of Mexico and fewer environmental concerns than a system discharging into a bay system.

The proposed facility location allows access to an existing seawater intake, A801, located across from the port of Freeport or raw water from the Brazos River. Brine created from the desalination process with a solids concentration nearly twice that of incoming seawater, would be discharged from the site at outfall No. 001 where it would be diluted and discharged into the Brazos River and, ultimately, the Gulf of Mexico.

Pretreatment would be performed by means of high-rate sedimentation, filtration, and chlorination and pH adjustment to reduce impacts on process equipment. Incoming seawater will be fed to 8-inch diameter, high rejection seawater membrane elements. Post-processing of the water will include stabilization to make the treated water non-aggressive to the distribution system and provide residual chlorination for disinfection. Fresh water from the Brazos River could be blended with desalinated water to maximize the economic efficiency of the plant.

Environmental Considerations

Direct environmental impacts associated with this project are expected to be minimal due to the nature of the identified site. Access to an existing seawater intake and discharge point allows for minimal additional impacts to water resources in the area. The site itself is adjacent to existing industrial facilities in a heavily developed area, limiting impacts of surface disturbance. The project is expected to have minimal impacts to habitat and wildlife. The project is associated with potential increases in streamflow via return flows from points of use.

Permitting and Development

Permit requirements for the implementation of the project are expected to be minimal, as the facility is located within the Dow industrial complex. This location will minimize further impacts on threatened and endangered species, wetlands, and other environmental factors. Existing Dow permits for seawater withdrawals may be amended to allow for the plant's operation. Also, pipe alignments are expected to follow existing pipelines wherever possible, minimizing environmental issues along these rights-of-way. Waste-stream discharge, though occurring through the existing Dow discharge canal system, will require a separate TPDES discharge permit.

Cost Analysis

Planning level cost estimates have been developed for the Region H Plan based on estimates from the 2004 TWDB study. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Energy costs were scaled based on a ratio of per-kilowatt-hour rates from TWDB’s current costing guidance and the rate at the time of the original study. Additional cost components, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard Regional Planning costing assumptions. Estimated costs are presented in Table 1.

Table 1 – Freeport Seawater Desalination Project Costs

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$105,180,000	\$105,180,000
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$28,260,000	\$28,260,000
3	LAND AND EASEMENTS	1	LS	\$3,241	\$3,241
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$10,200,000	\$10,200,000
5	INTEREST DURING CONSTRUCTION	1	LS	\$12,234,582	\$12,234,582
PROJECT CAPITAL COST					\$155,877,822

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$10,967,731	\$10,967,731	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$10,871,050	\$10,871,050	\$10,871,050	\$10,871,050
3	PUMPING ENERGY COSTS	\$0	\$0	\$3,614,000	\$3,614,000	\$3,614,000	\$3,614,000
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$25,452,781	\$25,452,781	\$14,485,050	\$14,485,050

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$25,452,781	\$25,452,781	\$14,485,050	\$14,485,050
2	YIELD	-	-	11,200	11,200	11,200	11,200
3	UNIT COST	\$0	\$0	\$2,273	\$2,273	\$1,293	\$1,293
TOTAL UNIT COST							\$1,783

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$8,470,000	\$8,470,000
2	PIPELINES	1	LS	\$27,480,000	\$27,480,000
3	WATER TREATMENT PLANTS	1	LS	\$69,230,000	\$69,230,000
PROJECT COST					\$105,180,000

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$8,470,000	\$211,750
2	PIPELINES	1.0	%	\$27,480,000	\$274,800
3	WATER TREATMENT PLANTS	1.0	LS	\$10,384,500	\$10,384,500
ANNUAL OPERATION AND MAINTENANCE COST					\$10,871,050

Water Management Strategy Evaluation

Based on the analysis provided above, the Freeport Seawater Desalination strategy was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Very high cost, but the project represents a drought-proof, high quality water supply.
Location	3	Conveyance likely required to meet demands. This is dependent upon the location of future municipal and industrial development in the lower Brazos River Basin.
Water Quality	3	No known water quality issues due to location of intake and discharge points.
Environmental Land and Habitat	3	Limited environmental concerns associated with project development due to development in existing industrial area.
Environmental Flows	3	No impact on local environmental flows due to location of intake and discharge. Some potential for increases in streamflow via return flows from points of use.
Local Preference	3	Local support for desalination development.
Institutional Constraints	3	Extensive permitting required but not yet initiated. Property available for potential project development.
Development Timeline	4	Development timeline shortened due to existing infrastructure for seawater intake and brine discharge.
Sponsorship	2	Potential sponsors are interested in the project as a long-term option but are not yet committed due to other lower cost near-term projects in the basin.
Vulnerability	3	Risk to project related to natural disasters within proximity to the coast. However, this risk is mitigated through existing, developed infrastructure.
Impacts on Other WMS	3	No direct impacts on other projects. Could allow greater flexibility in use of some existing sources.

Freeport Seawater Desalination is not anticipated to affect acreage or vulnerable species. Development is anticipated at the existing industrial complex with limited potential for impact. The project may increase return flows to streams by approximately 50 percent of the potential project yield of 11,200 ac-ft/yr through municipal return flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The Freeport Seawater Desalination project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The proposed project is ideally suited to serving needs in the Freeport area. However, the original project concept recommended delivery of desalinated water far from the location of the plant.
Size	The project may be scaled from as little as 10 MGD to as much as 100 MGD based on the concept outlined in the original study making it adaptable for a number of potential water needs.
Water Quality	The water from this project would be a high-quality, RO-treated supply that would be appropriate for municipal or extremely high-quality industrial use.
Unit Cost	The unit cost for this project may be prohibitive to most users with alternatives available. However, implementation of this project may be reasonable for uses requiring a supply that is protected from effects of drought.
Other Factors	Many of the needs in the immediate vicinity of the project are currently planned to be met with alternative water supplies in the near-term.

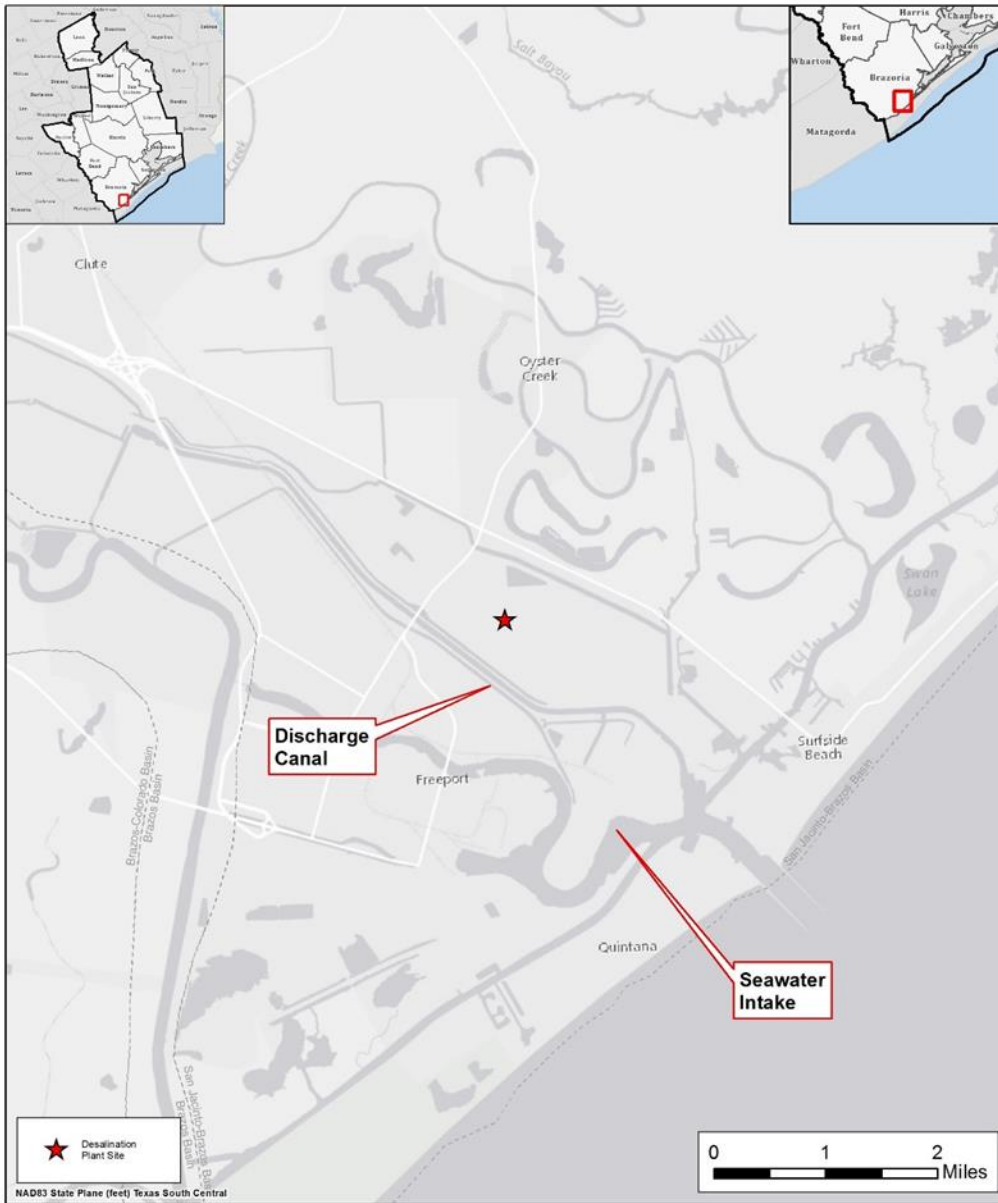
References

Texas Water Development Board. *The Future of Desalination in Texas, Volume 1 – Biennial Report on Seawater Desalination*. 2004.

Texas Water Development Board. *The Future of Desalination in Texas: 2018 Biennial Report to the Texas Legislature on Seawater and Brackish Groundwater Desalination*. 2018.

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Location Map



Freeport Seawater Desalination Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Lake Somerville Augmentation
Project ID:	SWDV-005
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	Up to 22,800 ac-ft/yr (20.4 mgd)
Implementation Decade:	2030 potential
Development Timeline:	<10 years
Project Capital Cost:	Varies based on configuration
Unit Water Cost (Rounded):	Varies based on configuration

Strategy Description

The Brazos River and its tributaries serve as a major source of water supply for entities in Regional Water Planning Areas (RWPAs) G and H. Due to the natural variability of flows in the basin, reservoirs have played an important role in capturing and storing high flows to generate more reliable water supplies. Through the Regional Planning process and other planning efforts, a number of supply concepts to increase Brazos River Basin supplies through increased use of storage have been considered. One potential option is the use of available storage capacity in Lake Somerville to store flows diverted from the main channel of the Brazos River and conveyed to the lake by pipeline.

Strategy Analyses

The project analyses for Lake Somerville Augmentation include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Lake Somerville, which is located on Yegua Creek, is operated by the US Army Corps of Engineers (USACE) and through contract serves as a water supply impoundment for the Brazos River Authority (BRA). One concept to increase firm water supplies in the Brazos Basin is the development of a pump station and pipeline to divert high flows from the Brazos River to utilize available storage in Lake Somerville and potentially increase the firm yield of the reservoir. The lake is currently permitted for diversions of up to 48,000 ac-ft per year for multiple uses under Certificate of Adjudication (COA) 12-5164.

TWDB's Second Amended General Guidelines for Regional Water Plan Development requires the use of WAM Run 3, reflecting full authorized diversion of current water rights with no return flows, when determining the supply available to the region. Run 3 represents a conservative approach, since not

all rightholders attempt to divert their full permit amount every year and diversions for municipal and manufacturing users typically return a portion of diverted water to streams as treated wastewater effluent. However, the majority of water rights do not address return flows to source streams, implying a right to full consumptive use. For this reason, and because the planning period extends 50 years into the future, use of a model reflecting full consumptive diversion by all rights is appropriate for long-term planning. The model simulates a set of monthly diversion targets attempted annually against a historical inflow dataset including the drought of record. Water diversions are modeled according to the parameters of each particular water right and are taken in priority order, such that the senior water rights are satisfied before junior rights are allowed to divert water.

A preliminary planning-level yield analysis for the Lake Somerville Augmentation project was conducted by the Region H Regional Water Planning Group (RWPG) as part of the development of the 2016 Regional Water Plan (RWP) using the 2016 Brazos G Water Availability Model (WAM) as a base model. The 2016 Brazos G WAM is a modified version of the Texas Commission on Environmental Quality (TCEQ) Run 3 WAM developed by the Brazos G RWPG to for use in development of its 2016 RWP. In addition to the adjustments made by the Brazos G RWPG, the model used for this analysis was modified to reflect projected Year 2025 sedimentation conditions for Lake Somerville. Four scenarios were executed to determine the potential firm yield benefit of an augmentation project for Lake Somerville. Scenario 1 acted as a baseline and did not include a pipeline transfer, while Scenarios 2 and 3 included a pipeline transfer with a 100 million gallon per day (mgd) and 200 mgd pump station, respectively. Scenario 4 modeled a pipeline transfer with no limit on pump station capacity. The new diversion was modeled as a new water right at Lake Somerville, which is able to draw flows from a nearby point on the Brazos River and is junior in priority to the existing water rights in the model. For each scenario, the total diversion target of the reservoir was iteratively adjusted until a firm diversion target that could be met without shortage was determined. The results of the modeling analysis are shown in *Table 1*.

Table 1 – Modeled Firm Yield

Scenario	Pump Station (mgd)	Yield (ac ft/yr)	Yield Increase (ac ft/yr)
1	0	41,900	0
2	100	55,200	13,300
3	200	64,700	22,800
4	∞	64,700	22,800

The results of this analysis suggest that a pipeline transfer project from the main stem of the Brazos River to Lake Somerville could have some benefit in terms of increased firm yield. Due to the highly variable nature of flows in the Brazos River, generating an appreciable volume of yield from this project concept would require a large pump station of sufficient capacity to capture intermittent high flows not appropriated by more senior water rights. Although the model results indicate that implementation of the project would require high-capacity infrastructure, the resultant yields were proportionally large compared to the baseline scenario, with a potential improvement in yield to approximately 150 percent of that exhibited by Scenario 1.

Environmental Considerations

Due to the conceptual nature of this project, a detailed project-specific environmental assessment or field survey has not been performed. Any project of this magnitude will include environmental challenges to be resolved during planning, design, and construction. Specific environmental obstacles would be identified during routing studies of the proposed alignment and other infrastructure. Construction of pipeline and pump station facilities would create some degree of surface disturbance, although disturbance and associated impacts would likely be limited for the conceptual pipeline route, which largely follows existing roadway alignments. Overall habitat impacts for the project would be expected to be far less than those necessary for development of a new reservoir.

As with any new appropriation or transfer of surface water, there is the potential for impact to instream flows and habitat. However, several factors likely mitigate potential impacts for the Lake Somerville Augmentation project. The project would derive yield largely from diversions captured during periods of high flow in the river. Additionally, the proposed project does not involve an interbasin transfer of water but rather utilizes an impoundment on a tributary which flows into the river south of the diversion point. The concept as modeled would also be junior to the Senate Bill 3 environmental flow standards adopted for the Brazos River Basin.

Permitting and Development

A number of permitting steps are required for the development of this project. A new appropriation of surface water would require water right permitting through the TCEQ. Additionally, because Lake Somerville is operated by USACE, coordination and permitting through that agency would be required as well. Permitting and mitigation would also be required for physical development of infrastructure, potentially including permitting through Section 404 of the Clean Water Act administered by the USACE.

These permitting requirements may require various studies for application including environmental impact or assessment studies, a wildlife habitat mitigation plan, an assessment of impacts to species, and cultural resource studies.

Cost Analysis

Preliminary planning level cost estimates were prepared for the Lake Somerville Augmentation project for infrastructure capacities of 100 mgd and 200 mgd. Costs were developed for a pump station with an intake structure and an estimated 18.4 miles of pipeline using standard Regional Planning costing assumptions and adjusted to a cost reference of September 2018 dollars as required by TWDB. Due to the conceptual nature of the project, cost estimation for this analysis was limited to the major pump station and pipeline components and does not include other components including individual appurtenances, pipeline crossings, relocations or other infrastructure. Cost for the project with a 100 mgd pump station is provided below in *Table 2*, with cost for a 200 mgd pump station in *Table 3*.

Table 2 – Lake Somerville Augmentation Project Cost Estimate (100 mgd Pump Station)

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$100,535,746	\$100,535,746
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$32,243,413	\$32,243,413
3	LAND AND EASEMENTS	1	LS	\$830,648	\$830,648
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$492,405	\$492,405
5	INTEREST DURING CONSTRUCTION	1	LS	\$7,482,875	\$7,482,875
PROJECT CAPITAL COST					\$141,585,087

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$9,962,079	\$9,962,079	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$1,630,164	\$1,630,164	\$1,630,164	\$1,630,164	\$1,630,164
3	PUMPING ENERGY COSTS	\$0	\$497,560	\$497,560	\$497,560	\$497,560	\$497,560
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$12,089,803	\$12,089,803	\$2,127,724	\$2,127,724	\$2,127,724

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$12,089,803	\$12,089,803	\$2,127,724	\$2,127,724	\$2,127,724
2	YIELD	-	13,300	13,300	13,300	13,300	13,300
3	UNIT COST	\$0	\$909	\$909	\$160	\$160	\$160
TOTAL UNIT COST							\$460

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$41,653,788	\$41,653,788
2	PIPELINES	1	LS	\$58,881,957	\$58,881,957
PROJECT COST					\$100,535,746

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$41,653,788	\$1,041,345
2	PIPELINES	1.0	%	\$58,881,957	\$588,820
ANNUAL OPERATION AND MAINTENANCE COST					\$1,630,164

Table 3 – Lake Somerville Augmentation Project Cost Estimate (200 mgd Pump Station)

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$160,049,420	\$160,049,420	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$50,423,124	\$50,423,124	
3	LAND AND EASEMENTS	1	LS	\$830,648	\$830,648	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$492,405	\$492,405	
5	INTEREST DURING CONSTRUCTION	1	LS	\$11,818,149	\$11,818,149	
PROJECT CAPITAL COST					\$223,613,746	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$15,733,704	\$15,733,704	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$2,322,984	\$2,322,984	\$2,322,984	\$2,322,984	\$2,322,984
3	PUMPING ENERGY COSTS	\$0	\$904,748	\$904,748	\$904,748	\$904,748	\$904,748
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$18,961,435	\$18,961,435	\$3,227,731	\$3,227,731	\$3,227,731

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$18,961,435	\$18,961,435	\$3,227,731	\$3,227,731	\$3,227,731
2	YIELD	-	22,800	22,800	22,800	22,800	22,800
3	UNIT COST	\$0	\$832	\$832	\$142	\$142	\$142
TOTAL UNIT COST							\$418

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$48,165,964	\$48,165,964	
2	PIPELINES	1	LS	\$111,883,456	\$111,883,456	
PROJECT COST					\$160,049,420	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$48,165,964	\$1,204,149	
2	PIPELINES	1.0	%	\$111,883,456	\$1,118,835	
ANNUAL OPERATION AND MAINTENANCE COST					\$2,322,984	

Water Management Strategy Evaluation

Based on the analysis provided above, the Lake Somerville Augmentation project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Project is moderately expensive but annual costs decrease considerably after debt service.
Location	4	Project requires extensive pipeline conveyance.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	3	Environmental impacts associated with the project can be mitigated.
Environmental Flows	2	Reduction in instream flows limited by flow requirements for Brazos River Basin.
Local Preference	3	No known significant opposition to project.
Institutional Constraints	3	Permitting and property acquisition required for project development.
Development Timeline	4	Approximate 10-year development timeline.
Sponsorship	3	Concept identified by Brazos River Authority.
Vulnerability	4	Slight risk from natural and man-made disasters.
Impacts on Other WMS	4	Project has potential to be integrated into System Operation Permit though enhancing overall basin storage.

The Lake Somerville Augmentation project includes up to 18 miles of pipeline. The majority of this impact will be in rural areas with potential impacts to habitat and limited impacts to agriculture. The project may potentially reduce instream flows by approximately 22,800 ac-ft/yr, on average. Actual impacts will be determined by the water right permit and bounded by environmental flow standards for the basin.

Water User Group Application

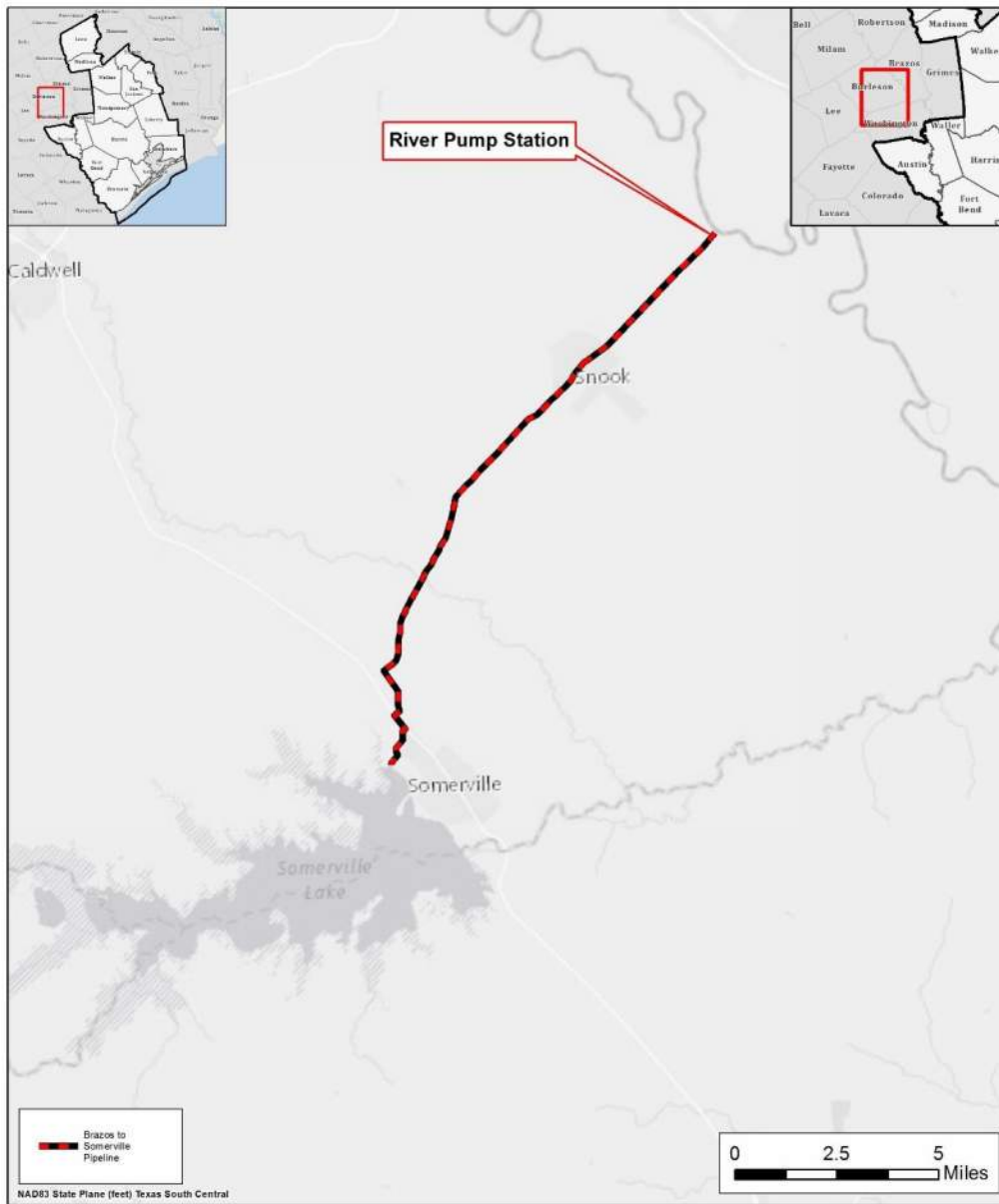
The Lake Somerville Augmentation project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is intended to serve customers in the lower Brazos River Basin.
Size	The magnitude of the project makes is adequate for serving moderately large demands through the sale of water to WWPs that serve a large geographic area.
Water Quality	The project will produce raw water that may be treated through additional projects to provide for treated, potable water.
Unit Cost	The unit cost for the project is moderately high during debt service but unit cost declines substantially afterward.
Other Factors	Project may provide benefit to overall system operation.

References

Region H Water Planning Group. *2016 Regional Water Plan*. Prepared for Texas Water Development Board, November 2015.

Location Map



Lake Somerville Augmentation Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Lone Star Lake
Project ID:	SWDV-006
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	6,030 ac-ft/yr (5.4 mgd)
Implementation Decade:	2050 potential
Development Timeline:	30 years
Project Capital Cost:	\$100,928,743 (Sept. 2018)
Unit Water Cost (Rounded):	\$839 per ac-ft (during loan period) \$55 per ac-ft (after loan period)

Strategy Description

Population growth within the San Jacinto River Basin coupled with the ongoing development of extensive non-groundwater sources have driven interest in developing alternatives to groundwater supplies. Surface water supplies in the San Jacinto Basin currently consist primarily of Lake Conroe and Lake Houston, along with a number of smaller run-of-river water rights. One option that has been proposed is development of additional reservoir storage capacity in the form of an impoundment in western Montgomery County on Lake Creek, a tributary to the West Fork of the San Jacinto River.

Strategy Analyses

The project analyses for Lone Star Lake include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Supply potential for Lone Star Lake was assessed during the development of the 2016 Regional Water Plan for Region H. The Texas Commission on Environmental Quality (TCEQ) Water Availability Model (WAM) for the San Jacinto Basin was modified to include the environmental flow standards adopted by the Trinity and San Jacinto Rivers and Galveston Basin and Bay Area Stakeholder Committee (BBASC) in the absence of a model developed by TCEQ. The model was then further modified to include a control point representing the location of Lone Star Lake based on an area-weighted section of the basin in order to provide for hydrology to the reservoir. Simulations were executed in an iterative fashion until a firm yield could be determined for the project.

Environmental Considerations

Lone Star Lake is a significant project and has the potential for significant impacts to land area. *Table 1* lists the threatened and endangered species of Montgomery County as well as other species of concern.

Table 1 – Threatened and Endangered Species of Montgomery County

AMPHIBIANS		FEDERAL STATUS	STATE STATUS
Cajun chorus frog	<i>Pseudacris fouquettei</i>		
Southern crawfish frog	<i>Lithobates areolatus</i>		
Southern dusky salamander	<i>Desmognathus conanti</i>		
Strecker's chorus frog	<i>Pseudacris streckeri</i>		

BIRDS		FEDERAL STATUS	STATE STATUS
Bald eagle	<i>Haliaeetus leucocephalus</i>		
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Franklin's gull	<i>Leucophaeus pipixcan</i>		
Interior least tern	<i>Sternula antillarum athalassos</i>	LE	E
Piping plover	<i>Charadrius melodus</i>	LT	T
Red-cockaded woodpecker	<i>Picoides borealis</i>	LE	E
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
Western burrowing owl	<i>Athene cunicularia hypugaea</i>		
White-faced ibis	<i>Plegadis chihi</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

CRUSTACEANS		FEDERAL STATUS	STATE STATUS
Houston burrowing crayfish	<i>Fallicambarus houstonensis</i>		

FISH		FEDERAL STATUS	STATE STATUS
Blackspot shiner	<i>Notropis atrocaudalis</i>		
Chub shiner	<i>Notropis potteri</i>		T
Sabine shiner	<i>Notropis sabinae</i>		
Western creek chubsucker	<i>Erimyzon claviformis</i>		T

INSECTS		FEDERAL STATUS	STATE STATUS
A mayfly	<i>Tricorythodes curvatus</i>		
American bumblebee	<i>Bombus pensylvanicus</i>		
Texas emerald dragonfly	<i>Somatochlora margarita</i>		

MAMMALS		FEDERAL STATUS	STATE STATUS
American badger	<i>Taxidea taxus</i>		
Big brown bat	<i>Eptesicus fuscus</i>		
Big free-tailed bat	<i>Nyctinomops macrotis</i>		
Eastern red bat	<i>Lasiurus borealis</i>		
Eastern spotted skunk	<i>Spilogale putorius</i>		
Hoary bat	<i>Lasiurus cinereus</i>		
Long-tailed weasel	<i>Mustela frenata</i>		
Louisiana black bear	<i>Ursus americanus luteolus</i>		T
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>		
Mink	<i>Neovison vison</i>		
Mountain lion	<i>Puma concolor</i>		
Plains spotted skunk	<i>Spilogale putorius interrupta</i>		
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T
Southeastern myotis bat	<i>Myotis austroriparius</i>		
Southern short-tailed shrew	<i>Blarina carolinensis</i>		
Swamp rabbit	<i>Sylvilagus aquaticus</i>		
Tricolored bat	<i>Perimyotis subflavus</i>		
Western hog-nosed skunk	<i>Conepatus leuconotus</i>		
Woodland vole	<i>Microtus pinetorum</i>		

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Louisiana pigtoe	<i>Pleurobema riddellii</i>		T
Sandbank pocketbook	<i>Lampsilis satura</i>		T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Eastern box turtle	<i>Terrapene carolina</i>		
Louisiana pine snake	<i>Pituophis ruthveni</i>	LT	T
Slender glass lizard	<i>Ophisaurus attenuatus</i>		
Smooth softshell	<i>Apalone mutica</i>		
Texas horned lizard	<i>Phrynosoma cornutum</i>		T
Timber (canebrake) rattlesnake	<i>Crotalus horridus</i>		
Western box turtle	<i>Terrapene ornata</i>		

PLANTS	FEDERAL STATUS	STATE STATUS
Bristle nailwort		<i>Paronychia setacea</i>
Correll's false dragon-head		<i>Physostegia correllii</i>
Heller's marbleseed		<i>Onosmodium helleri</i>
Panicled indigobush		<i>Amorpha paniculata</i>
Texas sandmint		<i>Rhododon ciliatus</i>
Wright's milkvetch		<i>Astragalus wrightii</i>

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT – Federal Proposed for Listing; T - State Listed Endangered/Threatened; “blank” - Rare, but with no regulatory listing status.

Permitting and Development

Based on a preliminary desktop review, the following environmental permits and permitting activities are likely to apply:

- TCEQ Water Rights Permitting – The Lone Star Lake project would require permitting through TCEQ for a new appropriation to divert, store, and use surface water and develop a reservoir. Further, the project would be subject to statutory environmental flow restrictions as well as any permit-specific conditions and reporting requirements.
- U.S. Army Corps of Engineers (USACE) Section 404 Permit – Reservoir development will involve modifications to a water of the U.S. As such, the project must be federally permitted using a Section 404 Permit of the Clean Water Act. Due to the magnitude of impacts, construction of this reservoir would require a Section 404 Individual Permit.
- National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) – An EIS would likely be required as part of the Section 404 Permitting process.
- Cultural Resources Survey and National Register of Historic Places (NRHP) Testing – As part of the Section 404 Permit processing and EIS development, cultural resources surveys and NRHP testing will likely need to be completed. Any significant sites impacted may require mitigation.
- Mitigation Plan – A mitigation plan will be required as part of the Section 404 Permit. Mitigation will most likely involve purchase of mitigation bank credits or construction of mitigation sites to offset impacts to waters of the U. S. Due to the large amount of impacts to wetlands and other waters of the U. S., mitigation credits may be limited, and mitigation may require permittee-responsible mitigation.
- U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) Ancillary Studies – USFWS and TPWD are stakeholders in the Section 404 Permitting process, and, as such, they will require ancillary studies to be completed. These studies will include surveys for federal threatened and endangered species and habitat modeling to assess impacts of the proposed project.
- Constructing the dam to form Lone Star Lake will remove a large portion of the floodplain from flood storage; however, this loss would be offset by the water storage capacity created by dam construction.

- In addition to wetlands, the project area contains large amounts of non-wetland riparian areas, including bottomland hardwoods. Mitigation for impacts to these areas would likely be required.

Total permitting time associated with the project is estimated as at least fifteen years, with a total project development time of up to 30 years.

Cost Analysis

A preliminary planning level cost estimate was prepared for the Lone Star Lake project for the 2016 Regional Water Plan for Region H. Costs were developed for the dam and spillway as well as other associated infrastructure and construction components. Costs for facility relocations were also estimated. Generalized assumptions were made for the embankment height and spillway width, along with various other parameters. No hydrologic assessment was performed in determining these parameters.

Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Table 2 summarizes the component costs of key facilities. Interest during construction, debt service, and annual operations and maintenance cost were also calculated using standard Regional Planning procedures.

Based on these costs as presented and assuming full utilization of the reservoir yield of 6,030 acre-feet per year, the unit cost for water from the project is approximately \$839 per acre-foot during the debt term and \$55 per acre-foot following the retirement of the debt on the project (40 years).

Table 2 – Lone Star Lake Project Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$40,650,000	\$40,650,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$14,227,500	\$14,227,500	
3	LAND AND EASEMENTS	1	LS	\$17,868,816	\$17,868,816	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$17,732,016	\$17,732,016	
5	INTEREST DURING CONSTRUCTION	1	LS	\$10,450,411	\$10,450,411	
PROJECT CAPITAL COST					\$100,928,743	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$0	\$4,726,219	\$4,726,219	\$4,726,219
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$0	\$330,300	\$330,300	\$330,300
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$0	\$5,056,519	\$5,056,519	\$5,056,519

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$0	\$5,056,519	\$5,056,519	\$5,056,519
2	YIELD	-	-	-	6,030	6,030	6,030
3	UNIT COST	\$0	\$0	\$0	\$839	\$839	\$839
TOTAL UNIT COST							\$839

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	DAMS AND RESERVOIRS	1	LS	\$22,020,000	\$22,020,000	
2	RELOCATIONS	1	LS	\$18,630,000	\$18,630,000	
PROJECT COST					\$40,650,000	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	DAMS AND RESERVOIRS	1.5	%	\$22,020,000	\$330,300	
2	RELOCATIONS	0.0	%	\$18,630,000	\$0	
ANNUAL OPERATION AND MAINTENANCE COST					\$330,300	

Water Management Strategy Evaluation

Based on the analysis provided above, the Lone Star Lake project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Project unit cost is moderately high during the anticipated 40-year loan period.
Location	5	The project is located near demand growth in Montgomery County but also has the potential to supply water downstream through bed and banks transfer.
Water Quality	4	On-channel reservoir may have some limited beneficial impact to water quality.
Environmental Land and Habitat	1	The development of an on-channel reservoir will have significant impacts to local habitat and resources.
Environmental Flows	2	Project will develop water and result in a reduction of environmental flows but within the limits of the adopted flows standards.
Local Preference	3	Some local support has been expressed for an additional reservoir within Montgomery County.
Institutional Constraints	2	Some opposition to permits likely based on magnitude of the project.
Development Timeline	2	The project may require 30 years to develop.
Sponsorship	2	No sponsor has yet committed to the project.
Vulnerability	2	Some potential risk from natural or man-made disaster associated with the impoundment of water.
Impacts on Other WMS	3	Project has little to no potential impact on other potential projects.

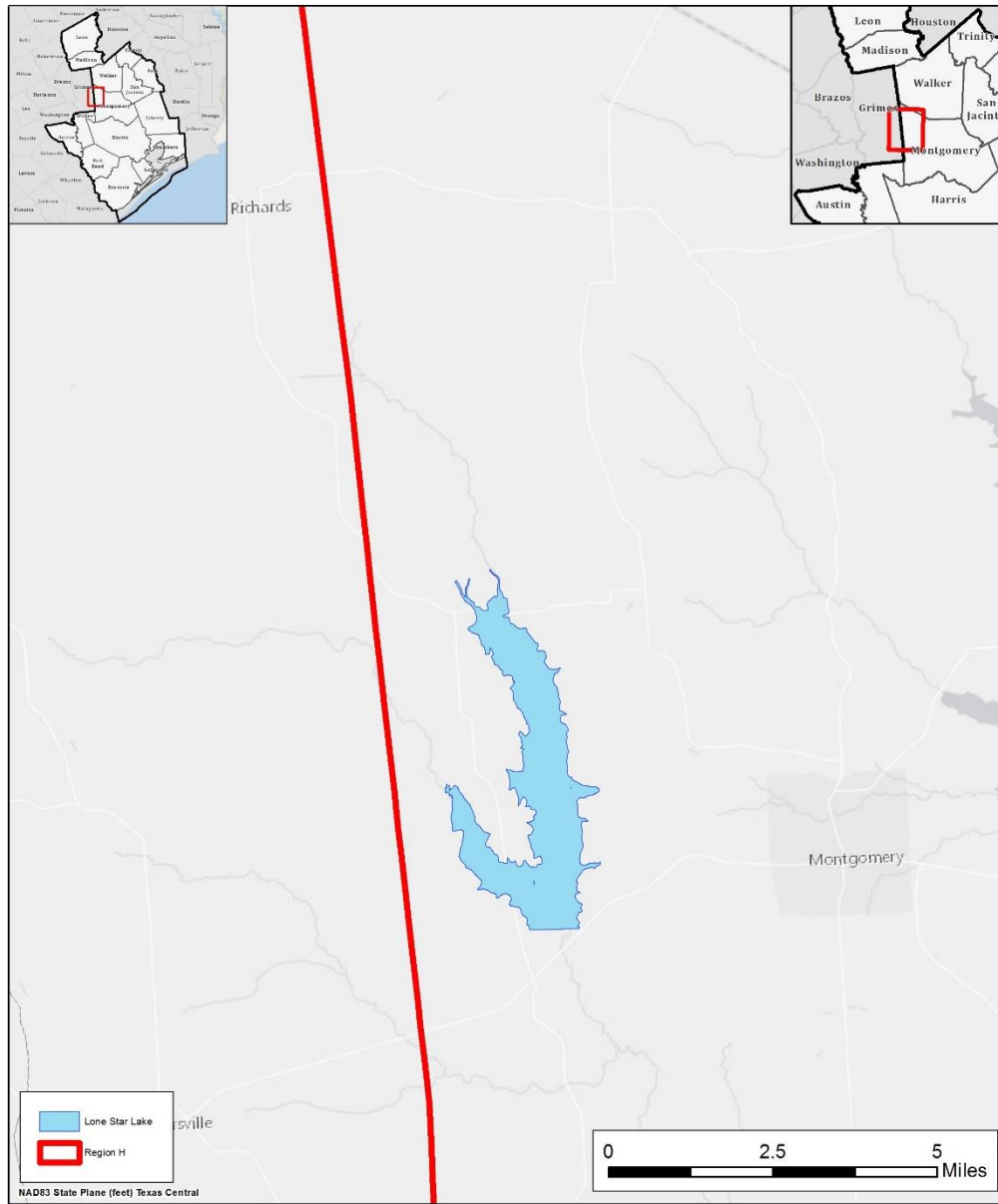
Lone Star Lake will potentially impact approximately 2,900 acres of land, a large portion of which is used for various agricultural activities. The project may potentially reduce instream flows by approximately 6,030 acre-feet per year on average. Actual impacts will be determined by the water right permit and bounded by environmental flow standards for the basin.

Water User Group Application

The Lone Star Lake project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

CRITERIA	WUG SUITABILITY
Proximity	The project is located near demand growth in Montgomery County but also has the potential to supply water downstream through bed and banks transfer.
Size	The yield of this project makes it poorly suited for meeting the demands of large WUGs and WWPs.
Water Quality	The raw water produced by this project will require treatment for use in domestic and some industrial applications.
Unit Cost	The unit cost of this project is relatively high compared to other projects in the San Jacinto River basin.

Location Map



Lone Star Lake Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Manvel Supply Expansion
Project ID:	SWDV-007
Project Type:	Surface Water Development
Potential Supply Quantity (Rounded):	15,680 ac-ft/yr (14.0 mgd)
Implementation Decade:	2020 (initial phase)
Development Timeline:	<10 years
Project Capital Cost:	\$269,052,608 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,510 per ac-ft (during loan period) \$309 per ac-ft (after loan period)

Strategy Description

The City of Manvel, located in Brazoria County, currently relies on groundwater to meet its customer demands, except for a small amount of direct reuse. In order to address expected growth within its service area, as well as potential expansion of its service area, the City has developed a Master Water Plan. In anticipation of potential future regulatory limitations on groundwater use in Brazoria County, the Master Water Plan prioritizes development of surface water supplies. The City has secured a water supply contract from the Brazos River Authority (BRA) for 3,731 ac-ft/yr, which is available from BRA's system operation permit. Additionally, the City is seeking a water use permit from the Texas Commission on Environmental Quality (TCEQ) to divert and impound water from Mustang Bayou in a small off-channel reservoir in the San Jacinto-Brazos Coastal Basin. This project also includes development of a surface water treatment plant and an expanded transmission network to allow the City to begin providing water service to areas within the city limits and extraterritorial jurisdiction but outside of its current retail water service area.

Strategy Analyses

The project analyses for the Manvel Supply Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

A study performed by LRE Water, LLC for the City indicated that impounding diversions from Mustang Bayou in an existing off-channel excavation could provide a firm yield of up to 900 ac-ft/yr. The development of this site as an off-channel reservoir would be relatively low-cost compared to constructing a new reservoir, and the City has already purchased the property. The City has a contract to purchase up to 3,731 ac-ft/yr from BRA, which would be diverted from the Brazos River and

delivered to the City through the Gulf Coast Water Authority (GCWA) canal system. A new surface water treatment plant and expanded transmission capacity would enable the City to provide treated surface water from its BRA contract, Mustang Bayou permit, and other potential future sources, with an anticipated treatment capacity of 15,680 ac-ft/yr (14 mgd).

Environmental Considerations

Increased diversion of water from Mustang Bayou will result in some decreases in instream flow downstream of diversion points. However, the proposed permit would be subject to environmental flow restrictions in the basin senior to the permit. The use of surface water purchased from BRA will also result in reduced instream flows. However, these diversions from the Brazos River will be made from existing water rights owned by BRA. Some surface disturbance may be associated with development of surface water treatment facilities and transmission infrastructure.

Permitting and Development

The City of Manvel is actively seeking a water use permit from TCEQ to develop surface water from Mustang Bayou. Implementation of this project will reduce instream flows in Mustang Bayou. The proposed off-channel reservoir would be developed in an existing depression on a site acquired by the City in 2013. The treatment plant will be located on the same property as the off-channel reservoir. Construction of a surface water treatment plant and transmission infrastructure expansions will be required to utilize portions of the source supply, which may entail minor permitting.

Cost Analysis

Capital costs of the surface water treatment plant and transmission expansion were provided in the City's Master Water Plan and have been scaled to an equivalent September 2018 cost. Planning level cost estimates for other components in the Manvel Supply Expansion strategy were developed using standard regional planning assumptions. Because the proposed off-channel reservoir will make use of an existing excavation, no direct construction cost was assumed for the reservoir besides an intake pump and a short pipeline to the proposed surface water treatment plant. A 400 gpm groundwater well has also been included to meet demands during the 2020 planning decade, as the surface water infrastructure is not expected to be operational until 2030. Additional costs, including cost of interest during construction, annualized debt service, and annual operating costs were also developed based on standard assumptions for regional planning. A total cost estimate for the Manvel Supply Expansion surface water development project is shown in *Table 1*.

Table 1 – Manvel Supply Expansion Cost Estimate

OPINION OF PROBABLE CONSTRUCTION COST					September 2018	
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$189,436,563	\$189,436,563	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$64,408,716	\$64,408,716	
3	LAND AND EASEMENTS	1	LS	\$296,446	\$296,446	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$732,166	\$732,166	
5	INTEREST DURING CONSTRUCTION	1	LS	\$14,178,716	\$14,178,716	
PROJECT CAPITAL COST					\$269,052,608	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (2020 GROUNDWATER EXPANSION)	\$109,757	\$109,757	\$0	\$0	\$0	\$0
2	DEBT SERVICE (2030 SURFACE WATER EXPANSION)	\$0	\$18,821,075	\$18,821,075	\$0	\$0	\$0
3	OPERATION AND MAINTENANCE (2020 GROUNDWATER EXPANSION)	\$7,859	\$7,859	\$0	\$0	\$0	\$0
4	OPERATION AND MAINTENANCE (2030 SURFACE WATER EXPANSION)	\$0	\$4,830,736	\$4,830,736	\$4,830,736	\$4,830,736	\$4,830,736
5	PUMPING ENERGY COSTS	\$40,135	\$61,561	\$21,426	\$21,426	\$21,426	\$21,426
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$157,751	\$23,830,987	\$23,673,236	\$4,852,162	\$4,852,162	\$4,852,162

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$157,751	\$23,830,987	\$23,673,236	\$4,852,162	\$4,852,162	\$4,852,162
2	YIELD (TOTAL)	331	16,011	15,680	15,680	15,680	15,680
3	YIELD (2020 GROUNDWATER EXPANSION)	331	331	0	0	0	0
4	YIELD (2030 SURFACE WATER EXPANSION)	0	15,680	15,680	15,680	15,680	15,680
5	UNIT COST	\$477	\$1,488	\$1,510	\$309	\$309	\$309
TOTAL UNIT COST		\$787					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$3,682,594	\$3,682,594	
2	PIPELINES	1	LS	\$37,881,630	\$37,881,630	
3	WATER TREATMENT PLANTS	1	LS	\$130,043,951	\$130,043,951	
4	WATER STORAGE TANKS	1	LS	\$17,042,467	\$17,042,467	
5	OFF-CHANNEL RESERVOIRS	1	LS	\$0	\$0	
6	WELL FIELDS	1	LS	\$785,921	\$785,921	
PROJECT COST					\$189,436,563	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$3,682,594	\$92,065	
2	PIPELINES	1.0	%	\$37,881,630	\$378,816	
3	WATER TREATMENT PLANTS	1.0	LS	\$3,972,759	\$3,972,759	
4	WATER STORAGE TANKS	1.0	%	\$17,042,467	\$170,425	
5	OFF-CHANNEL RESERVOIRS	1.5	%	\$14,444,734	\$216,671	
6	WELL FIELDS	1.0	%	\$785,921	\$7,859	
ANNUAL OPERATION AND MAINTENANCE COST					\$4,838,595	

Water Management Strategy Evaluation

Based on the analysis provided above, the Manvel Supply Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Unit cost of the project, as depicted, is very high because water treatment is sized for ultimate capacity.
Location	5	Project is located near demand center and includes transmission components for delivery to potential customers.
Water Quality	3	No known issues regarding water quality.
Environmental Land and Habitat	3	Limited environmental impacts associated with identified site.
Environmental Flows	2	Some decrease in environmental flows below diversion points. Some of the diversions will require a new water use permit.
Local Preference	4	No known opposition.
Institutional Constraints	4	Permit application planned. Property has been acquired.
Development Timeline	4	Project development, including permitting, could be accomplished in approximately 10 years or less.
Sponsorship	4	The City of Manvel has identified the project in its Master Water Plan.
Vulnerability	3	Some risk from natural and man-made disasters due to impoundment of water.
Impacts on Other WMS	3	No impact on other WMS is anticipated.

The Manvel Supply Expansion project will develop a water supply reservoir by converting 106 acres of presently unused land that was previously an industrial excavation. The proposed surface water treatment plant is adjacent to the reservoir location in the vicinity of existing development. The project is not anticipated to have a substantial impact on habitat or agricultural production. The project makes use of 3,731 ac-ft/yr of flows already permitted for use in the Brazos River and would also increase permitted diversions in the San Jacinto-Brazos Coastal Basin by up to 902 ac-ft/yr.

Water User Group Application

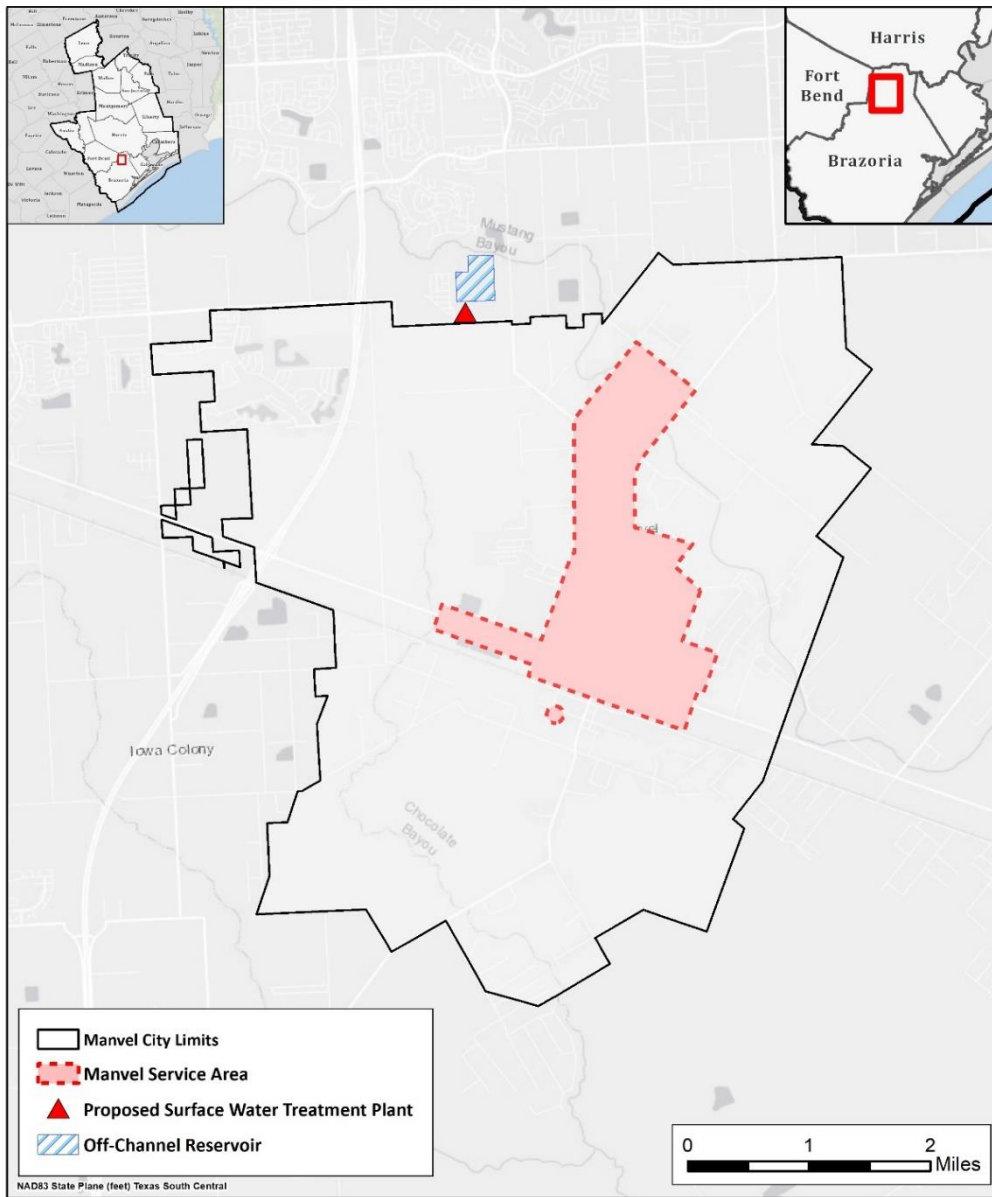
The Manvel Supply Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	The capacity of this project is based on demands projected by the project sponsor.
Water Quality	Project provides treated water suitable for municipal use.
Unit Cost	Near-term and long-term unit costs for this project are very high because water treatment is sized for ultimate capacity.
Other Factors	This project is identified for serving the City of Manvel and surrounding areas.

References

HDR Inc. *City of Manvel: 2017 Master Water Plan*, September 2017.

Location Map



Manvel Supply Expansion Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	NRG Cedar Bayou Desalination
Project ID:	SWDV-008
Project Type:	New Surface Water Source
Potential Supply Quantity (Rounded):	22,400 ac-ft/yr (20 mgd)
Implementation Decade:	2030
Development Timeline:	5 years
Project Capital Cost:	\$342,840,391 (Sept. 2018)
Unit Water Cost (Rounded):	\$2,637 per ac-ft (during loan period) \$1,560 per ac-ft (after loan period)

Strategy Description

NRG Energy generates electricity at multiple facilities throughout Region H, including the NRG Cedar Bayou Electric Generating Station in close proximity to the City of Baytown and a number of industrial operations. Associated with this site, NRG holds an authorization to divert surface water from Cedar Bayou. Due to close proximity to Trinity Bay, the diversion point is tidally influenced, resulting in elevated and highly variable salinity but also providing high volumetric supply reliability. NRG and IDE Technologies are cooperating on an ongoing study of a potential desalination facility located at the Cedar Bayou Electric Generating Station. A desalination facility at this site would benefit from several factors, including source availability, ability to leverage existing intake and discharge infrastructure, limited permitting effort, and proximity to extensive development with a need for extremely reliable water supply.

Strategy Analyses

The strategy analyses for NRG Cedar Bayou Desalination include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The NRG Cedar Bayou Desalination concept is intended to provide desalinated water to industrial development, augmenting existing supplies with a reliable, high-quality water supply from an alternative source. While the current project concept is focused on industrial supply, proximity to municipal distribution systems including the Baytown Area Water Authority (BAWA) could allow municipal use as well. The proposed strategy calls for a 20-MGD reverse osmosis (RO) treatment facility at the site of the NRG Cedar Bayou Electric Generating Station near the City of Baytown. The proposed location of the project benefits the project in several ways that include, but are not limited to:

- Existing diversion authorization for surface water from Cedar Bayou.
- Existing TPDES discharge authorization.
- Pre-existing intake, pumping, discharge canal infrastructure, and power connection infrastructure for existing electrical generation operations to reduce costs and expedite project implementation.
- Adequate space for storage capacity to allow flexible operation and reduced power cost.

Water for the project would be diverted under an existing authorization in Certificate of Adjudication 09-3926, held primarily by NRG, which authorizes up to 30,000 ac-ft/yr of consumptive use of surface water from Cedar Bayou and unlimited withdrawal for non-consumptive use. While amendment of the permit would likely be required, the existing authorization for industrial use and the location of the project in a coastal basin would be expected to limit amendment efforts related to authorized consumptive use types and locations.

Diversion would occur through NRG's existing surface water intake on Cedar Bayou. Pretreatment would be performed by means of flocculation, clarifier settling, and ultra-filtration, with further treatment of resultant sludge. Supplies would be desalinated through reverse osmosis (RO), with large capacity storage of treated water allowing flexible operation and avoidance of peak power cost. Brine concentrate from RO treatment would outfall to NRG's existing discharge canal, where it would be diluted and flow to the Cedar Bayou Generating Pond (locally known as Dutton Lake) for cooling and eventual return to Trinity Bay. NRG currently holds a TPDES permit for circulating flow with a required minimum circulation of 163 MGD through the discharge canal to the Cedar Bayou Generating Pond. In addition to accommodating existing cooling, this large required circulation of already saline water would provide for extensive dilution of discharged concentrate and would reduce impacts of concentrate discharge on the receiving waters.

Environmental Considerations

Environmental impacts associated with this project are expected to be minimal due to the developed nature of the identified site. Access to an existing intake and discharge point allows for minimal additional impacts to water resources in the area. The site itself is adjacent to existing industrial facilities and is expected to have minimal impacts to habitat and wildlife.

Permitting and Development

Permit requirements for the implementation of the project are expected to be minimal, as the facility would be located at NRG's existing Cedar Bayou electric generating facility. This location will minimize further impacts on threatened and endangered species, wetlands, and other environmental factors. The existing NRG water right on Cedar Bayou may be amended to allow for the plant's operation and use in adjoining basins, with limited challenges anticipated due to the diversion's location in a coastal basin. NRG's existing TPDES permit requires a daily circulation through NRG facilities to an existing discharge canal substantially larger than the anticipated diversion and is not expected to require substantial modification. Due to the high degree of industrial development surrounding the project site, delivery pipeline alignments would be expected to follow existing pipelines wherever possible, minimizing environmental issues along these rights-of-way.

Cost Analysis

A preliminary planning-level cost estimate was developed for the NRG Cedar Bayou Desalination project based on standard regional planning assumptions. Primary infrastructure components were assumed to include a seawater desalination treatment plant and a ground storage tank; due to project siting and the presence of existing intake facilities, pump station and pipeline costs were assumed to be minimal. Additional cost components, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard regional planning costing assumptions. Estimated costs are presented in *Table 1*.

Table 1 – NRG Cedar Bayou Desalination Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$233,933,515	\$233,933,515	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$81,876,730	\$81,876,730	
3	LAND AND EASEMENTS	1	LS	\$11,018	\$11,018	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$110,177	\$110,177	
5	INTEREST DURING CONSTRUCTION	1	LS	\$26,908,952	\$26,908,952	
PROJECT CAPITAL COST					\$342,840,391	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$24,122,619	\$24,122,619	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$34,662,539	\$34,662,539	\$34,662,539	\$34,662,539	\$34,662,539
3	PUMPING ENERGY COSTS	\$0	\$273,417	\$273,417	\$273,417	\$273,417	\$273,417
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$59,058,575	\$59,058,575	\$34,935,956	\$34,935,956	\$34,935,956

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$59,058,575	\$59,058,575	\$34,935,956	\$34,935,956	\$34,935,956
2	YIELD	-	22,400	22,400	22,400	22,400	22,400
3	UNIT COST	\$0	\$2,637	\$2,637	\$1,560	\$1,560	\$1,560
TOTAL UNIT COST							\$1,990

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WATER TREATMENT PLANTS	1	LS	\$230,880,025	\$230,880,025	
2	WATER STORAGE TANKS	1	LS	\$3,053,489	\$3,053,489	
PROJECT COST					\$233,933,515	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WATER TREATMENT PLANTS	1.0	LS	\$34,632,004	\$34,632,004	
2	WATER STORAGE TANKS	1.0	%	\$3,053,489	\$30,535	
ANNUAL OPERATION AND MAINTENANCE COST					\$34,662,539	

Water Management Strategy Evaluation

Based on the analysis provided above, the NRG Cedar Bayou Desalination strategy was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Very high cost, but the project represents a drought-proof, high quality water supply.
Location	3	Some conveyance likely required to meet demands. This is dependent upon the location of individual end user facilities.
Water Quality	3	No known water quality issues due to location of intake and discharge points. Receiving water NRG discharge canal is saline.
Environmental Land and Habitat	3	Limited environmental concerns associated with project due to development in existing industrial area.
Environmental Flows	2	Project would cause limited reductions of bay inflow from the lower tidally influenced portion of Cedar Bayou. These diversions would be made under existing water rights.
Local Preference	3	Local support for desalination development.
Institutional Constraints	3	Limited permitting required but not yet initiated. Property available for project development.
Development Timeline	5	Development timeline shortened due to existing infrastructure for intake and discharge and utilization of an existing saline water right.
Sponsorship	3	Sponsor is actively investigating project options and working to identify and coordinate with potential users.
Vulnerability	3	Risk to project related to natural disasters within proximity to the coast. However, this risk is mitigated through existing, developed infrastructure.
Impacts on Other WMS	3	No direct impacts on other projects. Could allow greater flexibility in use of some existing sources.

The NRG Cedar Bayou Desalination project is not anticipated to affect acreage or vulnerable species. Development is anticipated at an existing power generation facility with limited potential for impact. The project may increase return flows by approximately 50 percent of the potential project yield of 22,400 ac-ft/yr through industrial return flows and is not anticipated to impact agricultural land or

production.

Water User Group Application

The NRG Cedar Bayou Desalination project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

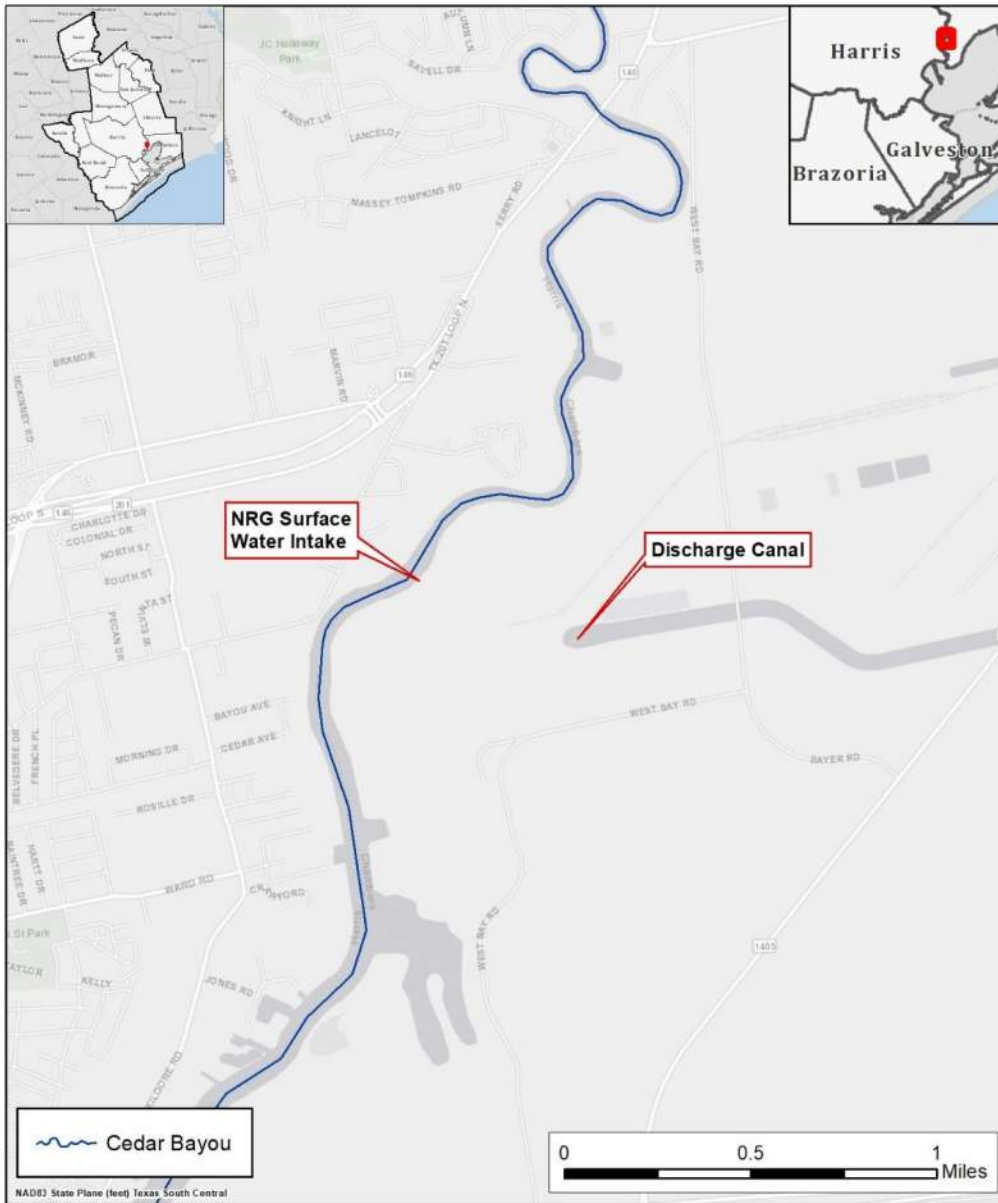
CRITERIA	WUG SUITABILITY
Proximity	The proposed project is ideally suited to serving industrial needs at and surrounding the Cedar Bayou generating facility and could reach additional municipal and industrial users through connection to the Baytown Area Water Authority system.
Size	The target project capacity of 20 MGD aligns with currently unused brackish to saline supplies under NRG's existing water right on Cedar Bayou.
Water Quality	The water from this project would be a high-quality supply that could be appropriate for municipal or industrial use.
Unit Cost	The unit cost for this project may be prohibitive to some potential users. However, implementation of this project may be reasonable for uses requiring a supply that is protected from effects of drought.
Other Factors	The drought resistance of the project supply would be potentially beneficial for the industrial demands in the vicinity of the project, many of which require high supply reliability.

References

Texas Water Development Board. *The Future of Desalination in Texas, Volume 1 – Biennial Report on Seawater Desalination*. 2004.

Texas Water Development Board. *The Future of Desalination in Texas: 2018 Biennial Report to the Texas Legislature on Seawater and Brackish Groundwater Desalination*. 2018.

Location Map



NRG Cedar Bayou Desalination Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Brazosport Water Authority Conventional Treatment Expansion
Project ID:	TRET-001
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	8,400 ac-ft/yr (7.5 mgd)
Implementation Decade:	2030 (2024)
Development Timeline:	5 years
Project Capital Cost:	\$19,085,165 (Sept. 2018)
Unit Water Cost (Rounded):	\$351 per ac-ft (during loan period) \$191 per ac-ft (after loan period)

Strategy Description

The Brazosport Water Authority (BWA) serves seven communities in the southern Brazoria County area and provides potable service to Dow Inc. and two Texas Department of Criminal Justice (TDCJ) units, as well as the City of Rosenberg. In December of 2013, BWA concluded a Texas Water Development Board (TWDB) Regional Facility Planning Grant study to examine the potential for serving the current BWA service area as well as other portions of Brazoria County in the future. In addition to the development of a reverse osmosis (RO) water treatment plant (WTP) at the site of the current BWA surface water treatment plant, the study also recommended expansion of BWA's conventional surface water treatment capacity in order to accommodate additional growth within and surrounding the existing service area of the facility.

Strategy Analyses

The project analyses for BWA Conventional Treatment Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The proposed project will include the expansion of BWA's 19.97 MGD conventional filtration treatment plant by an additional 7.5 MGD. This project will work in conjunction with the proposed brackish groundwater and RO facilities to provide adequate supplies to meet future needs to be served by BWA.

Environmental Considerations

It is anticipated that the BWA WTP Expansion will be developed within the confines of the existing plant site. This is expected to minimize additional environmental impacts.

Permitting and Development

Permitting will be required for components external to the scope of any initial permitting process conducted for the BWA WTP site.

Cost Analysis

Preliminary cost estimates for the proposed project were provided by BWA and adjusted for use in regional planning. These costs are summarized below in *Table 1*.

Table 1 – BWA Conventional Treatment Expansion Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$13,390,000	\$13,390,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$4,686,500	\$4,686,500	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,008,665	\$1,008,665	
PROJECT CAPITAL COST					\$19,085,165	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$1,342,853	\$1,342,853	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$1,601,392	\$1,601,392	\$1,601,392	\$1,601,392	\$1,601,392
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$2,944,245	\$2,944,245	\$1,601,392	\$1,601,392	\$1,601,392

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$2,944,245	\$2,944,245	\$1,601,392	\$1,601,392	\$1,601,392
2	YIELD	-	8,400	8,400	8,400	8,400	8,400
3	UNIT COST	\$0	\$351	\$351	\$191	\$191	\$191
TOTAL UNIT COST							\$255

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$1,880,000	\$1,880,000	
2	WATER TREATMENT PLANTS	1	LS	\$11,510,000	\$11,510,000	
PROJECT COST					\$13,390,000	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$1,880,000	\$47,000	
2	WATER TREATMENT PLANTS	1.0	LS	\$1,554,392	\$1,554,392	
ANNUAL OPERATION AND MAINTENANCE COST					\$1,601,392	

Water Management Strategy Evaluation

Based on the analysis provided above, the BWA Conventional Treatment Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Project provides treated water at a moderately low cost, which decreases further after completion of debt service.
Location	3	Conveyance required to provide water to diverse BWA service area.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	5	Very limited impacts associated with existing BWA plant site.
Environmental Flows	3	No change in river diversions directly associated with project.
Local Preference	4	Local support from BWA customers.
Institutional Constraints	3	Minimal permitting effort associated with project.
Development Timeline	5	Project can be implemented in a relatively short time period.
Sponsorship	5	Project is under development.
Vulnerability	4	No substantial risk from natural and man-made disasters.
Impacts on Other WMS	5	Project works in conjunction with BWA brackish groundwater project to provide a reliable water supply.

The BWA Conventional Treatment Expansion is not anticipated to affect acreage or vulnerable species. Development is anticipated to be on the existing plant site with limited potential for impact. The plant expansion will not directly impact environmental flows. The project will utilize existing diversions in the basin that are already permitted. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The BWA Conventional Treatment Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project is positioned to provide water within the current BWA customer service area.
Size	Project is sized to provide adequate dry-year supply for BWA customer use.
Water Quality	Project will provide treated potable water for municipal and industrial use.
Unit Cost	Unit cost is suited to use for municipal supply.
Other Factors	Project is identified for BWA service area.

References

CDM-Smith. *Brazoria County Regional Water Facility Study*. May 2013.

Location Map



Brazosport Water Authority Conventional Treatment Plant Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston Treatment Expansion
Project ID:	TRET-002
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	33,033 – 89,396 ac-ft/yr (29.5 – 79.8 mgd)
Implementation Decade:	2040
Development Timeline:	5-10 years
Project Capital Cost:	Included under associated infrastructure projects
Unit Water Cost (Rounded):	Included under associated infrastructure projects

Strategy Description

The City of Houston (COH) operates three major surface water treatment plants in Harris County. Collectively, these facilities provide treated water to the COH distribution system as well as a number of regional partners and contract customers. The facilities provide an important tie between raw water supplies in the Trinity and San Jacinto River Basins to demands as far west as the Brazos River Basin in Fort Bend County.

The East Water Purification Plant (EWPP) is located in eastern Harris County and is currently rated for 350 MGD. The largest share of this capacity is introduced to the COH distribution system for service to the Houston area including contract customers in Harris County. In addition, this facility also provides for the first phases of conversion for the West Harris County Regional Water Authority (WHCRWA) and North Fort Bend Water Authority (NFBWA). The Southeast Water Purification Plant (SEWPP) provides water for COH as well as several co-participants in the facility. The 200 MGD capacity of the plant is distributed among the COH as well as the Gulf Coast Water Authority (GCWA), Clear Lake City Water Authority (CLCWA), Clearbrook City MUD, the La Porte Area Water Authority (LPAWA), Harris County MUD 55, Pasadena, South Houston, Webster, Friendswood, and Baybrook MUD 1. The Northeast Water Purification Plant (NEWPP) is located in northeastern Harris County and currently provides 80 MGD of capacity to COH as well as the North Harris County Regional Water Authority (NHCRWA) and Central Harris County Regional Water Authority (CHCRWA). This facility will be expanded in the coming years to accommodate additional needs of COH, NHCRWA, and, CHCRWA, as well as additional contract supply for WHCRWA and NFBWA. Details regarding this project are contained in a separate project memorandum.

Strategy Analyses

The project analyses for COH Treatment Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost. This memorandum describes projected needs for expansion of the

overall treatment capacity, while details regarding planned expansion of the NEWPP and other treatment concepts including a SEWPP additional treatment module and a surface water treatment plant in the western part of the COH service area are contained in separate memoranda.

Supply Development

Identification of potential future treatment capacity expansion was based on a decadal comparison of estimated water needs for the COH system to existing and planned treatment capacities at the three major COH water treatment plants, as shown in *Table 1*. Existing customer sales and capacity reservation volumes were subtracted from the capacity of each plant to determine the portion of treatment capacity retained by COH. Because the plant capacities represent peaked operation, this value was divided by an estimated peaking factor of 1.3 to determine an average daily flow (ADF) production capacity. The ADF was then subtracted from the estimated volume required for COH self-supply and future growth in treated water sales, and a peaking factor of 1.3 was applied to this difference; the resultant value reflects the potential need for water treatment capacity beyond the capacities currently in place or under development. As shown in the table, the estimated values for 2020 and 2030 are extremely small relative to COH’s overall treatment capacity and would likely be easily absorbed by existing and near-future infrastructure. By 2040, it is anticipated based on the Regional Plan analysis that development of additional treatment units would be required. Based on the projections calculated in *Table 1*, the additional treatment need could be met through a combination of the facilities included in the recommended WMS Projects for SEWPP Additional Module, City of Houston West WPP, and City of Houston Reuse, or through expansions at other treatment facilities.

Table 1 – Summary of Reuse Authorizations and Availability

		2020	2030	2040	2050	2060	2070
Existing / Scheduled Capacities (MGD)	NEWPP	400	400	400	400	400	400
	EWPP	350	350	350	350	350	350
	SEWPP	200	200	200	200	200	200
	Total	950	950	950	950	950	950
Existing / Scheduled COH Capacities (MGD)	NEWPP	87.8	87.8	87.8	87.8	87.8	87.8
	EWPP	250.2	250.2	250.2	250.2	250.2	250.2
	SEWPP	69.1	69.1	69.1	69.1	69.1	69.1
	Total	407.1	407.1	407.1	407.1	407.1	407.1
Peaking Factor		1.3	1.3	1.3	1.3	1.3	1.3
ADF COH Capacity	(MGD)	313.2	313.2	313.2	313.2	313.2	313.2
	(Ac-Ft/Yr)	350,751	350,751	350,751	350,751	350,751	350,751
COH Treated Water Demand	Total (Ac-Ft/Yr)	317,454	328,508	383,784	399,384	420,450	440,147
	Excess (Ac-Ft/Yr)	0	0	33,033	48,633	69,699	89,396
	Excess (MGD)	0.0	0.0	29.5	43.4	62.2	79.8
Peaking Factor		1.3	1.3	1.3	1.3	1.3	1.3
Additional Plant Capacity (MGD)		0.0	0.0	38.3	56.4	80.9	103.8

Environmental Considerations

The current WPP sites were fully acquired during the development of the initial-phase projects. Impacts will be associated with the development of property that was disturbed during the construction of the initial project. Construction disturbance impacts at other potential sites would be site-specific but would likely be located within previously disturbed urbanized areas. Improvements to the intake structure and pipeline conveyance to the plants may also involve mitigation efforts.

Permitting and Development

Development of expanded distribution infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. For construction occurring on existing plant sites, permitting and mitigation would be expected to be minimal. Any infrastructure constructed outside of the plant site would require additional permitting.

Cost Analysis

The costs associated with developing this project are included under other infrastructure projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the COH Treatment Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Cost for project are related to other infrastructure projects.
Location	3	Conveyance required to make water supply available to intended users. This is planned under other projects.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	4	Expansion likely to be constructed on existing plant site or within previously disturbed urbanized or urbanizing areas.
Environmental Flows	3	No direct impact to environmental flows although water diverted for treatment may reduce flows and wastewater.
Local Preference	3	No known significant opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	5	Each expansion phase could be implemented in approximately 5 years or less.

CRITERIA	RATING	EXPLANATION
Sponsorship	3	Sponsor identified and currently engaged in development of other treatment expansion projects.
Vulnerability	4	Minor risks from natural and man-made disasters associated with source availability.
Impacts on Other WMS	5	Treatment capacity expansion is a significant piece of the overall water supply project for Harris and Fort Bend Counties as the means of treating water delivered by existing sources and future supply projects.

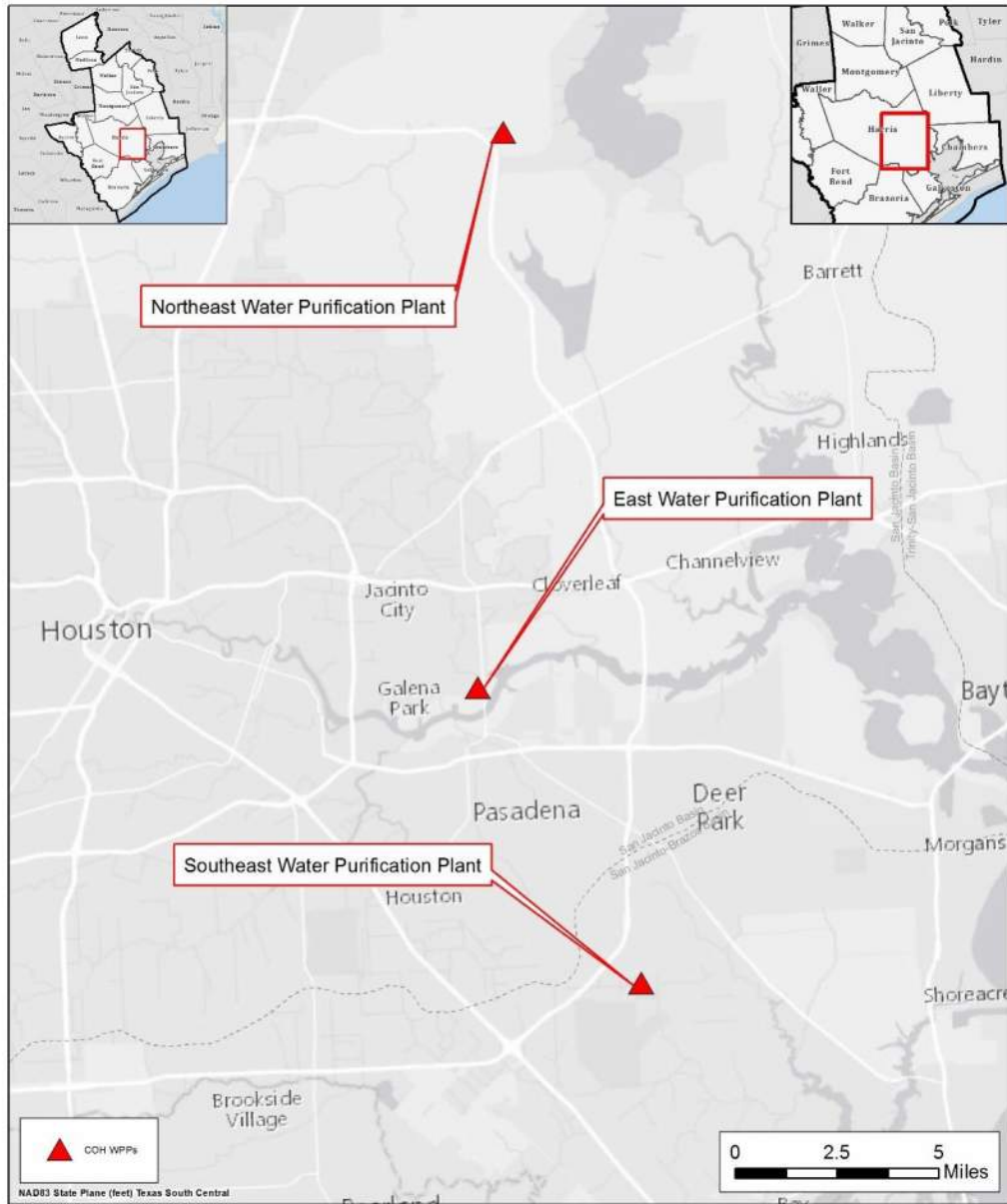
City of Houston Treatment Expansion is not anticipated to affect acreage or vulnerable species and will not directly impact environmental flows. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The COH Treatment Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Supplies can be made available to meet demands in the immediate vicinity of treatment facilities or conveyed through additional projects to other demand areas.
Size	The magnitudes of the associated infrastructure projects were developed based on surface water needs projected for COH and its customers.
Water Quality	Provides treated surface water for a variety of uses.
Unit Cost	Included under other infrastructure projects.
Other Factors	Associated infrastructure projects represent additional treated water capacity beyond the level currently implemented or in development.

Location Map



Houston Water Purification Plants Location Map



Texas

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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	City of Houston West Water Purification Plant
Project ID:	TRET-003
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	103,385 ac-ft/yr (92.3 mgd)
Implementation Decade:	2040
Development Timeline:	<10 years per phase
Project Capital Cost:	\$959,257,534 (Sept. 2018)
Unit Water Cost (Rounded):	\$1,418 per ac-ft (during loan period) \$277 per ac-ft (after loan period)

Strategy Description

The City of Houston (COH) operates three major surface water treatment plants in Harris County. Collectively, these facilities provide treated water to the COH distribution system as well as a number of regional partners and contract customers. The facilities provide an important tie between raw water supplies in the Trinity and San Jacinto River Basins and demands as far west as the Brazos River Basin in Fort Bend County. As demands increase in both the Houston service area and among wholesale customers of COH, the City will need to develop additional treatment capacity. A new surface water treatment plant in the western part of Harris County has been recommended to help meet this demand.

Strategy Analyses

The project analyses for COH West Water Purification Plant include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The Allens Creek Reservoir site is jointly owned by the Brazos River Authority (BRA), COH, and the Texas Water Development Board (TWDB). The site is permitted for development as Allens Creek Reservoir through amended water user permit 2925A in the Brazos River Basin. Seventy percent of the permit (69,750 acre-feet per year) is owned by COH and 30 percent of the permit (29,900 acre-feet per year) is owned by the BRA. This project concept reflects the development of a new water purification plant in order to treat the raw water supply from Allens Creek Reservoir or other future supplies for use in the Houston area. A preliminary concept for a pipeline to convey raw water from Allens Creek Reservoir to the western part of COH for treatment is also included. The development of Allens Creek Reservoir is discussed in a separate memorandum.

Environmental Considerations

Implementation of this water management strategy will increase COH diversions from the Brazos River, resulting in some decreases in instream flow downstream of Allens Creek Reservoir diversion point. However, these diversions will be made from existing water rights currently owned by COH, and no new water rights permits are required for this project.

Environmental issues associated with raw water conveyance infrastructure are expected to be minimal due to the use of existing corridors for most of the development. Further environmental study will be required as detailed alignment alternatives are developed. Threatened and endangered species occurring in the general project area are shown in *Table 1*.

Table 1 – Threatened and Endangered Species in Project Area

AMPHIBIANS		FEDERAL STATUS	STATE STATUS
Houston toad	<i>Anaxyrus houstonensis</i>	LE	E

BIRDS		FEDERAL STATUS	STATE STATUS
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Piping plover	<i>Charadrius melodus</i>	LT	T
Red-cockaded woodpecker	<i>Picooides borealis</i>	LE	E
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
White-tailed hawk	<i>Buteo albicaudatus</i>		T
Whooping crane	<i>Grus americana</i>	LE	E
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	LT	T
Shortfin mako shark	<i>Isurus oxyrinchus</i>		T
Western creek chubsucker	<i>Erimyzon claviformis</i>		T

MAMMALS		FEDERAL STATUS	STATE STATUS
Blue whale	<i>Balaenoptera musculus</i>	LE	E
Gulf of Mexico bryde's whale	<i>Balaenoptera edeni</i>	LE	E
Humpback whale	<i>Megaptera novaeangliae</i>	LE	
Louisiana black bear	<i>Ursus americanus luteolus</i>		T
North Atlantic right whale	<i>Eubalaena glacialis</i>	LE	E
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T
Sei whale	<i>Balaenoptera borealis</i>	LE	E
Sperm whale	<i>Physeter macrocephalus</i>	LE	E

MOLLUSKS		FEDERAL STATUS	STATE STATUS
Louisiana pigtoe	<i>Pleurobema riddellii</i>		T
Sandbank pocketbook	<i>Lampsilis satura</i>		T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Loggerhead sea turtle	<i>Caretta caretta</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T

PLANTS		FEDERAL STATUS	STATE STATUS
Houston daisy	<i>Rayjacksonia aurea</i>		T
Texas prairie dawn	<i>Hymenoxys texana</i>	LE	E

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT – Federal Proposed for Listing; T - State Listed Endangered/Threatened; “blank” - Rare, but with no regulatory listing status.

Permitting and Development

Development of conveyance infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. Although most of the conveyance infrastructure can likely be constructed along existing rights of way, pipeline alignments and a treatment facility site have not yet been determined. Some acquisition of additional easements and property will be required to complete the conveyance route and to construct the water treatment facility.

Cost Analysis

A preliminary planning-level cost estimate was developed for the COH West Water Purification Plant project based on standard regional planning assumptions. Cost estimates assume that a treatment plant will be built in two phases, each with a peak capacity to treat up to 60 MGD, with the associated pipelines and pump station for conveyance from Allens Creek Reservoir will be constructed in the first

phase. Interest during construction, annualized debt service, pumping energy costs, and costs of operation and maintenance were also estimated using standard assumptions for Region H. Costs are presented in September 2018 equivalent costs in *Table 2*.

Table 2 – COH West Water Purification Plant Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$514,430,653	\$514,430,653
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$172,480,683	\$172,480,683
3	LAND AND EASEMENTS	1	LS	\$128,237,560	\$128,237,560
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$35,621,973	\$35,621,973
5	INTEREST DURING CONSTRUCTION	1	LS	\$108,486,665	\$108,486,665
PROJECT CAPITAL COST					\$959,257,534

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (PHASE 1)	\$0	\$0	\$54,095,007	\$54,095,007	\$0	\$0
2	DEBT SERVICE (PHASE 2)	\$0	\$0	\$0	\$0	\$13,399,386	\$13,399,386
3	OPERATION AND MAINTENANCE (PHASE 1)	\$0	\$0	\$17,252,271	\$17,252,271	\$17,252,271	\$17,252,271
4	OPERATION AND MAINTENANCE (PHASE 2)	\$0	\$0	\$0	\$0	\$7,455,379	\$7,455,379
5	PUMPING ENERGY COSTS	\$0	\$0	\$1,964,403	\$1,964,403	\$3,928,806	\$3,928,806
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$73,311,681	\$73,311,681	\$42,035,841	\$42,035,841

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$73,311,681	\$73,311,681	\$42,035,841	\$42,035,841
2	YIELD	-	-	51,692	51,692	103,385	103,385
3	UNIT COST	\$0	\$0	\$1,418	\$1,418	\$407	\$407
TOTAL UNIT COST							\$744

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS (PHASE 1)	1	LS	\$49,298,684	\$49,298,684
2	PIPELINES (PHASE 1)	1	LS	\$147,835,606	\$147,835,606
3	PIPELINE CROSSINGS (PHASE 1)	1	LS	\$3,565,309	\$3,565,309
4	WATER TREATMENT PLANTS (PHASE 1)	1	LS	\$207,225,635	\$207,225,635
5	WATER TREATMENT PLANTS (PHASE 2)	1	LS	\$106,505,418	\$106,505,418
PROJECT COST					\$514,430,653

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS (PHASE 1)	2.5	%	\$49,298,684	\$1,232,467
2	PIPELINES (PHASE 1)	1.0	%	\$147,835,606	\$1,478,356
3	PIPELINE CROSSINGS (PHASE 1)	1.0	%	\$3,565,309	\$35,653
4	WATER TREATMENT PLANTS (PHASE 1)	1.0	LS	\$14,505,794	\$14,505,794
5	WATER TREATMENT PLANTS (PHASE 2)	1.0	LS	\$7,455,379	\$7,455,379
ANNUAL OPERATION AND MAINTENANCE COST					\$24,707,650

Water Management Strategy Evaluation

Based on the analysis provided above, the COH West Water Purification Plant project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	This project provides conveyance and treatment of raw water at a high cost, but unit cost is significantly reduced after completion of debt service.
Location	5	This project is located near demand centers that are not readily served from Houston's eastern supplies.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	No direct impact on environmental flows. Project represents use of a supply source developed in another WMS.
Local Preference	3	Limited opposition anticipated.
Institutional Constraints	2	Some property acquisition will be required.
Development Timeline	4	Project could be developed, including permitting, in approximately 10 years.
Sponsorship	3	Sponsor identified; commitment level not established.
Vulnerability	4	Minor risks from natural and man-made disasters associated with source availability.
Impacts on Other WMS	5	Project provides conveyance to demand centers and treatment of source supply developed through the Allens Creek Reservoir project.

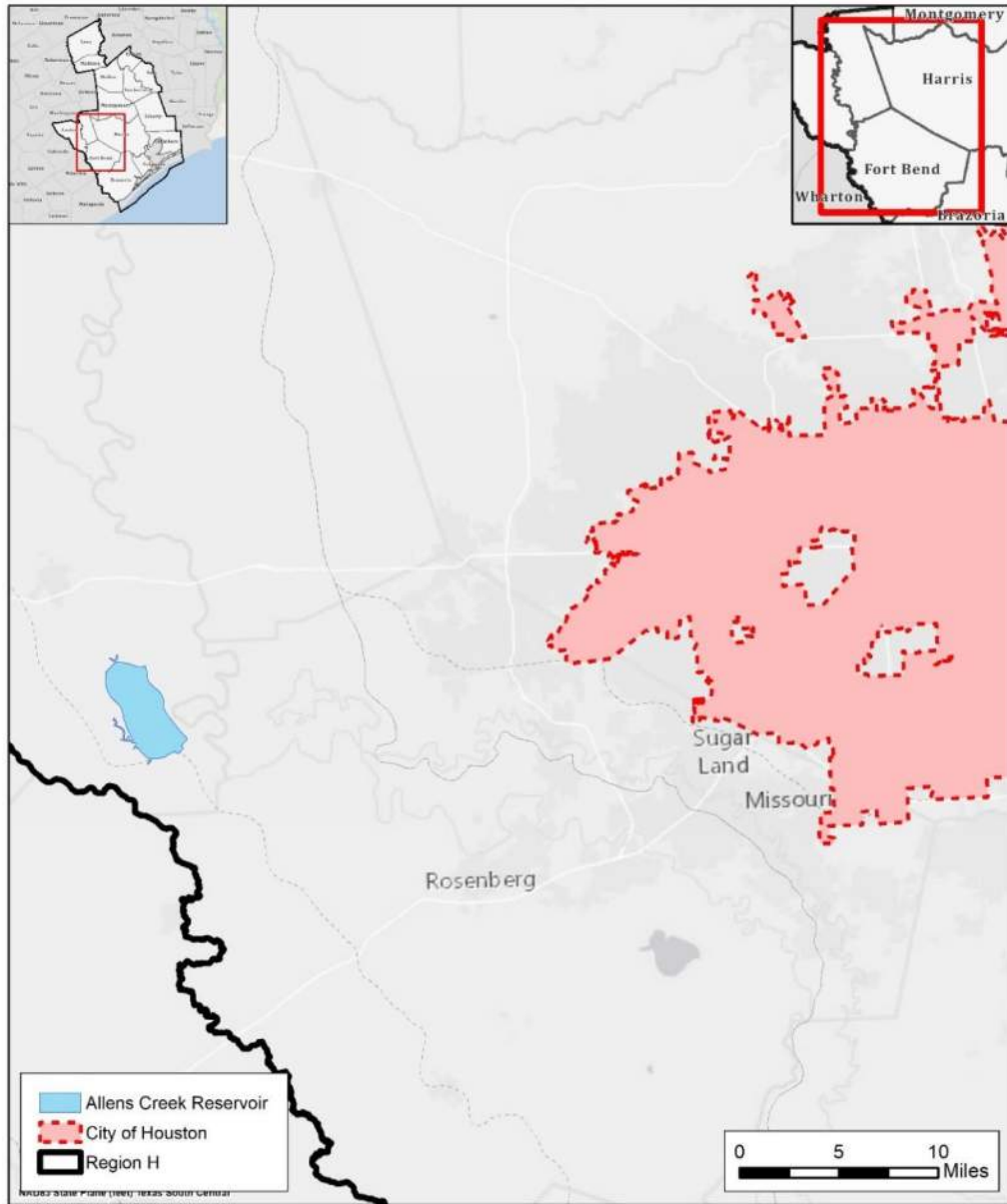
Conveyance to the COH West Water Purification Plant from Allens Creek Reservoir could include up to 30 miles of large-diameter pipelines, depending on pipeline alignments. Construction may cause impacts to habitat and agricultural acreage along the conveyance corridor, but actual impacts will be determined by final configurations. The project will not directly impact environmental flows.

Water User Group Application

The COH West Water Purification Plant project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Project includes conveyance components to deliver supply to the Houston area.
Size	Project is sized to fully utilize the City of Houston’s share of Allens Creek Reservoir.
Water Quality	Project treats raw water to potable standards for municipal use.
Unit Cost	Project produces water at a cost typical for municipal water supply.
Other Factors	Project provides needed increase in treatment capacity for COH as identified in the COH Treatment Expansion evaluation.

Location Map



City of Houston West Water Purification Plant Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	GCWA Western Galveston County Treatment Expansion
Project ID:	TRET-004
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	22,400 ac-ft/yr (20 mgd)
Implementation Decade:	2030
Development Timeline:	<5 years
Project Capital Cost:	\$167,919,105 (Sept. 2018)
Unit Water Cost (Rounded):	\$894 per ac-ft (during loan period) \$367 per ac-ft (after loan period)

Strategy Description

Gulf Coast Water Authority (GCWA) supplies a number of industrial and agricultural customers in Galveston County with surface water from the Brazos River Basin and San Jacinto-Brazos Coastal Basin. GCWA holds several water rights in these basins and supplies its customers with surface water from these rights as well as contractual supplies purchased from the Brazos River Authority (BRA). GCWA currently provides potable water to many of its municipal customers from the Thomas S. Mackey Water Treatment Plant in Galveston County. GCWA has identified the need for a new surface water treatment plant to serve projected needs and contract demands for treated water in Galveston County.

Strategy Analyses

The project analyses for the GCWA Western Galveston County Treatment Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The GCWA Western Galveston County Treatment Expansion project is still in conceptual development. For the purposes of the 2021 Region H Regional Water Plan (RWP), the plant has been analyzed at an average daily flow capacity of 20 mgd (22,400 ac-ft/yr). Raw water treated at the plant would be sourced from existing GCWA water rights and contracts. Additionally, GCWA is pursuing an amendment to existing run-of-river water rights to increase flexibility of diversion locations, which is expected to enhance the quantity of raw water available to this project.

Environmental Considerations

Further environmental study will be required once a site has been selected for the surface water treatment plant. Threatened and endangered species occurring in Galveston County are shown in *Table 1*.

Table 1 – Threatened and Endangered Species of Galveston County

BIRDS		FEDERAL STATUS	STATE STATUS
Attwater's greater prairie-chicken	<i>Tympanuchus cupido attwateri</i>	LE	E
Black rail	<i>Laterallus jamaicensis</i>	PT	T
Eskimo curlew	<i>Numenius borealis</i>	LE	E
Piping plover	<i>Charadrius melodus</i>	LT	T
Reddish egret	<i>Egretta rufescens</i>		T
Rufa red knot	<i>Calidris canutus rufa</i>	LT	T
Swallow-tailed kite	<i>Elanoides forficatus</i>		T
White-faced ibis	<i>Plegadis chihi</i>		T
White-tailed hawk	<i>Buteo albicaudatus</i>		T
Wood stork	<i>Mycteria americana</i>		T

FISH		FEDERAL STATUS	STATE STATUS
Oceanic whitetip shark	<i>Carcharhinus longimanus</i>	LT	T
Shortfin mako shark	<i>Isurus oxyrinchus</i>		T
Smalltooth sawfish	<i>Pristis pectinata</i>	LE	E

MAMMALS		FEDERAL STATUS	STATE STATUS
Blue whale	<i>Balaenoptera musculus</i>	LE	E
Gulf of Mexico bryde's whale	<i>Balaenoptera edeni</i>	LE	E
Humpback whale	<i>Megaptera novaeangliae</i>	LE	
North Atlantic right whale	<i>Eubalaena glacialis</i>	LE	E
Rafinesque's big-eared bat	<i>Corynorhinus rafinesquii</i>		T
Sei whale	<i>Balaenoptera borealis</i>	LE	E
Sperm whale	<i>Physeter macrocephalus</i>	LE	E
West Indian manatee	<i>Trichechus manatus</i>	LT	T

REPTILES		FEDERAL STATUS	STATE STATUS
Alligator snapping turtle	<i>Macrochelys temminckii</i>		T
Atlantic hawksbill sea turtle	<i>Eretmochelys imbricata</i>	LE	E
Green sea turtle	<i>Chelonia mydas</i>	LT	T
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	LE	E
Leatherback sea turtle	<i>Dermochelys coriacea</i>	LE	E
Loggerhead sea turtle	<i>Caretta caretta</i>	LT	T
Texas horned lizard	<i>Phrynosoma cornutum</i>		T
PLANTS		FEDERAL STATUS	STATE STATUS
Houston daisy	<i>Rayjacksonia aurea</i>		T

LE, LT - Federally Listed Endangered/Threatened; SAE, SAT - Federally Listed Endangered/Threatened by Similarity of Appearance; C - Federal Candidate for Listing; DL, PDL - Federally Delisted/Proposed for Delisting; NL - Not Federally Listed; PT - Federal Proposed for Listing; T - State Listed Endangered/Threatened; "blank" - Rare, but with no regulatory listing status.

Permitting and Development

Because the supply source for this project is from existing water rights and will be delivered through GCWA's canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required. Property for the facility will need to be acquired, and some permitting may be associated with surface disturbance due to facility construction.

Cost Analysis

Planning level cost estimates for the project were developed using standard Regional Planning cost reference data and scaled to a September 2018 equivalent cost in accordance with TWDB requirements. The project was estimated to require a single 20-mgd phase of treatment expansion. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 2*.

Table 2 – GCWA Western Galveston County Treatment Expansion Estimated Project Cost

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$117,609,168	\$117,609,168
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$41,161,796	\$41,161,796
3	LAND AND EASEMENTS	1	LS	\$143,400	\$143,400
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$130,093	\$130,093
5	INTEREST DURING CONSTRUCTION	1	LS	\$8,874,647	\$8,874,647
PROJECT CAPITAL COST					\$167,919,105

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$11,814,969	\$11,814,969	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$7,869,909	\$7,869,909	\$7,869,909	\$7,869,909	\$7,869,909
3	PUMPING ENERGY COSTS	\$0	\$341,772	\$341,772	\$341,772	\$341,772	\$341,772
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$20,026,650	\$20,026,650	\$8,211,681	\$8,211,681	\$8,211,681

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$20,026,650	\$20,026,650	\$8,211,681	\$8,211,681	\$8,211,681
2	YIELD	0	22,400	22,400	22,400	22,400	22,400
3	UNIT COST	\$0	\$894	\$894	\$367	\$367	\$367
TOTAL UNIT COST							\$578

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$6,139,098	\$6,139,098
2	PIPELINES	1	LS	\$28,263	\$28,263
3	WATER TREATMENT PLANTS	1	LS	\$111,441,808	\$111,441,808
PROJECT COST					\$117,609,168

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$6,139,098	\$153,477
2	PIPELINES	1.0	%	\$28,263	\$283
3	WATER TREATMENT PLANTS	1.0	LS	\$7,716,149	\$7,716,149
ANNUAL OPERATION AND MAINTENANCE COST					\$7,869,909

Water Management Strategy Evaluation

Based on the analysis provided above, the GCWA Western Galveston County Treatment Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

Criteria	Rating	Explanation
Cost	2	Cost is moderately high but decreases substantially after debt service.
Location	3	Conveyance required to make water supply available to intended users. Project location has not yet been determined but could be located near demand centers.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	3	No direct impact to environmental flows although water diverted for treatment may reduce instream flows.
Local Preference	3	No known opposition.
Institutional Constraints	2	Some property acquisition will be required.
Development Timeline	5	Project could be developed, including permitting, within 5 years.
Sponsorship	3	Sponsor identified; project is still in conceptual phase.
Vulnerability	4	Minor risks from natural and man-made disasters associated with source availability.
Impacts on Other WMS	5	Adding treatment capacity will potentially work in conjunction with other projects to leverage supply.

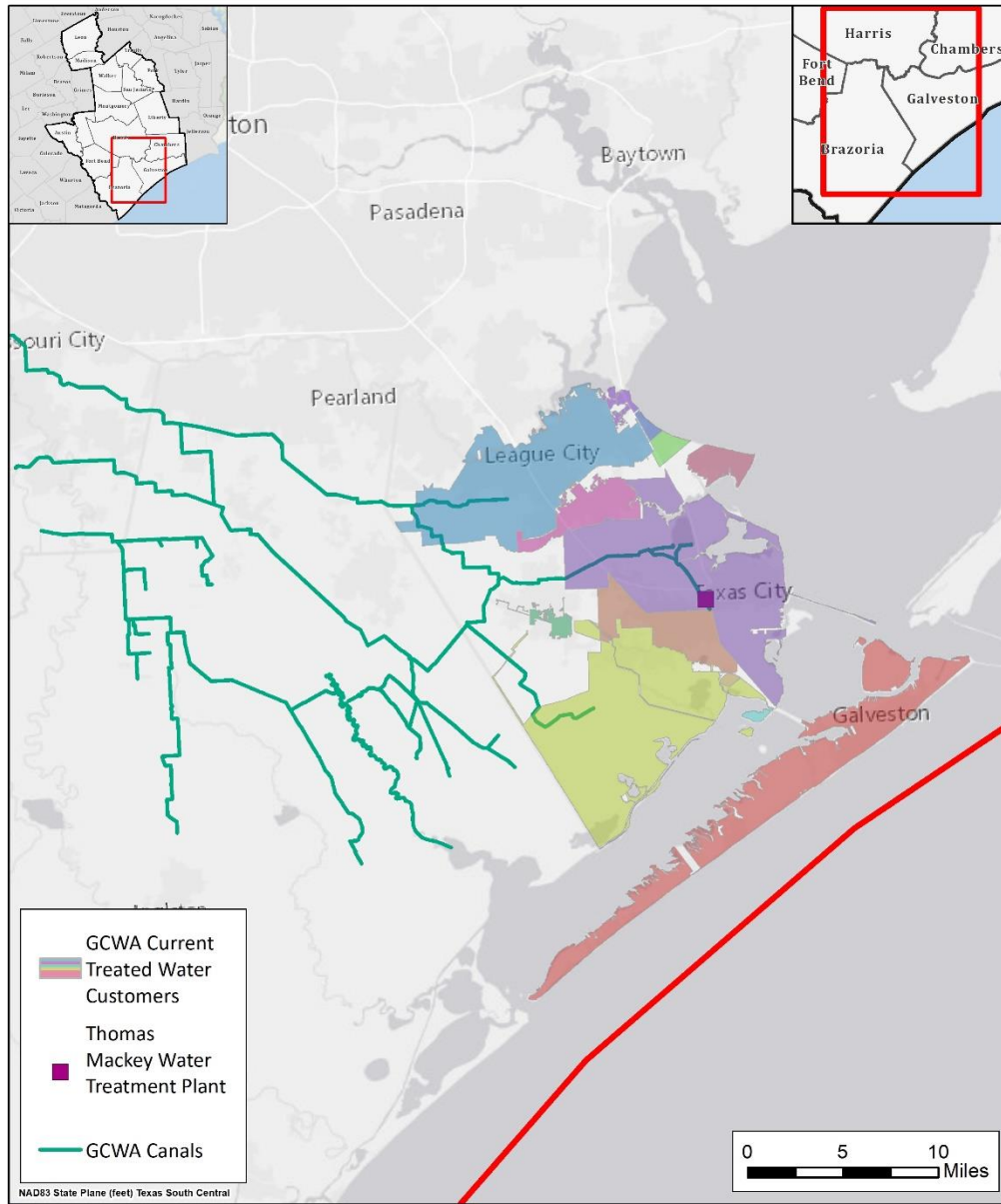
Development of the GCWA Western Galveston County Treatment Expansion may cause minimal impacts to habitat, but actual impacts will be determined by the final project location. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The GCWA Western Galveston County Treatment Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

Criteria	WUG Suitability
Proximity	Final project location may be dependent on anticipated customer needs; treatment plant could potentially be located in close proximity to WUGs being served.
Size	Final project size can be adjusted dependent on anticipated customer needs.
Water Quality	This project provides treated surface water for a variety of uses.
Unit Cost	The unit cost of this project is appropriate for municipal or industrial treated water supply.

Location Map



GCWA Western Galveston County Treatment Expansion Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Northeast Water Purification Plant Expansion
Project ID:	TRET-005
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	448,000 ac-ft/yr (400 mgd)
Implementation Decade:	2030 (2025) for Phases 1 and 2
Development Timeline:	9 years
Project Capital Cost:	\$2,179,413,588 (Sept. 2018)
Unit Water Cost (Rounded):	\$615 per ac-ft (during loan period) \$272 per ac-ft (after loan period)

Strategy Description

The Northeast Water Purification Plant (NEWPP) is an 80 MGD facility located in northeast Harris County. The plant diverts water from nearby Lake Houston and treats it for use by the City of Houston (COH), North Harris County Regional Water Authority (NHCRWA), and Central Harris County Regional Water Authority (CHCRWA). The facility serves as the sole source of treated surface water for NHCRWA and CHCRWA, enabling them to meet the groundwater reduction requirements of the Harris-Galveston Subsidence District (HGSD).

The NEWPP will continue to serve these users with treated surface water as their demands and conversion requirements increase over time. An increased level of conversion will be needed in order to allow the three current customers to meet their conversion requirements by 2025. In addition, the West Harris County Regional Water Authority (WHCRWA) and North Fort Bend Water Authority (NFBWA) will rely on water from this plant in order to meet their 2025 conversion obligations. Meeting these future conversion targets will require the combined benefit of the individual authorities' Groundwater Reduction Plans (GRPs) and their associated infrastructure, the expanded NEWPP, and the Luce Bayou transfer project, which was completed in 2019.

Strategy Analyses

The project analyses for Northeast Water Purification Plant Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The projected plant capacity was developed based on demands estimated by the project participants. An 80 MGD module will be added in Phase 1, with anticipated completion completed in early 2023. Three additional 80 MGD modules will be constructed during Phase 2, to be completed by 2025. The

shares of demand for the first two phases of the project, to be completed by 2025, are shown below in *Table 1*. In addition, COH is investigating the potential third expansion phase with construction of another 80-MGD module 3 by 2035, bringing the total capacity of the NEWPP to 480 MGD.

Table 1 – NEWPP Phase 1 and 2 Pro Rata Shares

Participant	Pro Rata Share (MGD)
NHCRWA	113.00
CHCRWA	4.88
NFBWA	68.50
WHCRWA	82.42
COH	51.20
TOTAL	320.00

Environmental Considerations

The NEWPP site was fully acquired during the development of the original 80 MGD treatment plant. Impacts will be associated with the development of property that is already included within the project footprint. Improvements to the intake structure and pipeline conveyance to the plant may also involve mitigation efforts.

Permitting and Development

Permitting will be required for components external to the scope of the initial permitting process conducted for the NEWPP site.

Cost Analysis

Maximum project price and shares of total capital cost assigned to each sponsor were provided by COH for Phases 1 and 2 of the project. For regional planning purposes, the provided maximum project cost estimate was assumed to be inclusive of all capital components, including construction, engineering, design, environmental studies, land acquisition and easement cost, and interest during construction. Values were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Annual costs, including debt service and operation and maintenance, were developed using standard regional planning assumptions based on TWDB guidance. Values for Phase 3 were assumed to be proportional to earlier Phases based on treatment volume. Estimated costs for all phases are shown in *Table 2*.

Table 2 – Northeast Water Purification Plant Expansion Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$1,963,475,811	\$1,963,475,811	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$215,937,776	\$215,937,776	
3	LAND AND EASEMENTS	1	LS	\$0	\$0	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$0	\$0	
PROJECT CAPITAL COST					\$2,179,413,588	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE (PHASES 1 & 2)	\$0	\$122,676,709	\$122,676,709	\$0	\$0	\$0
2	DEBT SERVICE (PHASE 3)	\$0	\$0	\$30,669,177	\$30,669,177	\$0	\$0
3	OPERATION AND MAINTENANCE (PHASES 1 & 2)	\$0	\$97,634,022	\$97,634,022	\$97,634,022	\$97,634,022	\$97,634,022
4	OPERATION AND MAINTENANCE (PHASE 3)	\$0	\$0	\$24,408,505	\$24,408,505	\$24,408,505	\$24,408,505
5	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
6	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$220,310,731	\$275,388,414	\$152,711,705	\$122,042,527	\$122,042,527

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$220,310,731	\$275,388,414	\$152,711,705	\$122,042,527	\$122,042,527
2	YIELD	-	358,400	448,000	448,000	448,000	448,000
3	UNIT COST	\$0	\$615	\$615	\$341	\$272	\$272
TOTAL UNIT COST							\$415

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS (PHASES 1 & 2)	1	LS	\$160,800,413	\$160,800,413	
2	PUMP STATIONS (PHASE 3)	1	LS	\$40,200,103	\$40,200,103	
3	WATER TREATMENT PLANTS (PHASES 1 & 2)	1	LS	\$1,325,236,817	\$1,325,236,817	
4	WATER TREATMENT PLANTS (PHASE 3)	1	LS	\$331,309,204	\$331,309,204	
5	SUBSTATION IMPROVEMENTS (PHASES 1 & 2)	1	LS	\$84,743,419	\$84,743,419	
6	SUBSTATION IMPROVEMENTS (PHASE 3)	1	LS	\$21,185,855	\$21,185,855	
PROJECT COST					\$1,963,475,811	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS (PHASES 1 & 2)	2.5	%	\$160,800,413	\$4,020,010	
2	PUMP STATIONS (PHASE 3)	2.5	%	\$40,200,103	\$1,005,003	
3	WATER TREATMENT PLANTS (PHASES 1 & 2)	7.0	%	\$1,325,236,817	\$92,766,577	
4	WATER TREATMENT PLANTS (PHASE 3)	7.0	%	\$331,309,204	\$23,191,644	
5	SUBSTATION IMPROVEMENTS (PHASES 1 & 2)	1.0	%	\$84,743,419	\$847,434	
6	SUBSTATION IMPROVEMENTS (PHASE 3)	1.0	%	\$21,185,855	\$211,859	
ANNUAL OPERATION AND MAINTENANCE COST					\$122,042,527	

Water Management Strategy Evaluation

Based on the analysis provided above, the Northeast Water Purification Plant Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Initial project cost is moderately high, with some decrease after completion of debt service.
Location	3	Conveyance required to make water supply available to intended users. This is planned under other projects.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	4	Expansion to be constructed on existing plant site.
Environmental Flows	3	No direct impact to environmental flows although water diverted for treatment at the NEWPP may reduce instream flows.
Local Preference	5	Substantial support for project development.
Institutional Constraints	5	Property acquired and construction in progress.
Development Timeline	4	Project development timeline of less than 10 years.
Sponsorship	5	Sponsors identified and engaged in project development.
Vulnerability	4	Minor risks from natural and man-made disasters associated with source availability.
Impacts on Other WMS	5	NEWPP expansion is a significant piece of the overall water supply strategy for Harris and Fort Bend Counties as the means of treating water delivered by Luce Bayou before transmission to regional water authority customers.

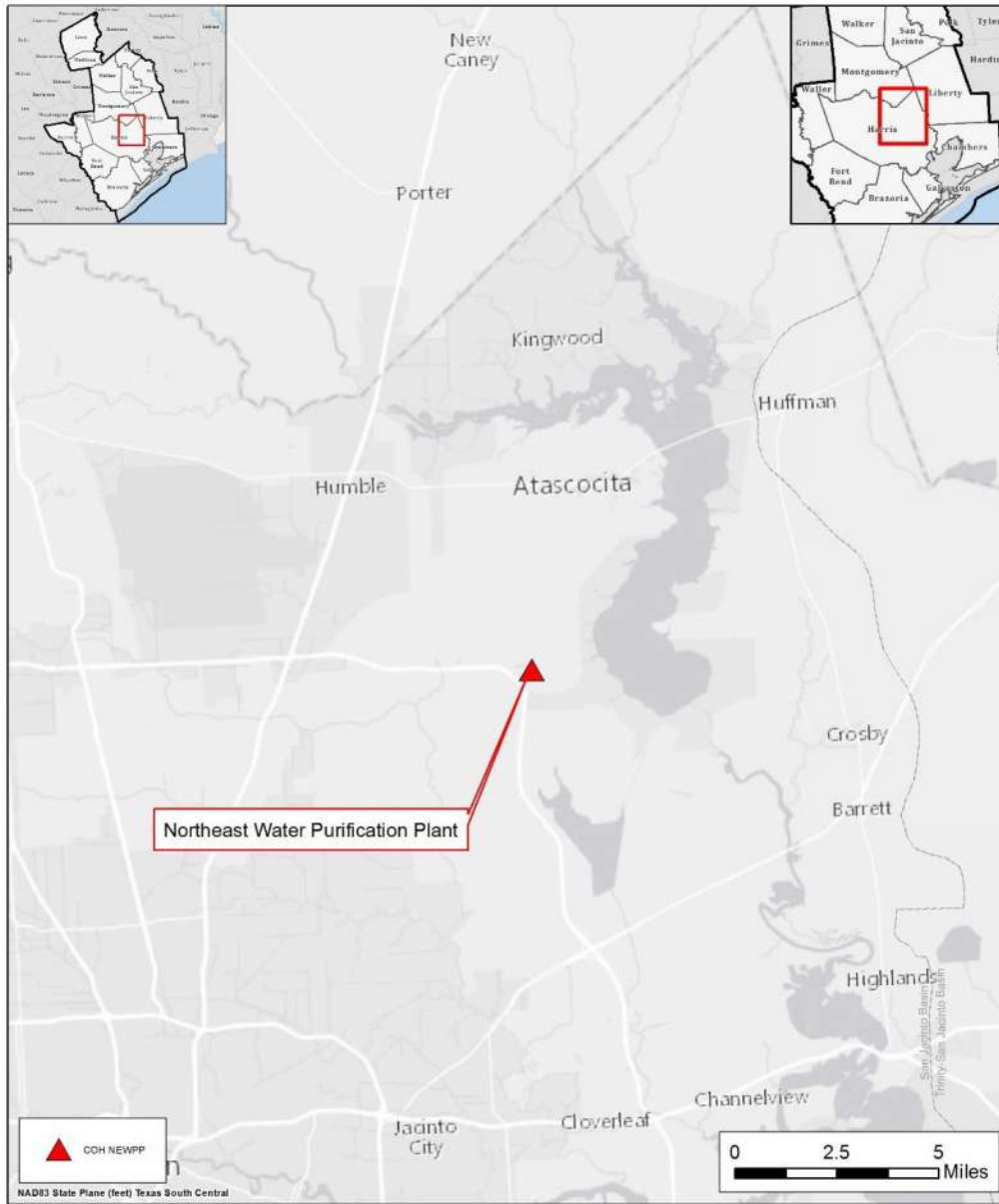
The NEWPP Expansion is not anticipated to affect acreage or vulnerable species. The NEWPP Expansion will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

The Northeast Water Purification Plant Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Treated water from the NEWPP expansion can be made available to meet demands in the immediate vicinity of the plant or conveyed through additional projects to other demand areas.
Size	The expansion provides a sizable amount of treated surface water for use throughout the greater Houston area. The total volume is divided among project participants.
Water Quality	The project provides treated surface water for potable uses such as for meeting municipal demands.
Unit Cost	The unit cost of this project makes it an acceptable project for municipal and other potable water demands.
Other Factors	The participants in this project have been identified and are moving forward with project development.

Location Map



Northeast Water Purification Plant Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Pearland Surface Water Treatment Plant
Project ID:	TRET-006
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	22,400 ac-ft/yr (20 mgd)
Implementation Decade:	2030
Development Timeline:	5 years
Project Capital Cost:	\$232,787,093 (Sept. 2018)
Unit Water Cost (Rounded):	\$973 per ac-ft (during loan period) \$242 per ac-ft (after loan period)

Strategy Description

In order to address demand growth and reduce dependence on groundwater, the City of Pearland has contracted with the City of Houston (COH) for treated surface water from the Southeast Water Purification Plant (SEWPP) and with Gulf Coast Water Authority (GCWA) for raw surface water supplies. The City of Pearland is in the process of planning and developing a surface water treatment plant (SWTP) in order to utilize the contracted raw surface water.

Strategy Analyses

The project analyses for Pearland SWTP include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

This project is supplied by contractual agreements for supply from existing water rights. Development of the Pearland SWTP project will require development of a surface water treatment plant and associated infrastructure, including 24-inch and 36-inch transmission lines. The initial phase of SWTP development will have a capacity of 10 MGD (11,200 ac-ft/yr). Development of a preliminary engineering report and pilot testing have been completed, and the first phase of the SWTP is scheduled to begin operation in 2023. The project also includes an expansion of the SWTP to a total capacity of 20 MGD (22,400 ac-ft/yr) by year 2030.

Environmental Considerations

Implementation of this water management strategy will increase GCWA diversions from the Brazos River, resulting in some minimal decreases in instream flow downstream of the GCWA pump stations. However, these diversions will be made from existing water rights currently owned by GCWA and

contracted by the City of Pearland, and no new water rights permits are required for this project. Otherwise implementation of this project should produce minimal environmental impacts.

Permitting and Development

Because the supply source for this project is from existing water rights and will be delivered through GCWA’s canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required.

Cost Analysis

Capital costs for the initial 10 MGD surface water treatment plant are summarized in the City of Pearland’s 2020-2024 Capital Improvement Plan. Costs associated with environmental studies and mitigation are not identified as separate items, but for purposes of the regional plan it is assumed that these values are included in the estimates for other capital cost components. An estimated capital cost of \$40 million for the year 2030 expansion of the SWTP was provided by Pearland in preparation of the 2016 RWP and was scaled to a September 2018 equivalent cost in accordance with TWDB guidance. The costs presented in this memorandum do not include the purchase cost of water. Annual costs presented in *Table 1*, including debt service and costs for operations and maintenance, as well as estimated interest during construction, were calculated using standard cost estimation procedures for Region H.

Table 1 – Pearland Surface Water Treatment Plant Project Cost

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$143,195,297	\$143,195,297	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$31,107,943	\$31,107,943	
3	LAND AND EASEMENTS	1	LS	\$1,876,352	\$1,876,352	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0	
5	INTEREST DURING CONSTRUCTION	1	LS	\$9,830,784	\$9,830,784	
6	FUTURE 10 MGD EXPANSION	1	LS	\$46,776,717	\$46,776,717	
PROJECT CAPITAL COST					\$232,787,093	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$16,379,151	\$16,379,151	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$5,418,161	\$5,418,161	\$5,418,161	\$5,418,161	\$5,418,161
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$21,797,311	\$21,797,311	\$5,418,161	\$5,418,161	\$5,418,161

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$21,797,311	\$21,797,311	\$5,418,161	\$5,418,161	\$5,418,161
2	YIELD	-	22,400	22,400	22,400	22,400	22,400
3	UNIT COST	\$0	\$973	\$973	\$242	\$242	\$242
TOTAL UNIT COST		\$534					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	WATER TREATMENT PLANTS	1	LS	\$143,195,297	\$143,195,297	
PROJECT COST					\$143,195,297	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	WATER TREATMENT PLANTS	1.0	LS	\$5,418,161	\$5,418,161	
ANNUAL OPERATION AND MAINTENANCE COST					\$5,418,161	

Water Management Strategy Evaluation

Based on the analysis provided above, the Pearland SWTP project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	2	Costs are somewhat high during debt service but are reduced considerably after completion of debt service.
Location	4	Source located near points of demand with some conveyance infrastructure required to meet additional demands.

CRITERIA	RATING	EXPLANATION
Water Quality	3	No known issues regarding water quality.
Environmental Land and Habitat	4	Minimal impacts anticipated.
Environmental Flows	3	Project does not directly impact flows. Increased diversions are associated with existing water rights.
Local Preference	4	No known opposition.
Institutional Constraints	3	Minimal permitting challenges or opposition expected.
Development Timeline	5	Project development, including permitting, could be accomplished in approximately 5 years or less.
Sponsorship	4	Sponsor is identified and committed to project.
Vulnerability	5	Minimal risk associated with this project.
Impacts on Other WMS	3	No significant impacts recognized to other projects.

The Pearland SWTP includes a plant site that will be located in the vicinity of existing development. The project will not directly impact environmental flows and is not anticipated to impact agricultural land or production.

Water User Group Application

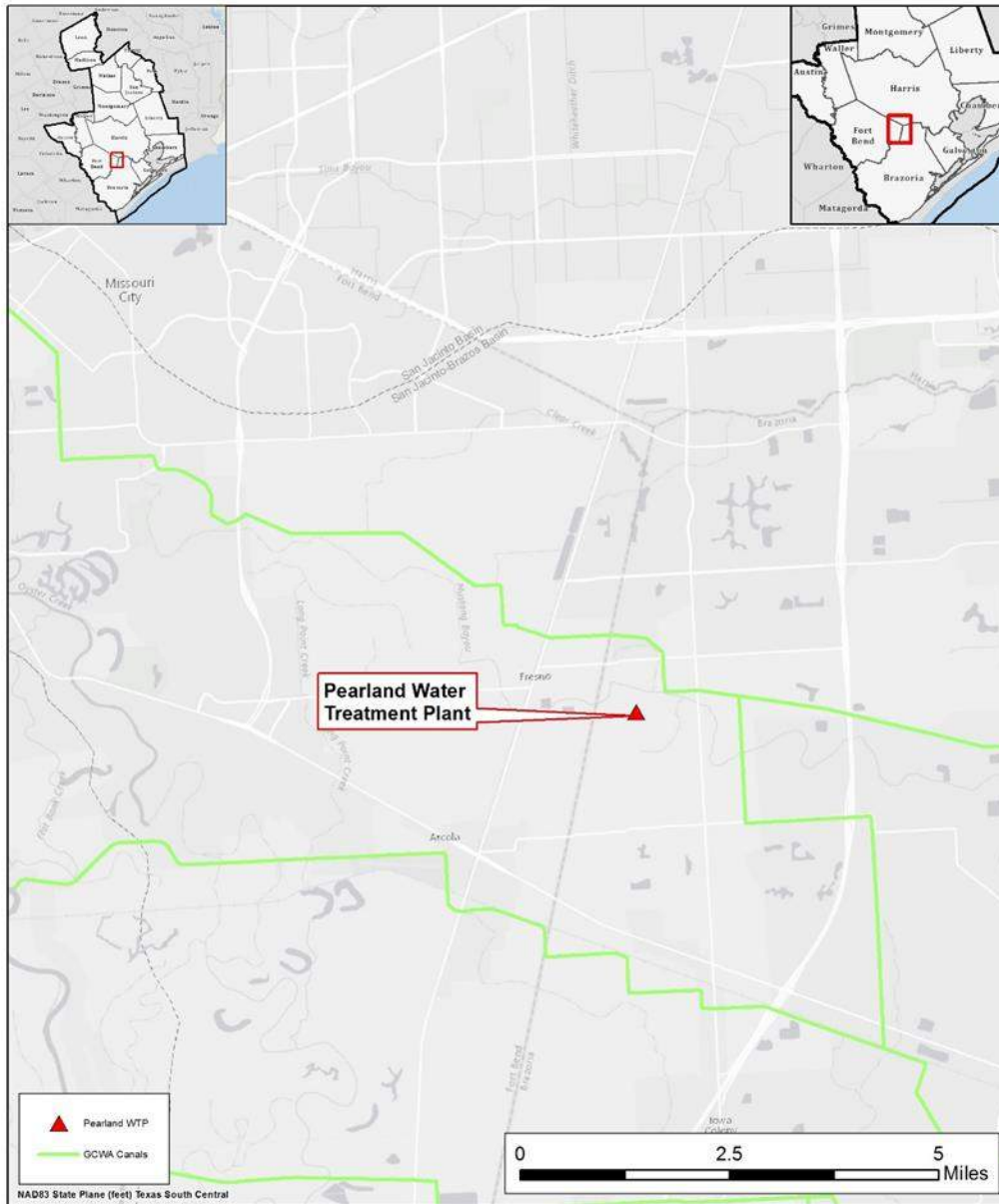
The Pearland SWTP project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served. It is anticipated that the project will only serve the City of Pearland and any entities that it provides with water supply.

CRITERIA	WUG SUITABILITY
Proximity	Project is located in close proximity to intended points of use.
Size	Project is of appropriate size to utilize the City of Pearland’s surface water contracts.
Water Quality	This project is expected to provide water of acceptable quality.
Unit Cost	The cost of this project is moderately high but decreases substantially after completion of debt service.
Other Factors	This project reduces groundwater dependence.

References

City of Pearland, *2020-24 City of Pearland Capital Improvement Program*, August 2019.

Location Map



City of Pearland Water Treatment Plant Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	SEWPP Additional Module
Project ID:	TRET-007
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	22,400 ac-ft/yr (20 mgd)
Implementation Decade:	2030
Development Timeline:	5 years
Project Capital Cost:	\$97,597,266 (Sept. 2018)
Unit Water Cost (Rounded):	\$497 per ac-ft (during loan period) \$191 per ac-ft (after loan period)

Strategy Description

The Southeast Water Purification Plant (SEWPP), which is operated by the City of Houston (COH), provides an important tie between raw water supplies in the Trinity River basin and a number of major demand centers served by the co-participants in the facility. The 200 MGD capacity of the plant is distributed among the COH, the Gulf Coast Water Authority (GCWA), Clear Lake City Water Authority (CLCWA), Clearbrook City MUD, the La Porte Area Water Authority (LPAWA), Harris County MUD 55, Pasadena, South Houston, Webster, Friendswood, and Baybrook MUD 1.

GCWA currently provides treated water supply from the SEWPP to League City. Due to substantial municipal and industrial water demands in the League City area, GCWA has identified the potential for expanding supplies to address future demand growth. Implementation of expanded treated water supply for GCWA's League City service area would involve procurement of additional raw source water as well as development of an additional 20 MGD treatment module at the SEWPP site. The SEWPP facility currently includes available space dedicated to the development of additional treatment modules. Conveyance of the proposed expanded treated water supply would require improvements to transmission infrastructure from the SEWPP along the Old Galveston Road corridor. Details regarding this transmission expansion project are contained in a separate project memorandum.

Strategy Analyses

The project analyses for the SEWPP Additional Module include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The projected treatment module capacity was based on the project sponsor's assessment of future demands for reliable treated water supply in its League City service area. The 20 MGD of additional

supply exceeds the current raw water and SEWPP treatment capacity reservations for GCWA, necessitating expansion of raw source water reservation and utilization of additional treatment capacity. Additional raw source water for the project would be assumed to originate from the reliable availability of existing water sources and to be delivered to the SEWPP through capacity remaining in current conveyance infrastructure. Preliminary analysis has demonstrated that this capacity is available. However, if it were found that adequate raw water supply was not available, additional infrastructure would be required to convey raw water from Lynchburg Reservoir to the SEWPP.

Environmental Considerations

The project is associated with an existing water treatment plant site with space available for future treatment modules. Impacts will be associated with the development of property that was disturbed during the construction of the initial treatment plant infrastructure.

Permitting and Development

Development of expanded treatment infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. This is expected to be minimal, as the majority of construction would be expected to occur on the existing plant site.

Cost Analysis

Planning level cost estimates for the project were developed using standard Regional Planning cost reference data and scaled to a September 2018 equivalent cost in accordance with TWDB requirements. The project was estimated to require a single 20 MGD phase of treatment expansion. The costs presented in this memorandum do not include the purchase cost of water. Estimated costs are presented in *Table 1*.

Table 1 – SEWPP Additional Module Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$61,372,114	\$61,372,114	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$21,478,392	\$21,478,392	
3	LAND AND EASEMENTS	1	LS	\$876,200	\$876,200	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$8,712,473	\$8,712,473	
5	INTEREST DURING CONSTRUCTION	1	LS	\$5,158,086	\$5,158,086	
PROJECT CAPITAL COST					\$97,597,266	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$6,867,049	\$6,867,049	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$3,932,794	\$3,932,794	\$3,932,794	\$3,932,794	\$3,932,794
3	PUMPING ENERGY COSTS	\$0	\$341,772	\$341,772	\$341,772	\$341,772	\$341,772
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$11,141,614	\$11,141,614	\$4,274,565	\$4,274,565	\$4,274,565

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$11,141,614	\$11,141,614	\$4,274,565	\$4,274,565	\$4,274,565
2	YIELD	-	22,400	22,400	22,400	22,400	22,400
3	UNIT COST	\$0	\$497	\$497	\$191	\$191	\$191
TOTAL UNIT COST							\$313

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	PUMP STATIONS	1	LS	\$6,139,098	\$6,139,098	
2	PIPELINES	1	LS	\$36,955	\$36,955	
3	WATER TREATMENT PLANTS	1	LS	\$55,196,062	\$55,196,062	
PROJECT COST					\$61,372,114	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	PUMP STATIONS	2.5	%	\$6,139,098	\$153,477	
2	PIPELINES	1.0	%	\$36,955	\$370	
3	WATER TREATMENT PLANTS	1.0	LS	\$3,778,947	\$3,778,947	
ANNUAL OPERATION AND MAINTENANCE COST					\$3,932,794	

Water Management Strategy Evaluation

Based on the analysis provided above, the SEWPP Additional Module project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	4	Cost is relatively low and decreases after debt service.
Location	3	Conveyance required to make water supply available to intended users. This is planned under other projects.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	4	Expansion to be constructed on existing plant site.
Environmental Flows	3	No direct impact to environmental flows, although water diverted for treatment may reduce flows.
Local Preference	3	No known significant opposition.
Institutional Constraints	3	Permits expected with minimal problems. Property available.
Development Timeline	5	Each expansion phase could be implemented in approximately 5 years or less.
Sponsorship	4	Sponsor identified and currently engaged in pursuit of related conveyance project.
Vulnerability	4	Minor risks from natural and man-made disasters associated with source availability.
Impacts on Other WMS	5	Treatment capacity expansion is a significant piece of the overall water supply strategy as the means of treating water delivered by existing sources and future transmission and supply projects.

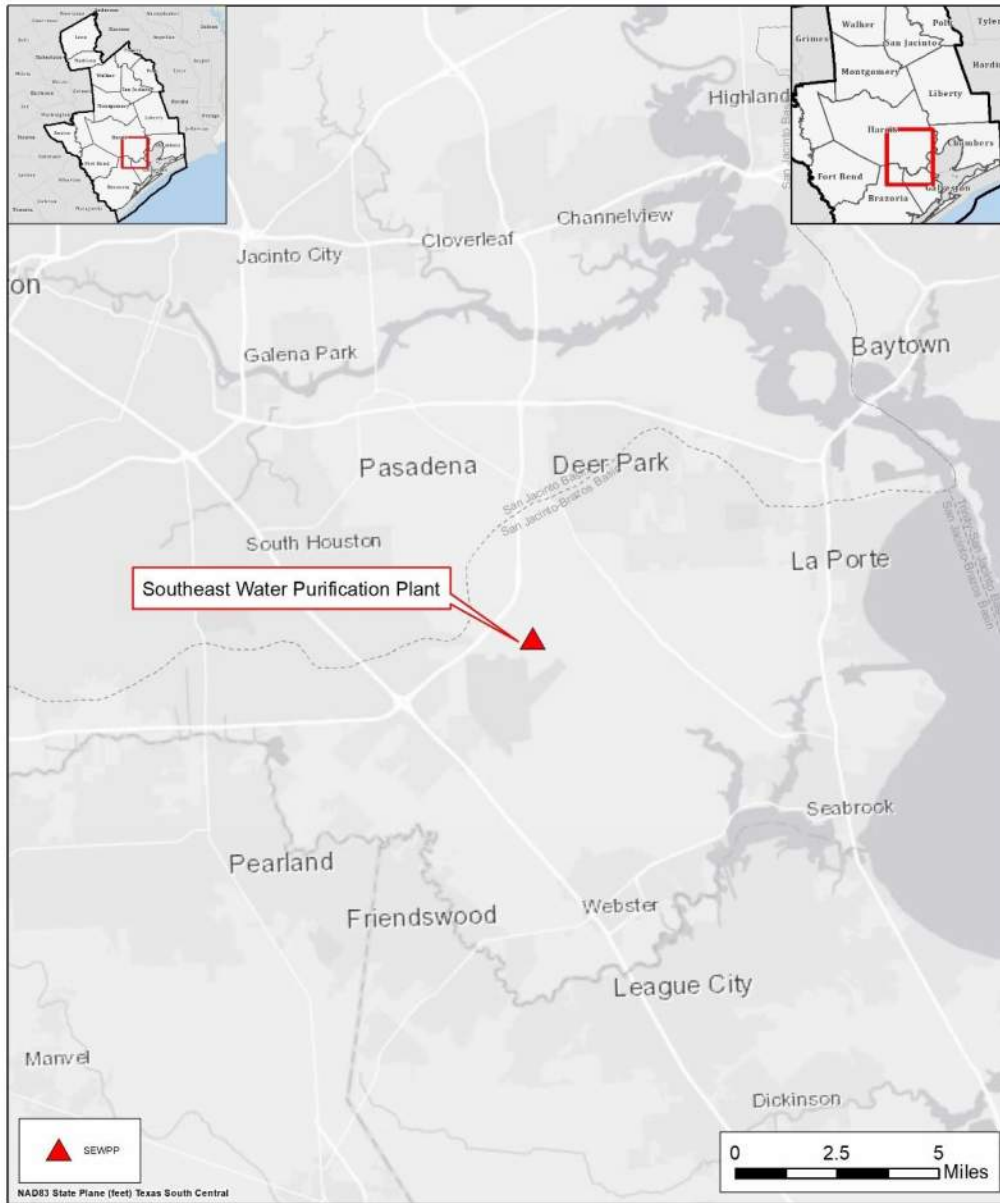
The SEWPP Additional Module project is not anticipated to impact acreage or vulnerable species and will not directly impact environmental flows. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The SEWPP Additional Module project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The supply could be conveyed through additional projects to meet growing demands in the existing SEWPP service area.
Size	The magnitude of the project was developed based on surface water needs projected for GCWA and its customers.
Water Quality	This project provides treated surface water for a variety of uses.
Unit Cost	The unit cost of this project makes it an acceptable project for municipal and other potable water demands.
Other Factors	This project represents additional treated water capacity beyond the level currently implemented or in development.

Location Map



Southeast Water Purification Plant Location Map



Texas

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Brazos Saltwater Barrier
Project ID:	OTHR-001
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	10,000 ac-ft/yr (8.9 mgd)
Implementation Decade:	2040
Development Timeline:	10 years
Project Capital Cost:	\$67,552,043 (Sept. 2018)
Unit Water Cost (Rounded):	\$517 per ac-ft (during loan period) \$42 per ac-ft (after loan period)

Strategy Description

The Lower Brazos River is tidally influenced, with the extent of the area of brackish water fluctuating seasonally. Municipal and industrial water users in the Freeport area face water quality concerns as the saltwater wedge moves upstream of the Brazoria Pump Station during periods of low flow in the Brazos River. During these times, a constant and adequate flow of water from higher in the Brazos River Basin is required in order to allow for the diversion of water supplies of sufficient quality. A saltwater barrier has the potential to reduce impacts to water quality in the lower basin and, therefore, to reduce the volume of water required for successful diversion of fresh water from the Brazos River. The proposed project is for the development of a saltwater barrier to protect the Harris Pump Station although alternative concepts to protect the Brazoria Pump Station have also been explored.

Dow Inc. owns water right 12-5328, which authorizes the diversion of 305,656 acre-feet per year from the Brazos River for industrial, municipal, and irrigation uses. Dow provides a portion of this supply to meet the needs of eight surrounding industrial customers in Brazoria County. The Brazosport Water Authority (BWA) owns water right 12-5366, which authorizes the diversion of 45,000 acre-feet per year from the Brazos River for municipal use. The BWA provides treated water to the cities of Angleton, Brazoria, Clute, Freeport, Lake Jackson, Oyster Creek, and Richwood and two TDCJ prison units in Brazoria County, as well as to the city of Rosenberg in Fort Bend County. These are the two most downstream water rights for municipal and industrial demand.

The Texas Commission on Environmental Quality (TCEQ) Water Quality Inventory defines the Brazos River as tidal below river mile 25, which corresponds to the observed situation at the Harris and Brazoria Pump Stations. Measured salinities at the Harris Pump Station range from 50 parts per million (ppm) to 200 ppm, which is typical for river flows. Measured salinities at the Brazoria Pump Station range from 100 parts per million (ppm) to values in excess of 10,000 ppm. (For comparison, typical values in Galveston Bay are approximately 15,000 ppm.) Seawater has a salinity of 3.5%, or 35,000 ppm, causing the tidal reach of the Brazos River to become brackish during lower flows. This

brackish zone decreases in an upstream direction, and also stratifies within the channel, with the denser brackish water below the less dense fresh water. This forms a triangular zone of brackish water, referred to as a salt wedge. TCEQ Rule 30 TAC 290 – Public Drinking Water, defines a secondary standard for Total Dissolved Solids (TDS) of less than 1,000 ppm. Due to the expense and effort required to desalinate brackish water, Dow and BWA divert at their upstream pump station (Harris) when salinities at Brazoria exceed approximately 500 ppm. Note that while seasonal use of the Harris intake is normal and expected, permanent use of this intake would effectively remove the Brazoria Reservoir from the Dow/BWA system, decreasing the yield due to the loss of storage capacity.

Strategy Analyses

The project analyses for Brazos Saltwater Barrier include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

Dow Inc. has engaged in studies to determine the effectiveness of a saltwater barrier project to protect the Harris Pump Station. These studies have demonstrated benefit from the construction of a saltwater barrier for use during low-flow conditions.

Model analyses have been performed using the Texas Commission on Environmental Quality (TCEQ) Water Availability Model (WAM) Run 3 for the Brazos River. Some issues considered in this analysis are the benefits of conservation by Dow and improvements to reservoir storage and pump station performance capturing river flows. In addition, the studies have examined the impacts of infringement on Dow's water rights caused by upstream diverters. These users are attempting to capture water during extreme conditions when Dow requires this supply in order to make diversions from the river. Development of a saltwater barrier will enhance this ability without a priority call being made on the river, thus allowing upstream diverters to continue diverting under dry conditions. The WAM analysis also reflects environmental flow considerations specified by the water right. It should be noted that further reductions in project availability for environmental flows were not applied because the project leverages an existing water right substantially senior to Senate Bill 3 environmental flow requirements.

Environmental Considerations

The construction of the proposed Brazos Saltwater Barrier may have both temporary and permanent impacts on the Brazos estuary and the downstream and immediate upstream reaches of the Brazos River. Temporary construction may include such impacts as increased turbidity, biochemical oxygen demand (BOD), and contaminant loads in the river, depending on the nature of the sediment entering the river due to disturbance of river bottom sediments and adjacent upland areas. These impacts could be expected to occur in the project area and points downstream on the Brazos River to as far south as the Gulf of Mexico and the Brazos River Estuary. Long-term impacts would result from changes to flows in the river as a result of the operation of the barrier. These impacts could include impediments to fish migration, changes (reductions) in the amounts of sediments and nutrients reaching the Gulf of Mexico and Brazos Estuary, localized changes in hydrology of adjacent wetlands downstream of the facility, and increased sedimentation in the river channel immediately upstream of the barrier. It should be noted that the Brazos River Estuary is one of the smallest in the state and in some respects is less studied than other larger or more productive estuaries. Further study of the

impacts on water quantity and quality, ecosystem functions, and species life cycles may be required as part of the project development and detailed design.

The project may also result in permanent impacts to any upstream reservoirs currently used to flush saltwater from the channel during periods of low flow. These could include more stable water levels in such lakes, which in turn would result in higher productivity of the lake fisheries and increased value of the lakes as a recreational resource.

Permitting and Development

Constructing the proposed Brazos Saltwater Barrier would require several state and federal permits. The project would require a Section 404 / Section 10 permit from the U.S. Army Corps of Engineers (USACE), most likely an individual permit as opposed to one of the Nationwide Permits. If a bridge or other obstruction to navigation would result from the project, a Section 9 bridge permit from the U. S. Coast Guard would be required. Additionally, a Section 401 water quality certification would be required from the Texas Commission on Environmental Quality (as part of the Section 404 permit). A Texas Pollution Discharge Elimination System general permit for construction would require submittal of a Notice of Intent and development of a Storm Water Pollution Prevention Plan (with monitoring of the construction site). If substantial materials are excavated from the river, a Sand, Marl and Gravel permit must be obtained from the Texas Parks and Wildlife Department and any structures placed in a tidal water of the State of Texas must be granted an easement from the Texas General Land Office (GLO) unless exempted by law. Many of these permit actions would require secondary reviews, such as archeological and threatened and endangered species investigations of the project site. Dow has already taken steps to provide for a temporary saltwater barrier at the Harris Reservoir site. Permitting for this structure has already been completed through the USACE, GLO, and TCEQ.

Cost Analysis

Preliminary costs have been developed for the construction of the Harris site for the saltwater barrier, based upon information provided by the project sponsor. Capital costs were scaled to a September 2018 equivalent cost using the Construction Cost Index and Producer Price Index in accordance with TWDB guidance. Debt service and annual operations and maintenance costs were also calculated using standard Regional Planning procedures. Estimated costs are presented in *Table 1*.

Table 1 – Brazos Saltwater Barrier Project Costs

OPINION OF PROBABLE CONSTRUCTION COST						September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
PROJECT CAPITAL COST SUMMARY						
1	CONSTRUCTION COST	1	LS	\$41,960,000	\$41,960,000	
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$17,200,000	\$17,200,000	
3	LAND AND EASEMENTS	1	LS	\$1,030,000	\$1,030,000	
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$2,060,000	\$2,060,000	
5	INTEREST DURING CONSTRUCTION	1	LS	\$5,302,043	\$5,302,043	
PROJECT CAPITAL COST					\$67,552,043	

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$0	\$4,753,034	\$4,753,034	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$0	\$419,600	\$419,600	\$419,600	\$419,600
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$0	\$5,172,634	\$5,172,634	\$419,600	\$419,600

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$0	\$5,172,634	\$5,172,634	\$419,600	\$419,600
2	YIELD	-	-	10,000	10,000	10,000	10,000
3	UNIT COST	\$0	\$0	\$517	\$517	\$42	\$42
TOTAL UNIT COST		\$280					

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
CONSTRUCTION COST SUMMARY						
1	SALTWATER BARRIER	1	LS	\$41,960,000	\$41,960,000	
PROJECT COST					\$41,960,000	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL	
OPERATION AND MAINTENANCE (O&M) COST SUMMARY						
1	SALTWATER BARRIER	1.0	%	\$41,960,000	\$419,600	
ANNUAL OPERATION AND MAINTENANCE COST					\$419,600	

Water Management Strategy Evaluation

Based on the analysis provided above, the Brazos Saltwater Barrier project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	3	Project is a reasonable-cost alternative for making more water available in the basin during drought conditions.
Location	5	Project benefit is not location-specific as it impacts water rights throughout the basin.
Water Quality	5	Project significantly reduces water quality issues during low-flow conditions.
Environmental Land and Habitat	2	Environmental issues associated with development in the Brazos River. Project will protect upstream portions of the basin.
Environmental Flows	2	Project will enable the reduction of instream flows in the lower basin in order to add water availability.
Local Preference	4	Local support by industry in Brazoria County.
Institutional Constraints	2	Permits required and property acquisition essential in developing project.
Development Timeline	4	Project can be developed in a relatively short period of time, pending permitting.
Sponsorship	3	One sponsor, Dow Inc., is committed to the project as one of many water supply alternatives.
Vulnerability	3	Moderate risk associated with development of a significant structure in the Brazos River floodplain.
Impacts on Other WMS	5	Project may enhance yields of existing water rights and future supplies to be permitted in the Brazos River Basin.

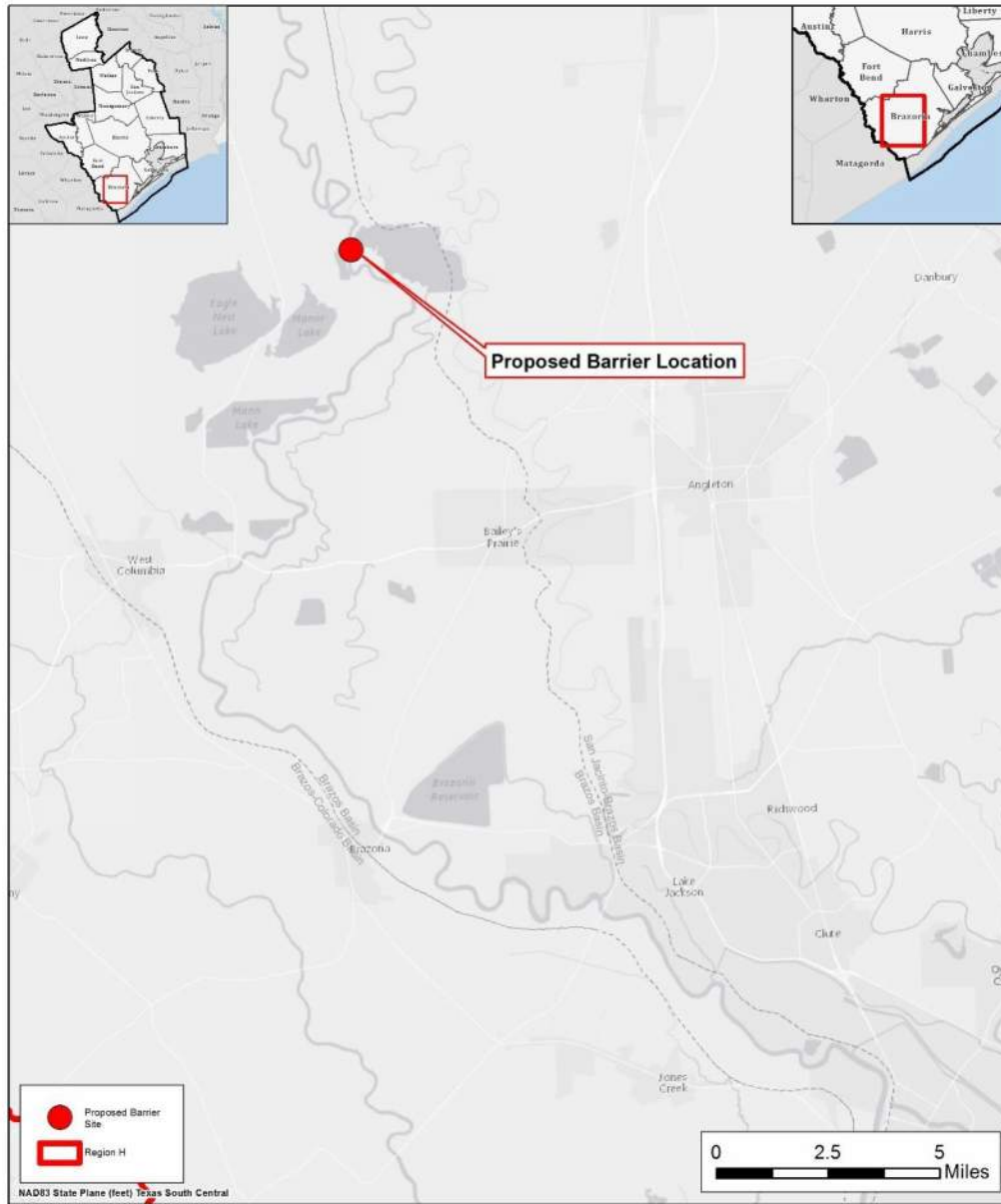
The Brazos Saltwater Barrier will directly impact the Brazos River channel where it is located and may impact the migration of species during its operation. The project operates during periods when flow in the Brazos River will be inadequate to prevent intrusion of highly saline waters. The project is not anticipated to impact agricultural land or production.

Water User Group Application

The Brazos Saltwater Barrier project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The benefits of the saltwater barrier are experienced directly in the lower Brazos River Basin but also upstream due to the reduced frequency of priority calls required for Dow to make its diversions.
Size	The magnitude of this project scales according to the magnitude of target diversions.
Water Quality	The project will make raw water supplies more available in the lower basin.
Unit Cost	The unit cost is moderate and reduces substantially after debt service, while allowing for yield enhancement during drought-of-record conditions.
Other Factors	The primary sponsor of this project is Dow Inc. although there are many more potential benefactors within the Brazos River Basin.

Location Map



Brazos Saltwater Barrier Location Map



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REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	GCWA Shannon Pump Station Expansion
Project ID:	OTHR-002
Project Type:	Existing Surface Water Source
Potential Supply Quantity (Rounded):	162,400 ac-ft/yr (145 mgd)
Implementation Decade:	2030 (2024)
Development Timeline:	1 year
Project Capital Cost:	\$65,801,381 (Sept. 2018)
Unit Water Cost (Rounded):	\$35 per ac-ft (during loan period) \$7 per ac-ft (after loan period)

Strategy Description

The Gulf Coast Water Authority (GCWA) supplies a number of municipal, industrial, and agricultural customers in the San Jacinto-Brazos Coastal Basin with surface water from the Brazos River Basin and San Jacinto-Brazos Coastal Basin. GCWA holds several water rights in these basins and supplies its customers with surface water from these rights as well as contractual supplies purchased from the Brazos River Authority (BRA). The majority of these supplies are diverted at GCWA's three pump stations on the Brazos River and delivered by an extensive canal system. The most upstream of these points, the Shannon pump station, provides flow directly to the American Canal as well as supplying other portions of the GCWA system through interconnections. As part of ongoing efforts to enhance the flexibility of its system, GCWA has identified the need to develop expanded facilities at the Shannon pump station. This project does not require a new water right appropriation because it is intended to increase infrastructure capacity related to use of existing rights and existing and future contractual sources.

Strategy Analyses

The project analyses for GCWA Shannon Pump Station Expansion include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

The GCWA Shannon Pump Station Expansion project is intended to take advantage of supplies from existing and potential future sources. While the project will not require a new water right appropriation and does not directly increase firm source availability, it would allow a larger portion of owned or contracted surface water supply to be diverted at the Shannon Pump Station site. New facilities would be integrated into GCWA's existing distribution network for delivery to customers.

The improved pump station is a key component of GCWA’s overall system and would operate synergistically with other projects including treatment and transmission expansions. In addition to addressing growing water demands for customers along the American Canal, the expanded diversion capacity would allow the Shannon Pump Station to serve a substantial portion of the GCWA service area, increasing system supply security and facilitating maintenance downtime for other intake and pump station sites.

Major project components include development of a new intake structure, high-capacity pump station, and temporary bypass pumping facilities to meet water demand during project development. The current pump station facility is capable of diverting up to approximately 55 MGD. The proposed project would replace existing intake and pump station facilities, creating a capacity of approximately 200 MGD and allowing 145 MGD (162,400 ac-ft/yr) of additional supply to be captured from the Shannon diversion point.

Environmental Considerations

The enhanced infrastructure will facilitate an increase in diversions from the GCWA Shannon pump station, resulting in some decreases in instream flow downstream of the diversion point. However, these diversions will be made primarily from existing water rights or from sources developed under other future projects. Further, during periods when the Shannon pump station is used to allow downtime at other GCWA diversion points, a portion of the increased diversion at the Shannon site will be offset by reduced GCWA diversions downstream.

Infrastructure development may result in some construction disturbance which could require mitigation. This construction impact would occur on the existing facility site and would cause little disturbance to undeveloped habitat.

Permitting and Development

Development of expanded treatment infrastructure will cause some degree of surface disturbance, which may require permitting and mitigation. This is expected to be minimal, as the majority of construction would be expected to occur on the existing pump station site. Because the supply source for this project is from existing water rights and will be delivered through GCWA’s canal system, permitting of new surface water rights or modification of existing rights to add a diversion point will not be required.

Cost Analysis

Planning level cost estimates were developed for the Region H Plan based on available sponsor information. Capital costs were scaled to a September 2018 equivalent cost in accordance with TWDB guidance. Additional cost components, such as interest during construction, annualized debt service, and annualized operations and maintenance costs, were assumed using standard Regional Planning costing assumptions. Estimated costs are presented in *Table 1*.

Table 1 – GCWA Shannon Pump Station Expansion Project Costs

OPINION OF PROBABLE CONSTRUCTION COST					September 2018
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
PROJECT CAPITAL COST SUMMARY					
1	CONSTRUCTION COST	1	LS	\$46,729,068	\$46,729,068
2	ENGINEERING, FINANCIAL, AND LEGAL SERVICES AND CONTINGENCIES	1	LS	\$17,320,357	\$17,320,357
3	LAND AND EASEMENTS	1	LS	\$0	\$0
4	ENVIRONMENTAL - STUDIES AND MITIGATION	1	LS	\$0	\$0
5	INTEREST DURING CONSTRUCTION	1	LS	\$1,751,956	\$1,751,956
PROJECT CAPITAL COST					\$65,801,381

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	DEBT SERVICE	\$0	\$4,629,856	\$4,629,856	\$0	\$0	\$0
2	OPERATION AND MAINTENANCE (O&M)	\$0	\$1,103,104	\$1,103,104	\$1,103,104	\$1,103,104	\$1,103,104
3	PUMPING ENERGY COSTS	\$0	\$0	\$0	\$0	\$0	\$0
4	PURCHASE COST OF WATER	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL ANNUAL COST		\$0	\$5,732,960	\$5,732,960	\$1,103,104	\$1,103,104	\$1,103,104

ITEM	DESCRIPTION	ANNUAL TOTAL					
ANNUAL COST SUMMARY		2020	2030	2040	2050	2060	2070
1	ANNUAL COST	\$0	\$5,732,960	\$5,732,960	\$1,103,104	\$1,103,104	\$1,103,104
2	YIELD	-	162,400	162,400	162,400	162,400	162,400
3	UNIT COST	\$0	\$35	\$35	\$7	\$7	\$7
TOTAL UNIT COST							\$18

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
CONSTRUCTION COST SUMMARY					
1	PUMP STATIONS	1	LS	\$44,124,173	\$44,124,173
2	TEMPORARY BYPASS FACILITIES	1	LS	\$2,604,895	\$2,604,895
PROJECT COST					\$46,729,068

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
OPERATION AND MAINTENANCE (O&M) COST SUMMARY					
1	PUMP STATIONS	2.5	%	\$44,124,173	\$1,103,104
2	TEMPORARY BYPASS FACILITIES	0.0	%	\$2,604,895	\$0
ANNUAL OPERATION AND MAINTENANCE COST					\$1,103,104

Water Management Strategy Evaluation

Based on the analysis provided above, the GCWA Shannon Pump Station Expansion project was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	Project is a very low-cost alternative for making more water available in the GCWA system.
Location	5	Project is associated with existing diversion site and conveyance infrastructure serving a large area.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	3	Environmental impacts can be mitigated. Limited concerns.
Environmental Flows	2	Project will allow occasional larger diversions at the project site from existing and future sources, with corresponding lower diversions at downstream sites.
Local Preference	3	No known significant opposition.
Institutional Constraints	5	Property and facilities to be improved already owned by sponsor.
Development Timeline	5	Project can be developed in a relatively short period of time.
Sponsorship	5	The project sponsor, GCWA, is committed to the project and is actively evaluating preliminary design .
Vulnerability	3	Moderate risk associated with development of a structure in a coastal basin.
Impacts on Other WMS	5	Project will increase overall GCWA system flexibility and reliability, positively impacting customer WMS.

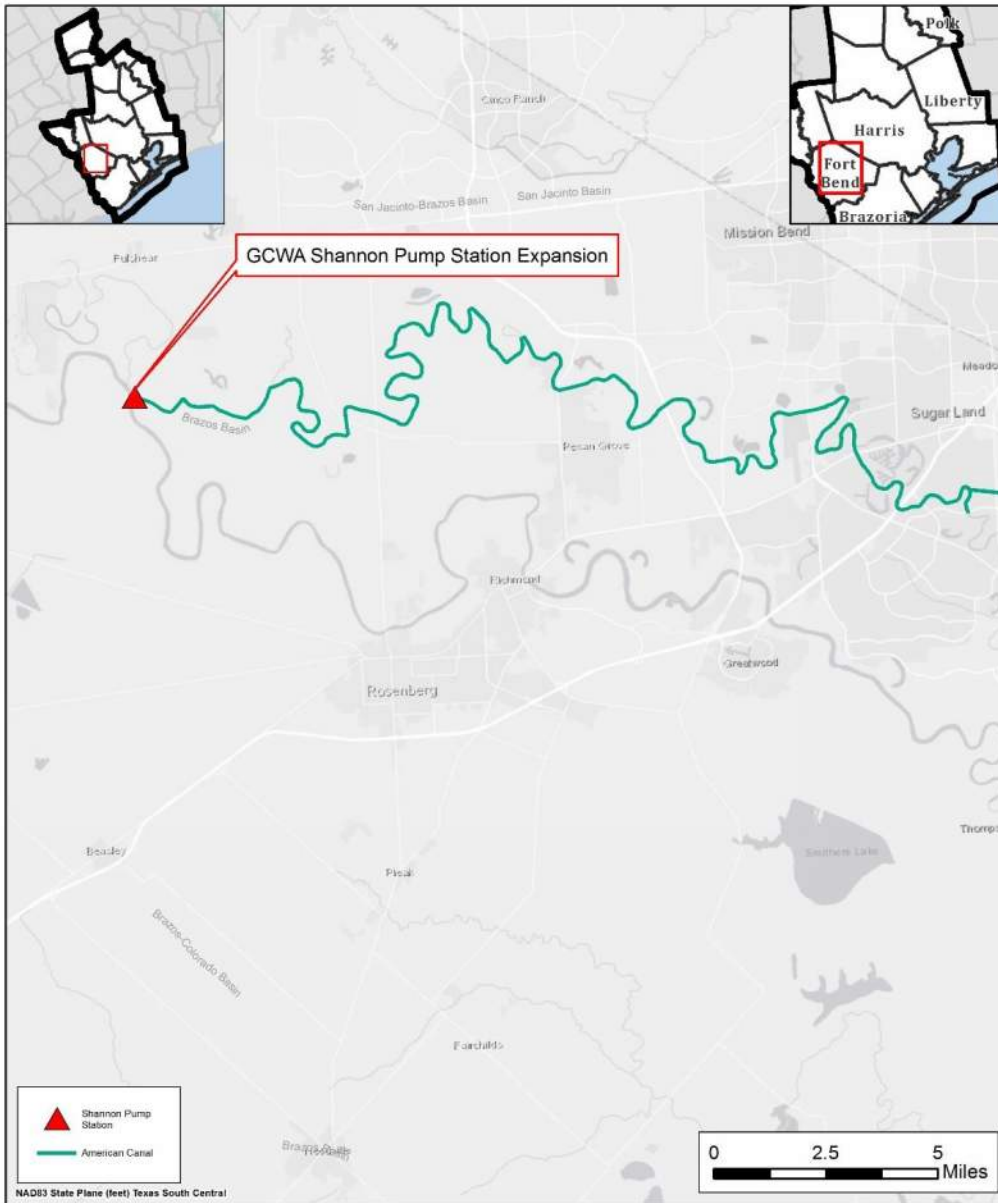
The GCWA Shannon Pump Station Expansion will facilitate increased diversions made primarily from existing water rights or from sources developed under other future projects. The project is not anticipated to impact agricultural land or production or to affect vulnerable species.

Water User Group Application

The GCWA Shannon Pump Station Expansion project was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	The benefits of the pump station expansion are experienced by an extensive area of the GCWA system, with points of demand serviced through existing canal infrastructure.
Size	The project is sized in accordance with the available source, anticipated future demands, and provision for system infrastructure redundancy.
Water Quality	The project will increase flexibility in the diversion of raw water for multiple uses. Water quality issues are considered by other related projects.
Unit Cost	The unit cost, which is relatively low, is appropriate to the municipal, industrial, and irrigation uses in the GCWA system.
Other Factors	Allows more flexible and reliable utilization of existing sources.

Location Map



GCWA Shannon Pump Station Expansion Location Map



REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	Municipal Drought Management
Project ID:	OTHR-003
Project Type:	Drought Management
Potential Supply Quantity (Rounded):	Up to 57,895 ac-ft/yr (51.7 mgd)
Implementation Decade:	2020
Development Timeline:	0 years
Project Capital Cost:	N/A
Unit Water Cost (Rounded):	N/A

Strategy Description

The Texas Commission on Environmental Quality (TCEQ), in accordance with the Texas Administrative Code (TAC), requires all wholesale public water suppliers, retail public water suppliers, and irrigation districts to prepare drought contingency plans (DCPs) meeting the requirements of 30 TAC §288(b) and to update these plans at least every five years. TCEQ administrative rules in 30 TAC §288.1 define a drought contingency plan as “a strategy or combination of strategies for temporary supply management and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.” Most DCPs aim to curtail demands through temporary reductions in certain categories of water use, often in response to hydrologic drought conditions but also in cases of other water supply emergencies (for example, equipment failures caused by excessively high peak water demands). Common elements of DCPs are successive stages of drought response, criteria for initiating each stage (triggers), objectives such as a percent reduction in demand (targets), and voluntary and/or mandatory actions to achieve those objectives (response measures).

It is important to note that drought management differs from typical water management strategies in that it benefits an enacting utility only temporarily at the time of implementation. Because drought management is only active and beneficial during certain periods of time, its reliable yield is essentially zero when considered in an analogous manner to surface water, groundwater, reuse, or conservation. The Municipal Drought Management strategy considers the potential temporary benefit of demand reductions produced by implementation of the short-term measures outlined in entities’ DCPs. As the TCEQ does not require private industrial water users or individual agricultural users to develop DCPs, this analysis was limited to the assessment of potential demand reductions among municipal water user groups (WUGs).

Strategy Analyses

The project analyses for Municipal Drought Management include evaluations of the potential supply to be created, environmental factors involved in the project, permitting and development considerations, and an analysis of project cost.

Supply Development

For each municipal WUG in Region H, potential savings were estimated based on the most recent available version of the WUG's own DCP. For entities which have not submitted DCPs to the RHWPG, DCP stages and target reductions were applied based on the DCP of the wholesale provider serving the entity, when available. In total, target demand reductions were determined for 195 of the 353 municipal WUGs in Region H. WUGs that have not submitted DCPs to the RHWPG and which are not served by a wholesale provider were assumed to have zero potential benefit from the Municipal Drought Management strategy. County-Other WUGs were also not evaluated, as they are made up of multiple individual utilities.

In addition to the assessment of DCPs submitted by entities across Region H, the RHWPG also reviewed recent occurrences of entities implementing measures from their DCPs. Within Region H, the year 2011 represents the most severe drought in recent years, and drought responses from 2011 have been used to estimate the potential level of DCP implementation by entities in Region H under another drought of record. The RHWPG performed an analysis of TCEQ records of entities implementing mandatory landscape watering restrictions to estimate the percent of time in a one-year period (based on 2011) during which each entity would likely be enforcing mandatory outdoor watering restrictions.

Demand reductions were assessed for multiple scenarios. Demand reduction targets were applied to municipal WUGs' projected decadal demands only for the percent of time during which any entity was assumed to be in a drought stage with mandatory curtailments. Targets were based on either the first stage in which a DCP prescribed mandatory restrictions, the next highest stage with mandatory restrictions, or multiple stages based on which stages were implemented in 2011. The multiple-stage scenario was considered to most closely reflect 2011 conditions; however, as most reporting entities in Region H did not trigger a more restrictive stage than their first mandatory stage, the outcomes of this scenario are similar to those in the first mandatory stage option. (For most entities, the first stage with mandatory restrictions is Stage 2, with only voluntary responses prescribed in Stage 1 of the DCP.) Voluntary drought response stages were assumed to have no impact on demands.

Targeted demand reductions were applied to each WUG's post-conservation demand, which is the projected demand after reductions were applied from the Advanced Municipal Conservation and Water Loss Reduction water management strategies. Furthermore, as many of the measures defined in DCPs focus on demand curtailment through the reduction of outdoor watering, this analysis assumed that any substantial benefits from Municipal Drought Management would be attributable to mandatory restrictions on outdoor watering. Because Region H has included twice-per-week watering restrictions in its Advanced Municipal Conservation strategy, savings already accounted for as part of Advanced Municipal Conservation were excluded from potential drought management savings.

Additionally, a factor was applied to account for the potential impacts of less than 100% compliance among retail water customers and less than 100% efficacy of DCP response measures in achieving the targeted demand reductions. Scenarios were assessed with factors of both 50% and 100%. Finally,

as Municipal Drought Management may reduce demand but does not, by nature, provide a surplus supply, estimated potential savings were capped at a WUG’s post-conservation needs (unmet demand after application of other demand reduction strategies).

Table 1 summarizes the potential savings estimated for each scenario in each of the planning decades. Total savings are relatively small in early decades but increase over time as the amount of need in Region H increases. At 100% efficacy, savings under the multi-stage conditions (most similar to 2011 conditions) range from 609 ac-ft/yr in 2020 to 32,865 ac-ft/yr in 2070.

Table 1 – Total Demand Reduction from Municipal Drought Management Strategy

Reduction Scenario	Compliance / Efficacy Factor	Potential Savings from DCP Implementation					
		2020	2030	2040	2050	2060	2070
First Mandatory Stage ¹	50%	376	8,535	14,149	14,979	15,756	16,322
Next Mandatory Stage ²	50%	515	10,734	25,227	26,578	27,949	28,949
Multiple Stages ³	50%	394	8,627	14,249	15,083	15,859	16,426
First Mandatory Stage ¹	100%	573	14,212	28,261	29,824	31,516	32,656
Next Mandatory Stage ²	100%	850	19,454	50,433	52,869	55,892	57,895
Multiple Stages ³	100%	609	14,398	28,463	30,031	31,724	32,865

1) First Stage – Reduction targets based on least restrictive stage with any mandatory curtailment in each entity’s DCP (or wholesale provider’s DCP).

2) Next Stage – Reduction targets based on second least restrictive stage with any mandatory curtailment.

3) Multiple Stages – Reduction targets based on multiple stages with mandatory curtailments, distributed based on each entity’s projected percent of year in that stage.

Because Municipal Drought Management reduces need through a percentage reduction in demand, municipal WUGs with large population and high demands are most affected by the implementation of this strategy.

Environmental Considerations

Generally, no significant negative environmental impacts are associated with Municipal Drought Management, as typical drought management measures do not involve the construction of any facilities. Municipal effluent is a critical and substantial component to baseflows in the Houston area. However, drought response measures typically focus on reducing outdoor water use, which would likely impact return flows less than indoor water use reduction. Furthermore, any reduction in return flows to receiving basins would, theoretically, be more than offset by reduced diversions of water from the source basins.

Permitting and Development

A drought management strategy is very local in nature and would be implemented by individual utilities, typically through municipal ordinances and enforcement. Drought response measures can

be implemented immediately upon utility determination that a drought trigger has been reached, and implementation timelines and requirements are usually outlined in a utility's DCP.

Cost Analysis

Implementation of demand reduction measures in response to a drought would likely impose minimal costs to a water provider, limited primarily to the costs of notifying customers and enforcement. However, because the Municipal Drought Management strategy reduces demand on a short-term basis rather than providing additional supply, costs are born by end-users in the form of economic impacts. Estimates of adverse monetary impacts due to residential water use restrictions were analyzed using the Texas Water Development Board (TWDB) Drought Management Costing Tool, which estimates the foregone consumer surplus cost of reduced residential water use. In other words, the estimated impacts represent the value consumers would be willing to pay to not have implemented residential watering use restrictions. Costs were thus estimated based on the assumption that all savings represented by the Municipal Drought Management strategy occur within residential water use. Impacts of drought response measures applied to non-residential consumers were not evaluated as part of this strategy analysis. *Table 2* summarizes the potential adverse monetary impacts of the Municipal Drought Management strategy for the multiple-stage scenario at an efficacy factor of 100%. The relationship between price and demand differs greatly between WUGs, so the economic impact per acre-foot of demand reduction changes from decade to decade depending on which entities contribute greater portions of total savings due to varying demands.

Table 2 – Adverse Monetary Impacts of Residential Water Use Restrictions

ANNUAL COST SUMMARY	2020	2030	2040	2050	2060	2070
ANNUAL COST	\$62,000	\$1,793,000	\$4,703,000	\$4,840,000	\$5,124,000	\$5,236,000
DEMAND REDUCTION (AC-FT/YR)	609	14,398	28,463	30,031	31,724	32,865
UNIT COST	\$102	\$125	\$165	\$161	\$162	\$159
AVERAGE UNIT COST						\$158

Non-residential economic impacts were not analyzed as part of this strategy. Commercial and industrial impacts may include reducing operations or even temporary business closures, particularly for businesses with high water use. Reductions in agricultural irrigation may directly reduce crop yields and subsequent revenues.

Water Management Strategy Evaluation

Based on the analysis provided above, the Municipal Drought Management strategy was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	1	Estimated economic impacts to residential water users are relatively low, but additional potential costs associated with industrial, commercial, and agricultural water use are unknown. True costs encompass greater socioeconomic impacts of unmet needs on job and income losses and reduced tax revenue.
Location	5	Drought management measures generally benefit the WUGs in which they are implemented, but demand reduction in one WUG may also allow for water to be used by other customers after the demand level is reduced.
Water Quality	3	No known issues related to water quality.
Environmental Land and Habitat	5	No impacts to landform associated with drought management.
Environmental Flows	3	No impacts to instream flows. Typically, reductions in return flows are also associated with reduced diversions. Although drought management may reduce diversions during extreme droughts, they are typically not enacted and, therefore, do not have any routine impact.
Local Preference	2	Local support varies from utility to utility. Some opposition expected.
Institutional Constraints	5	No permits required for implementation of drought response measures.
Development Timeline	5	Drought management measures can be implemented in a relatively short period of time.
Sponsorship	3	Although sponsors are identified, commitment to implementation varies considerably.
Vulnerability	5	Drought management has no identifiable risk from natural or man-made disasters.
Impacts on Other WMS	2	Drought management measures may negatively impact the availability of return flows for downstream use.

Water User Group Application

The Municipal Drought Management strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy as well as other factors that may relate to the suitability of the strategy to the WUGs served.

CRITERIA	WUG SUITABILITY
Proximity	Drought management measures do not produce water and only reduce total demand. Therefore, proximity of source and demand is not an issue for implementation.
Size	Targeted demand reductions of drought management measures are proportional to WUG demands.
Water Quality	Measures produce no water and only reduce demand.
Unit Cost	Estimated economic impacts to residential water users are relatively low. Additional potential costs associated with industrial, commercial, and agricultural water use are unknown.
Other Factors	Total reduction in demand due to drought management measures is highly dependent on localized supply conditions and levels of customer compliance.

References

Texas Water Development Board. *Drought Management Costing Tool*. Available at <http://www.twdb.texas.gov/waterplanning/rwp/planningdocu/2021/current_docs.asp>. October 2019.

REGION H PROJECT ANALYSIS TECHNICAL MEMORANDUM

Project Name:	New and Expanded Contracts
Project ID:	OTHR-004
Project Type:	N/A
Potential Supply Quantity:	Varies
Implementation Decade:	Varies
Development Timeline:	0 years
Project Capital Cost:	N/A
Unit Water Cost:	N/A

Strategy Description

The Region H Water Planning Group supports the voluntary transfer of water between entities to effectively meet the needs of some Water User Groups (WUGs) with water surpluses available from other entities. Several water management strategies have been recommended through which WUGs would pursue new contracts for purchasing water or would expand the contracted amounts of existing agreements from Major Water Providers (MWP) in the region.

Strategy Analyses

The strategy analyses for New and Expanded Contracts include evaluations of the potential supply to be created. Because most of the recommended contracts are for WUGs and MWPs between which infrastructure already exists to transfer water, the strategy is limited to execution of a contract for purchase of water. Where additional infrastructure may be required, environmental factors, permitting and development considerations, and an analysis of cost were performed as part of a separate project analysis.

Supply Development

Transferred supply volumes transferred through New and Expanded Contracts are intended to meet needs of WUGs. However, transferred volumes are limited to the surplus available to a MWP for sale and thus depend on the MWP's surface water rights, groundwater pumping permits, and treatment capacity. Surplus available to a MWP may consist of existing unused water supplies or new supply sources developed through other water management strategies and contracts. Contracts are also recommended based on the feasibility of transferring water from a MWP to a WUG and often make use of existing infrastructure.

Environmental Considerations

The execution of new water supply contracts or expansion of existing contracts do not directly require any development which could present environmental concerns. While the use of purchased water

may reduce instream flows, the volumes transferred for supply are permitted under existing surface water rights.

Permitting and Development

The contractual transfers recommended as part of New and Expanded Contracts strategies are limited to transfers of waters already owned by the seller, either through a water rights permit or purchase from another wholesale water provider. No additional permitting is required. Interbasin transfers, which do require additional permitting, were each considered as separate water management strategies.

Cost Analysis

The cost of purchasing water under new or expanded contracts was not evaluated, as these costs are highly variable and many of the recommended contracts would begin in later decades of the planning period. Costs of developing infrastructure for water transfers, where necessary, were considered under separate projects.

Water Management Strategy Evaluation

Based on the analysis provided above, the New and Expanded Contracts water management strategy was evaluated across eleven different criteria for the purpose of quick comparison against alternative strategies that may be incorporated into the Regional Water Plan. The results of this evaluation can be seen in the table below.

CRITERIA	RATING	EXPLANATION
Cost	5	No direct infrastructure costs are associated with this strategy.
Location	4	Contracts are typically recommended between WUGs and MWP in close proximity to one another.
Water Quality	3	No known water quality issues.
Environmental Land and Habitat	5	Limited impacts are associated with this strategy.
Environmental Flows	2	Transfer of purchased water may result in reduced instream flows.
Local Preference	3	No known opposition.
Institutional Constraints	5	No permitting or land acquisition required.
Development Timeline	5	Contracts can typically be executed in less than 1 year.
Sponsorship	3	Sponsors have been identified.
Vulnerability	5	Minimal risk from natural and man-made disasters.

CRITERIA	RATING	EXPLANATION
Impacts on Other WMS	5	New and Expanded Contracts utilize supplies developed through other WMS to meet needs.

Water User Group Application

The New and Expanded Contracts strategy was evaluated on a basis of several criteria to determine the Water User Groups (WUGs) to which it may be applied. Consideration was given to the proximity of the project to identified needs, the volume of the supply made available, the quality of the water provided, and the unit cost of the strategy.

CRITERIA	WUG SUITABILITY
Proximity	New and Expanded Contracts would directly supply WUGs with existing water needs.
Size	Contract allocations are sized to meet WUG needs.
Water Quality	Purchased supplies may be raw or treated, depending on the seller. Purchased raw water supplies will require treatment by the WUG.
Unit Cost	Costs associated with this strategy will depend on negotiated contract prices. No costs have been evaluated as part of the 2021 RWP.

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CHAPTER 5B APPENDICES

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APPENDIX 5B-A

WATER LOSS REDUCTION SAVINGS FOR MUNICIPAL WUGS

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Table 5B-A1 – Water Loss Reduction Savings for Municipal WUGs

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ALVIN	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ANAHUAC	4	10	16	21	26	31	1.5	3.7	5.8	7.5	9.2	10.8
ANGLETON	15	41	63	82	101	102	0.7	2.0	3.0	3.8	4.7	4.7
AUSTIN COUNTY WSC	1	4	5	6	8	9	0.5	1.8	2.0	2.1	2.4	2.4
BACLIFF MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BAKER ROAD MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BAYBROOK MUD 1	2	5	8	8	9	9	2.1	4.9	7.0	6.5	6.9	6.5
BAYTOWN	60	171	217	219	225	231	0.7	2.0	2.4	2.4	2.4	2.4
BAYVIEW MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BELLAIRE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BELLVILLE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE BELL MANOR UTILITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BLUE RIDGE WEST MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BOLIVAR PENINSULA SUD	2	6	12	19	27	38	0.6	1.5	2.6	3.5	4.2	5.0
BRAZORIA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 2	21	59	94	125	154	179	4.6	13.0	20.7	27.5	33.9	39.3
BRAZORIA COUNTY MUD 21	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 25	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 29	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 3	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 31	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BRAZORIA COUNTY MUD 6	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
BROOKSHIRE MWD	7	24	46	71	102	138	1.2	3.3	5.3	6.9	8.5	9.9
BUFFALO	4	11	17	24	29	35	1.8	4.9	7.4	10.1	12.0	14.2
BUNKER HILL VILLAGE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
CAPE ROYALE UD	2	6	10	13	13	14	1.7	4.7	7.3	8.8	8.3	8.5
CENTERVILLE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CHAMBERS COUNTY MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CHATEAU WOODS MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CHIMNEY HILL MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CLEAR BROOK CITY MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CLEAR LAKE CITY WATER AUTHORITY	80	232	354	372	390	410	1.0	2.8	4.0	4.0	4.0	4.0
CLEVELAND	14	39	61	83	103	123	1.6	4.4	6.8	9.1	11.1	13.0
CLUTE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CONCORD-ROBBINS WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CONROE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
CORINTHIAN POINT MUD 2	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTRY TERRACE WATER	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, AUSTIN	19	63	117	183	262	355	1.0	2.7	4.2	5.6	6.9	8.0
COUNTY-OTHER, BRAZORIA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, CHAMBERS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, FORT BEND	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, GALVESTON	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, HARRIS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, LEON	3	8	12	15	16	17	1.2	3.3	5.5	7.1	8.2	9.6
COUNTY-OTHER, LIBERTY	54	165	274	382	495	607	1.3	3.5	5.5	7.1	8.7	10.2
COUNTY-OTHER, MADISON	16	46	77	109	141	173	2.0	5.3	8.4	11.2	13.7	15.9
COUNTY-OTHER, MONTGOMERY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, POLK	10	28	42	42	42	41	0.6	1.6	2.3	2.2	2.2	2.2
COUNTY-OTHER, SAN JACINTO	9	28	47	52	54	56	0.6	1.8	2.8	2.9	2.9	2.9

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, TRINITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, WALKER	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
COUNTY-OTHER, WALLER	15	31	36	42	49	56	0.6	1.0	1.0	1.0	1.0	1.0
CROSBY MUD	3	10	16	22	27	32	0.9	2.8	4.4	6.0	7.2	8.4
CUT & SHOOT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DAISETTA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DANBURY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DAYTON	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DEER PARK	51	150	241	330	417	502	1.4	3.8	5.9	7.8	9.5	11.1
DEVERS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DOBBIN PLANTERSVILLE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DODGE OAKHURST WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC WATER	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
DOUGLAS UTILITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
EAST PLANTATION UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
EL DORADO UD	3	8	13	17	18	18	0.6	1.6	2.4	3.1	3.2	3.2
FAR HILLS UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FIRST COLONY MUD 9	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FLO COMMUNITY WSC	5	17	31	47	64	84	1.7	4.9	7.7	10.2	12.3	14.6
FOREST HILLS MUD	3	8	13	17	19	19	0.8	2.0	3.1	4.1	4.5	4.5
FORT BEND COUNTY FWSD 1	1	4	8	12	16	20	0.8	2.4	4.2	5.6	6.7	7.6
FORT BEND COUNTY FWSD 2	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 115	6	18	29	34	34	34	2.8	7.7	12.3	14.5	14.5	14.5
FORT BEND COUNTY MUD 116	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 121	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 128	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 129	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 140	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 149	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 152	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 155	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 158	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 162	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 187	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 23	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 24	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 25	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 26	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 42	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 46	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 47	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 48	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 49	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 5	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FORT BEND COUNTY MUD 81	9	28	41	44	47	50	3.2	9.4	12.7	12.6	12.6	12.6
FORT BEND COUNTY WCID 2	51	178	206	231	257	285	1.0	2.8	2.8	2.8	2.8	2.8
FORT BEND COUNTY WCID 3	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FREEPORT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
FRIENDSWOOD	60	184	311	445	586	658	1.2	3.5	5.4	7.2	8.8	9.1
FULSHEAR	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
G & W WSC	3	11	23	32	39	46	0.7	1.9	3.0	3.4	3.4	3.3
GALENA PARK	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
GALVESTON	320	958	1,596	2,242	2,883	3,529	5.6	15.7	24.6	32.8	40.3	47.0
GALVESTON COUNTY FWSD 6	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
GALVESTON COUNTY MUD 12	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
GALVESTON COUNTY WCID 1	25	77	133	195	261	319	0.8	2.3	3.5	4.7	5.7	6.4
GALVESTON COUNTY WCID 12	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
GALVESTON COUNTY WCID 8	15	43	70	95	120	145	2.3	6.5	10.2	13.4	16.4	19.2
GLENDALE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
GREEN TRAILS MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
GREENWOOD UD	11	36	57	76	94	111	2.1	6.0	9.4	12.4	15.2	17.7
GROVETON	1	3	4	5	7	8	1.4	3.9	5.2	6.7	9.1	9.9
GULF UTILITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARDIN WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY FWSD 1-A	3	8	13	18	23	28	1.6	4.1	6.2	8.1	9.9	11.5
HARRIS COUNTY FWSD 27	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY FWSD 58	2	2	3	3	3	3	1.0	0.9	1.3	1.2	1.1	1.1
HARRIS COUNTY MUD 106	11	33	54	74	92	99	1.9	5.7	8.9	11.9	14.5	15.4
HARRIS COUNTY MUD 11	1	1	1	1	1	1	0.3	0.3	0.3	0.3	0.2	0.2
HARRIS COUNTY MUD 119	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 122	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 132	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 148	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 151	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 152	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 153	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 154	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 158	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 180	5	14	22	29	36	41	0.7	1.9	2.8	3.7	4.5	5.2
HARRIS COUNTY MUD 189	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 216	2	5	8	10	12	14	1.7	3.9	6.2	7.7	9.3	10.8
HARRIS COUNTY MUD 221	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 23	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 278	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 290	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 321	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 342	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 344	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 345	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 36	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 361	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 372	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 400	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 412	4	12	21	29	38	39	1.4	3.8	6.3	8.2	10.3	10.0
HARRIS COUNTY MUD 420	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 46	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 49	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 5	4	10	16	23	25	26	0.6	1.4	2.0	2.7	2.8	2.7
HARRIS COUNTY MUD 50	6	16	26	35	43	51	1.7	4.5	7.1	9.4	11.6	13.7
HARRIS COUNTY MUD 55	8	24	28	29	31	34	0.5	1.4	1.6	1.5	1.5	1.5
HARRIS COUNTY MUD 58	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 6	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 8	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY MUD 96	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY UD 14	3	8	14	20	27	37	0.8	2.0	3.3	4.2	5.2	6.2
HARRIS COUNTY UD 15	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID 1	8	24	38	52	65	79	1.0	2.8	4.3	5.8	7.0	8.2
HARRIS COUNTY WCID 133	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID 156	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID 50	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID 70	3	8	12	16	19	23	1.7	4.3	6.5	8.7	10.3	12.4
HARRIS COUNTY WCID 74	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID 89	5	14	21	29	35	41	0.7	2.0	3.0	4.0	4.8	5.6
HARRIS COUNTY WCID 96	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY WCID-FONDREN ROAD	2	7	10	10	10	10	0.5	1.4	1.7	1.7	1.7	1.7
HARRIS-MONTGOMERY COUNTIES MUD 386	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HEMPSTEAD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HILLCREST VILLAGE	1	3	4	6	7	8	1.2	3.6	4.8	7.2	8.3	9.5
HILLTOP LAKES WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HILSHIRE VILLAGE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HITCHCOCK	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HMW SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HOUSTON	4,080	12,326	20,673	29,252	38,172	47,390	1.7	4.6	7.2	9.6	11.7	13.6
HUMBLE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HUNTSVILLE	49	145	232	237	242	246	1.1	3.0	4.7	4.7	4.7	4.7
JACINTO CITY	5	14	23	29	29	30	0.4	1.2	1.8	2.3	2.2	2.2
JAMAICA BEACH	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
JERSEY VILLAGE	12	34	54	65	67	68	1.3	3.8	5.9	7.0	7.0	7.0
JEWETT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
JOHNSTON WATER UTILITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
KATY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
KENDLETON	4	14	25	38	52	67	6.2	17.6	27.3	36.8	45.2	52.5
KINGS MANOR MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
KIRK MOUNT MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
LA MARQUE	82	250	399	536	666	786	3.4	9.5	14.8	19.6	24.0	27.9
LA PORTE	27	77	79	80	81	82	0.7	2.0	2.0	2.0	2.0	2.0
LAKE BONANZA WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
LAKE CONROE HILLS MUD	2	6	12	20	31	38	0.9	2.1	3.4	4.5	5.6	5.6
LAKE JACKSON	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
LAKE LIVINGSTON WSC	20	63	110	161	216	278	1.3	3.7	5.8	7.7	9.3	11.0
LAKE MUD	2	5	6	6	6	6	0.5	1.1	1.3	1.3	1.3	1.3
LAZY RIVER IMPROVEMENT DISTRICT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
LEAGUE CITY	92	290	494	529	546	559	0.8	2.1	3.3	3.3	3.3	3.3
LEGGETT WSC	7	22	37	52	67	81	3.1	8.7	13.5	17.8	21.9	25.5
LIBERTY	21	63	105	147	191	235	2.0	5.6	8.8	11.5	14.1	16.5
LIBERTY COUNTY FWSD 1 HULL	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
LIVINGSTON	34	107	182	258	332	403	4.9	13.8	21.7	28.9	35.5	41.5
LONGHORN TOWN UD	1	1	1	1	1	1	0.6	0.6	0.6	0.6	0.6	0.6
LUCE BAYOU PUD	1	4	6	9	11	12	1.1	4.3	6.0	9.0	11.0	12.0
MADISON COUNTY WSC	1	1	1	1	2	2	0.8	0.8	0.7	0.7	1.3	1.2
MADISONVILLE	9	27	44	62	80	98	1.6	4.6	7.0	9.3	11.4	13.2
MAGNOLIA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MANVEL	2	7	15	26	40	58	2.0	4.2	6.7	8.9	10.8	12.5
MASON CREEK UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MEADOWCREEK MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MEADOWS PLACE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)							Water Loss Reduction Savings (gpccd)						
	2020	2030	2040	2050	2060	2070	2070	2020	2030	2040	2050	2060	2070	
MEMORIAL POINT UD	4	11	19	27	34	42	42	3.2	7.8	12.5	16.7	20.0	23.8	
MEMORIAL VILLAGES WATER AUTHORITY	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MERCY WSC	3	9	15	20	27	33	33	1.4	3.7	5.8	7.2	9.2	10.7	
MISSOURI CITY	2	4	5	6	6	7	7	0.7	1.0	1.1	1.2	1.1	1.1	
MONT BELVIEU	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY	4	17	21	25	29	35	35	1.3	3.0	3.0	3.0	3.0	3.0	
MONTGOMERY COUNTY MUD 112	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 115	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 119	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 15	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 18	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 19	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 56	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 8	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 83	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 84	3	10	15	15	15	15	15	1.4	3.6	5.4	5.4	5.4	5.4	
MONTGOMERY COUNTY MUD 88	1	2	4	5	5	5	5	1.9	3.0	4.8	6.0	6.0	6.0	
MONTGOMERY COUNTY MUD 89	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 9	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 95	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 98	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY MUD 99	2	7	13	17	21	25	25	2.1	5.8	8.6	11.2	13.9	16.5	
MONTGOMERY COUNTY UD 2	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY UD 3	13	39	62	82	100	117	117	3.1	8.8	14.0	18.5	22.5	26.3	
MONTGOMERY COUNTY UD 4	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	
MONTGOMERY COUNTY WCID 1	0	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
MORGANS POINT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MOSCOW WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MOUNT HOUSTON ROAD MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
MSEC ENTERPRISES	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NASSAU BAY	6	18	28	28	28	29	1.3	3.9	6.1	5.9	5.8	6.0
NEEDVILLE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NEW CANEY MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NEW WAVERLY	1	3	3	3	3	3	0.8	2.3	2.2	2.1	2.1	2.1
NEWPORT MUD	6	17	20	20	20	21	0.6	1.6	1.8	1.7	1.7	1.7
NORMANGEE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NORTH BELT UD	3	8	8	8	8	9	1.0	2.6	2.6	2.5	2.4	2.6
NORTH CHANNEL WATER AUTHORITY	61	175	233	236	241	246	0.7	1.8	2.4	2.4	2.4	2.4
NORTH FOREST MUD	4	13	20	26	32	38	2.4	7.6	11.7	15.2	18.7	22.2
NORTH FORT BEND WATER AUTHORITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NORTH GREEN MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
NORTH ZULCH MUD	1	4	8	10	12	12	0.6	2.3	4.3	5.1	5.7	5.5
NORTHWEST HARRIS COUNTY MUD 16	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
OAK HOLLOW UTILITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
OAK RIDGE NORTH	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ONALASKA WSC	2	9	16	22	23	25	0.5	1.8	2.7	3.3	3.2	3.3
ONE FIVE O WSC	3	8	14	20	25	31	1.0	2.4	3.8	5.1	6.0	7.1
OYSTER CREEK	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
P B & S C WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PALMER PLANTATION MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PALMER PLANTATION MUD 2	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
PANORAMA VILLAGE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PARKWAY MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PASADENA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PATTISON WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PEARLAND	101	251	274	298	322	345	0.7	1.6	1.6	1.6	1.6	1.6
PECAN GROVE MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PENNINGTON WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PHELPS SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PINE VILLAGE PUD	1	1	1	1	1	1	0.4	0.4	0.3	0.3	0.3	0.3
PINEHURST DECKER PRAIRIE WSC	1	2	5	8	12	20	0.7	1.2	1.9	1.9	1.9	1.9
PINEWOOD COMMUNITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PLANTATION MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
POINT AQUARIUS MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PORTER SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PRAIRIE VIEW	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PROVIDENCE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
QUADVEST	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
QUAIL VALLEY UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
RANCH UTILITIES	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
RAYFORD ROAD MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
RICHMOND	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
RICHWOOD	3	8	13	17	19	20	0.7	1.8	2.8	3.6	3.8	3.9
RIVER PLANTATION MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
RIVERSIDE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ROLLING FORK PUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ROMAN FOREST CONSOLIDATED MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ROSENBERG	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ROYAL VALLEY UTILITIES	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SAGEMEADOW UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SAN JACINTO SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SAN LEON MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SEABROOK	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SEALY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SEDONA LAKES MUD 1	1	4	7	10	11	13	0.8	2.7	4.2	5.4	5.3	5.6
SEQUOIA IMPROVEMENT DISTRICT	1	3	6	7	7	7	0.9	2.4	4.6	5.3	5.3	5.3
SHENANDOAH	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SHEPHERD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SHOREACRES	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SIENNA PLANTATION	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SODA WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH CLEVELAND WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTH HOUSTON	22	61	98	132	167	202	1.2	3.1	4.9	6.4	7.8	9.1
SOUTHEAST WSC	3	9	15	21	28	35	1.3	3.6	5.8	7.5	9.5	11.3
SOUTHERN MONTGOMERY COUNTY MUD	21	60	95	128	158	188	1.6	4.5	7.0	9.2	11.2	13.1
SOUTHERN WATER	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTHSIDE PLACE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SOUTHWEST HARRIS COUNTY MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SPLENDORA	9	26	49	77	115	165	1.1	2.8	4.4	5.7	7.0	8.2
SPRING CREEK UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SPRING MEADOWS MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SPRING VALLEY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
STANLEY LAKE MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SUBURBAN UTILITY	2	5	5	5	5	5	0.5	1.3	1.3	1.3	1.3	1.3
SUGAR LAND	38	40	43	45	46	47	0.3	0.3	0.3	0.3	0.3	0.3
SUNBELT FWSD	19	55	87	112	118	125	0.6	1.7	2.5	3.1	3.1	3.1
SURFSIDE BEACH	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SWEENEY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
T & W WATER SERVICE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TARKINGTON SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TDCJ JESTER UNITS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TDCJ RAMSEY AREA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TEMPE WSC 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TEXAS CITY	80	242	404	564	725	883	1.4	3.8	5.9	7.8	9.6	11.2
THE COMMONS WATER SUPPLY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
THE CONSOLIDATED WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
THE WOODLANDS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
THUNDERBIRD UD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TOMBALL	23	68	112	155	169	174	1.6	4.5	7.1	9.4	9.9	9.9
TRAIL OF THE LAKES MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TRINITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TRINITY BAY CONSERVATION DISTRICT	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
TRINITY RURAL WSC	3	10	16	19	19	20	0.6	1.9	3.1	3.7	3.6	3.6
VALLEY RANCH MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
VARNER CREEK UD	1	2	2	2	2	2	0.6	1.2	1.2	1.2	1.2	1.2
WALKER COUNTY RURAL SUD	14	39	63	87	109	131	1.6	4.3	6.6	8.8	10.7	12.6
WALLER	5	13	22	32	42	54	1.8	4.3	6.7	9.0	10.8	12.8
WALLIS	1	4	6	9	11	13	0.7	2.5	3.5	5.0	5.6	6.2

Water User Group	Water Loss Reduction Savings (ac ft/yr)						Water Loss Reduction Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
WATERWOOD MUD 1	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEBSTER	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST COLUMBIA	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST END WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST HARDIN WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST HARRIS COUNTY MUD 6	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST UNIVERSITY PLACE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WESTWOOD NORTH WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WESTWOOD SHORES MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WHITE OAK UTILITIES	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WHITE OAK WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WILLIS	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WOOD BRANCH VILLAGE	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WOODCREEK MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WOODCREEK WATER OF LIBERTY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0

APPENDIX 5B-B

ADVANCED CONSERVATION SAVINGS FOR MUNICIPAL WUGS

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Table 5B-B1 – Advanced Conservation Savings for Municipal WUGs

Water User Group	Advanced Conservation Savings (ac ft/yr)							Advanced Conservation Savings (gpcd)						
	2020	2030	2040	2050	2060	2070		2020	2030	2040	2050	2060	2070	
ALVIN	131	225	273	331	401	494		4.4	7.0	7.8	8.7	9.5	10.3	
ANAHUAC	9	13	15	17	18	22		3.4	4.8	5.5	6.1	6.3	7.6	
ANGLETON	67	127	147	172	191	233		3.2	6.0	6.9	8.1	8.9	10.8	
AUSTIN COUNTY WSC	10	17	22	28	34	43		5.3	7.7	8.7	9.6	10.2	11.4	
BACLIFF MUD	22	17	0	0	0	0		2.7	2.0	0.0	0.0	0.0	0.0	
BAKER ROAD MUD	7	10	12	12	13	13		5.6	7.5	9.0	9.0	9.8	9.8	
BAYBROOK MUD 1	7	11	14	16	17	17		7.2	10.8	12.3	13.0	13.0	12.2	
BAYTOWN	293	490	563	663	746	916		3.5	5.6	6.3	7.2	7.9	9.4	
BAYVIEW MUD	5	10	11	14	15	19		2.6	4.7	4.8	5.8	6.0	7.3	
BELLAIRE	118	186	221	272	335	414		5.6	8.1	8.8	10.0	11.3	12.8	
BELLVILLE	32	56	70	79	86	91		7.0	11.5	13.3	13.9	14.0	13.6	
BLUE BELL MANOR UTILITY	16	21	23	26	29	34		5.1	6.5	6.8	7.2	7.6	8.5	
BLUE RIDGE WEST MUD	36	49	52	56	60	68		3.5	4.8	5.1	5.5	5.9	6.7	
BOLIVAR PENINSULA SUD	0	0	0	0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
BRAZORIA	11	19	21	24	27	33		3.1	5.3	5.7	6.4	7.1	8.5	
BRAZORIA COUNTY MUD 2	39	48	51	53	55	56		8.6	10.6	11.2	11.7	12.1	12.3	
BRAZORIA COUNTY MUD 21	20	31	36	43	48	56		4.1	6.1	6.5	7.3	7.6	8.5	
BRAZORIA COUNTY MUD 25	12	18	21	27	32	41		2.5	3.3	3.4	3.9	4.2	4.8	
BRAZORIA COUNTY MUD 29	15	32	48	59	64	75		3.0	3.9	4.4	5.4	5.8	6.8	
BRAZORIA COUNTY MUD 3	20	27	29	33	35	40		4.2	5.7	6.0	6.7	7.0	7.9	
BRAZORIA COUNTY MUD 31	14	22	28	36	43	51		8.0	11.1	11.9	13.5	14.5	16.2	
BRAZORIA COUNTY MUD 6	32	41	44	47	49	52		4.9	6.2	6.7	7.1	7.4	7.8	
BROOKSHIRE MWD	17	29	37	48	60	80		2.9	4.0	4.3	4.7	5.0	5.7	
BUFFALO	11	19	23	24	25	26		5.0	8.4	10.0	10.1	10.3	10.5	
BUNKER HILL VILLAGE	40	51	57	64	72	83		9.2	10.8	11.2	11.7	12.2	13.0	

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcpd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
CAPE ROYALE UD	9	14	16	19	22	25	7.7	10.9	11.6	12.9	14.1	15.3
CENTERVILLE	7	15	18	20	22	23	5.7	11.5	13.0	13.5	14.1	14.0
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	164	285	337	417	487	622	2.6	4.1	4.6	5.4	6.0	7.4
CHAMBERS COUNTY MUD 1	9	16	20	27	31	34	2.5	3.7	4.0	4.6	4.6	4.5
CHATEAU WOODS MUD	9	16	19	22	23	27	3.4	4.7	5.5	6.4	6.7	7.9
CHIMNEY HILL MUD	18	28	31	35	38	45	3.0	4.6	5.0	5.6	6.0	6.9
CLEAR BROOK CITY MUD	60	106	128	164	197	255	2.9	4.9	5.3	6.3	7.2	8.9
CLEAR LAKE CITY WATER AUTHORITY	352	526	610	729	864	1,030	4.5	6.5	7.0	7.9	8.9	10.1
CLEVELAND	42	65	74	79	81	83	4.8	7.4	8.2	8.7	8.7	8.8
CLUTE	40	59	64	73	81	98	3.1	4.4	4.6	5.1	5.5	6.3
CONCORD-ROBBINS WSC	13	17	3	0	0	0	2.5	3.2	0.5	0.0	0.0	0.0
CONROE	356	631	811	1,021	1,261	1,542	4.2	6.3	7.0	7.9	8.7	9.6
CORINTHIAN POINT MUD 2	6	10	14	15	16	18	6.2	8.0	9.0	9.6	10.2	11.5
COUNTRY TERRACE WATER	5	9	10	12	14	17	2.8	4.6	4.8	5.5	6.1	7.1
COUNTY-OTHER, AUSTIN	67	116	147	194	245	331	3.5	5.0	5.3	6.0	6.4	7.5
COUNTY-OTHER, BRAZORIA	451	813	1,100	1,493	1,927	2,630	4.0	5.4	5.8	6.4	6.9	7.9
COUNTY-OTHER, CHAMBERS	44	70	88	112	137	178	2.9	3.8	4.1	4.5	4.8	5.5
COUNTY-OTHER, FORT BEND	452	838	1,150	1,757	2,615	4,036	3.8	5.1	5.6	5.9	6.4	7.3
COUNTY-OTHER, GALVESTON	42	63	64	68	68	73	4.0	6.5	7.0	8.0	8.8	10.4
COUNTY-OTHER, HARRIS	482	828	993	1,150	1,395	1,833	3.6	4.8	5.3	6.0	6.2	7.1
COUNTY-OTHER, LEON	10	15	15	17	17	18	4.0	6.2	6.8	8.1	8.7	10.1
COUNTY-OTHER, LIBERTY	144	225	259	307	351	429	3.4	4.8	5.2	5.7	6.2	7.2
COUNTY-OTHER, MADISON	43	69	79	94	107	132	5.3	8.0	8.6	9.6	10.4	12.2
COUNTY-OTHER, MONTGOMERY	679	1,398	2,234	3,516	5,198	7,980	3.3	4.4	4.7	5.2	5.6	6.5
COUNTY-OTHER, POLK	53	86	98	114	124	145	3.2	4.8	5.3	6.0	6.5	7.8
COUNTY-OTHER, SAN JACINTO	48	80	93	111	127	155	3.4	5.1	5.6	6.2	6.8	8.0

Water User Group	Advanced Conservation Savings (ac ft/yr)							Advanced Conservation Savings (gpccd)						
	2020	2030	2040	2050	2060	2070		2020	2030	2040	2050	2060	2070	
COUNTY-OTHER, TRINITY	0	0	0	0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
COUNTY-OTHER, WALKER	79	109	117	129	139	159		5.1	6.9	7.3	8.0	8.6	9.8	
COUNTY-OTHER, WALLER	88	150	191	250	314	419		3.4	4.9	5.2	5.8	6.3	7.2	
CROSBY MUD	11	17	19	22	24	28		3.3	4.8	5.3	6.0	6.4	7.3	
CUT & SHOOT	13	22	27	36	47	68		2.8	4.4	4.6	5.1	5.5	6.4	
DAISETTA	4	7	8	10	12	15		3.2	5.0	5.2	5.9	6.6	7.6	
DANBURY	6	10	11	12	13	15		3.1	5.2	5.7	6.2	6.7	7.8	
DAYTON	63	108	148	210	271	338		5.2	6.9	7.8	9.3	10.5	11.7	
DEER PARK	135	245	289	352	405	508		3.7	6.3	7.1	8.3	9.2	11.3	
DEVERS	5	7	8	9	11	13		5.8	7.2	7.4	7.6	8.6	9.4	
DOBBIN PLANTERSVILLE WSC	24	48	74	117	150	195		2.6	3.8	4.4	5.1	4.9	4.8	
DODGE OAKHURST WSC	6	10	11	14	15	19		3.2	4.9	5.2	6.2	6.4	7.8	
DOMESTIC WATER	6	11	15	18	20	23		3.0	4.2	4.6	5.5	6.1	7.0	
DOUGLAS UTILITY	6	7	7	8	8	9		2.1	2.4	2.4	2.7	2.7	3.0	
EAST PLANTATION UD	8	12	14	18	22	26		5.3	7.7	7.6	8.5	9.0	10.3	
EL DORADO UD	11	17	18	21	23	27		2.2	3.3	3.4	3.8	4.1	4.8	
FAR HILLS UD	10	15	20	23	25	27		6.6	7.7	8.2	9.4	10.2	11.1	
FIRST COLONY MUD 9	48	68	74	79	83	90		4.3	5.7	6.2	6.6	6.9	7.5	
FLO COMMUNITY WSC	10	17	21	26	32	41		3.4	4.9	5.2	5.6	6.2	7.1	
FOREST HILLS MUD	10	15	17	19	20	24		2.7	3.8	4.1	4.5	4.8	5.7	
FORT BEND COUNTY FWSD 1	0	0	0	0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
FORT BEND COUNTY FWSD 2	7	14	17	22	27	35		2.5	4.0	4.2	4.8	5.3	6.2	
FORT BEND COUNTY MUD 115	20	26	28	29	30	31		9.4	11.1	11.9	12.3	12.8	13.2	
FORT BEND COUNTY MUD 116	25	37	46	56	65	77		5.6	7.3	7.8	8.5	8.9	9.6	
FORT BEND COUNTY MUD 121	14	20	21	23	25	29		3.3	4.7	5.0	5.5	5.9	6.9	
FORT BEND COUNTY MUD 128	25	32	34	36	38	41		5.2	6.6	7.1	7.5	7.9	8.5	

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 129	29	37	39	41	43	47	5.5	7.1	7.5	7.8	8.2	9.0
FORT BEND COUNTY MUD 140	13	18	19	20	21	23	3.9	5.4	5.7	6.0	6.2	6.8
FORT BEND COUNTY MUD 149	9	18	23	28	31	37	4.1	6.6	7.3	8.9	9.8	11.7
FORT BEND COUNTY MUD 152	6	11	14	16	17	20	7.0	10.3	11.4	13.0	13.8	16.3
FORT BEND COUNTY MUD 155	14	25	31	37	40	45	5.3	7.6	8.2	9.8	10.6	11.9
FORT BEND COUNTY MUD 158	8	15	19	22	23	27	5.8	8.7	9.6	11.1	11.6	13.6
FORT BEND COUNTY MUD 162	10	18	23	27	29	35	3.3	4.7	5.2	6.2	6.6	8.0
FORT BEND COUNTY MUD 187	13	18	19	21	23	26	3.2	4.4	4.7	5.2	5.7	6.4
FORT BEND COUNTY MUD 23	44	72	81	94	105	127	3.4	5.2	5.6	6.3	6.8	8.0
FORT BEND COUNTY MUD 24	6	12	15	19	20	24	3.7	6.0	6.5	8.2	8.6	10.4
FORT BEND COUNTY MUD 25	46	69	75	85	93	110	3.4	5.1	5.5	6.1	6.5	7.6
FORT BEND COUNTY MUD 26	19	32	41	47	51	59	3.2	4.4	4.8	5.5	6.0	6.9
FORT BEND COUNTY MUD 42	24	39	43	47	50	54	4.7	6.3	6.9	7.6	8.0	8.7
FORT BEND COUNTY MUD 46	15	25	32	36	38	40	6.1	8.3	9.0	10.1	10.6	11.2
FORT BEND COUNTY MUD 47	5	10	13	15	17	20	3.2	5.1	5.7	6.5	7.4	8.7
FORT BEND COUNTY MUD 48	13	20	21	23	25	29	3.3	5.1	5.4	5.9	6.4	7.4
FORT BEND COUNTY MUD 49	6	9	11	12	12	13	4.0	4.8	5.9	6.5	6.5	7.0
FORT BEND COUNTY MUD 5	10	18	21	24	26	30	2.7	3.9	4.6	5.2	5.7	6.6
FORT BEND COUNTY MUD 81	36	44	50	57	63	71	12.8	14.7	15.5	16.4	16.9	17.9
FORT BEND COUNTY WCID 2	216	356	452	561	677	820	4.2	5.6	6.2	6.8	7.4	8.1
FORT BEND COUNTY WCID 3	12	16	17	17	18	18	11.7	12.6	13.4	13.4	14.2	14.2
FREEPOT	42	66	74	91	131	174	2.8	4.2	4.5	5.3	7.3	9.3
FRIENDSWOOD	219	360	430	529	648	796	4.5	6.8	7.5	8.5	9.7	11.0
FULSHEAR	62	142	185	227	254	310	3.4	5.2	6.4	7.9	8.8	10.8
G & W WSC	14	26	36	51	67	92	3.2	4.4	4.7	5.4	5.8	6.7
GALENA PARK	28	44	19	0	0	0	2.3	3.5	1.5	0.0	0.0	0.0

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcpd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
GALVESTON	469	698	798	954	1,116	1,330	8.2	11.4	12.3	14.0	15.6	17.7
GALVESTON COUNTY FWSD 6	12	18	20	22	23	26	6.0	8.9	9.8	10.7	11.1	12.5
GALVESTON COUNTY MUD 12	11	18	20	23	25	30	4.3	7.1	7.8	9.0	9.8	11.7
GALVESTON COUNTY WCID 1	95	178	223	288	350	460	3.2	5.3	5.9	6.9	7.6	9.2
GALVESTON COUNTY WCID 12	47	75	88	95	99	103	5.1	6.5	7.4	7.9	8.0	8.2
GALVESTON COUNTY WCID 8	20	31	35	40	45	55	3.1	4.7	5.1	5.7	6.2	7.3
GLENDALE WSC	4	7	8	9	10	12	4.3	6.9	7.9	9.1	9.8	11.2
GREEN TRAILS MUD	16	21	22	24	25	27	6.9	9.0	9.4	10.1	10.5	11.3
GREENWOOD UD	15	29	23	19	18	17	2.9	4.9	3.8	3.1	2.9	2.7
GROVETON	3	5	5	6	6	8	4.3	6.6	6.5	8.1	7.8	9.9
GULF UTILITY	24	33	36	39	42	46	4.6	6.3	6.8	7.4	8.0	8.7
HARDIN WSC	18	33	43	56	69	91	3.2	4.7	5.2	5.8	6.3	7.5
HARRIS COUNTY FWSD 1-A	6	10	12	14	16	20	3.3	5.1	5.7	6.3	6.9	8.2
HARRIS COUNTY FWSD 27	7	11	12	14	16	20	2.8	4.1	4.2	4.6	5.0	6.0
HARRIS COUNTY FWSD 58	11	15	17	19	21	25	5.3	6.7	7.1	7.5	7.9	9.0
HARRIS COUNTY MUD 106	34	42	45	49	52	57	5.9	7.2	7.5	7.9	8.2	8.9
HARRIS COUNTY MUD 11	11	18	20	23	26	32	3.1	4.9	5.2	5.8	6.3	7.5
HARRIS COUNTY MUD 119	19	29	32	37	41	49	2.3	3.4	3.6	4.0	4.3	5.0
HARRIS COUNTY MUD 122	5	8	10	12	13	15	3.2	4.2	4.4	5.3	5.7	6.6
HARRIS COUNTY MUD 132	30	42	47	50	53	57	4.5	6.2	6.9	7.3	7.7	8.2
HARRIS COUNTY MUD 148	13	22	20	16	15	15	2.6	4.1	3.7	2.9	2.7	2.7
HARRIS COUNTY MUD 151	32	44	48	53	56	62	4.4	6.0	6.5	7.1	7.5	8.3
HARRIS COUNTY MUD 152	33	46	51	57	62	72	3.7	5.0	5.3	5.8	6.2	7.1
HARRIS COUNTY MUD 153	38	53	57	62	66	72	4.4	6.1	6.6	7.1	7.6	8.3
HARRIS COUNTY MUD 154	30	43	47	53	58	69	3.3	4.6	4.9	5.4	5.8	6.7
HARRIS COUNTY MUD 158	22	34	36	41	44	51	3.1	4.8	5.0	5.7	6.2	7.1

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 180	17	26	30	34	37	43	2.5	3.5	3.8	4.3	4.7	5.4
HARRIS COUNTY MUD 189	8	9	10	11	12	14	1.8	1.9	2.0	2.2	2.3	2.5
HARRIS COUNTY MUD 216	5	8	9	10	11	12	4.2	6.2	7.0	7.7	8.5	9.3
HARRIS COUNTY MUD 221	14	22	25	29	32	39	2.7	4.0	4.3	4.9	5.2	6.1
HARRIS COUNTY MUD 23	12	20	22	21	19	19	2.2	3.4	3.7	3.6	3.2	3.2
HARRIS COUNTY MUD 278	36	68	89	108	121	148	2.6	3.7	4.9	5.9	6.6	8.1
HARRIS COUNTY MUD 290	25	42	47	56	62	74	3.9	6.2	6.7	7.7	8.3	9.7
HARRIS COUNTY MUD 321	9	16	20	23	25	25	5.4	7.2	8.3	8.9	9.7	9.7
HARRIS COUNTY MUD 342	18	24	27	30	31	34	4.1	5.1	5.4	6.0	6.2	6.8
HARRIS COUNTY MUD 344	25	37	40	43	45	49	5.8	7.4	8.0	8.6	9.0	9.8
HARRIS COUNTY MUD 345	24	33	35	38	39	42	5.4	7.4	7.8	8.5	8.7	9.4
HARRIS COUNTY MUD 36	9	13	14	15	15	14	5.1	6.8	7.3	7.8	7.8	7.3
HARRIS COUNTY MUD 361	15	22	24	27	29	34	4.2	5.7	6.2	6.9	7.4	8.7
HARRIS COUNTY MUD 372	32	39	41	44	46	50	6.9	8.4	8.8	9.5	9.9	10.7
HARRIS COUNTY MUD 400	33	47	54	61	65	69	3.9	5.1	5.5	6.0	6.2	6.5
HARRIS COUNTY MUD 412	16	24	27	32	35	41	5.5	7.7	8.1	9.1	9.5	10.5
HARRIS COUNTY MUD 420	5	8	9	11	12	14	2.9	4.3	4.5	5.5	6.0	7.0
HARRIS COUNTY MUD 46	18	25	27	29	30	33	4.3	6.0	6.4	6.9	7.1	7.8
HARRIS COUNTY MUD 49	21	33	37	42	47	55	2.7	4.1	4.4	4.9	5.4	6.3
HARRIS COUNTY MUD 5	17	28	33	39	42	43	2.4	3.8	4.2	4.7	4.7	4.5
HARRIS COUNTY MUD 50	13	20	22	26	28	33	3.7	5.6	6.0	7.0	7.5	8.8
HARRIS COUNTY MUD 55	46	73	86	125	155	208	2.9	4.4	4.9	6.6	7.7	9.4
HARRIS COUNTY MUD 58	6	7	8	9	9	10	2.4	2.6	2.8	3.2	3.2	3.5
HARRIS COUNTY MUD 6	15	23	25	28	30	35	3.1	4.4	4.8	5.4	5.7	6.7
HARRIS COUNTY MUD 8	12	15	15	17	18	20	2.3	2.9	2.9	3.3	3.5	3.9
HARRIS COUNTY MUD 96	21	34	39	47	54	67	2.8	4.3	4.6	5.2	5.6	6.7

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpccd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY UD 14	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
HARRIS COUNTY UD 15	15	22	26	29	30	33	3.7	5.0	5.3	5.9	6.1	6.8
HARRIS COUNTY WCID 1	23	36	40	46	51	62	2.8	4.3	4.6	5.1	5.5	6.5
HARRIS COUNTY WCID 133	19	27	29	34	40	49	3.1	4.4	4.5	4.9	5.3	6.1
HARRIS COUNTY WCID 156	8	11	12	14	15	17	5.3	6.8	7.0	7.6	7.7	8.4
HARRIS COUNTY WCID 50	13	21	23	27	29	35	3.9	6.3	6.8	7.9	8.5	10.2
HARRIS COUNTY WCID 70	8	12	14	15	16	18	4.6	6.5	7.6	8.1	8.7	9.7
HARRIS COUNTY WCID 74	17	23	24	27	28	33	2.8	3.7	3.9	4.4	4.5	5.4
HARRIS COUNTY WCID 89	21	37	41	47	52	63	3.1	5.3	5.8	6.5	7.2	8.7
HARRIS COUNTY WCID 96	43	55	58	63	66	71	4.3	5.5	5.8	6.3	6.6	7.1
HARRIS COUNTY WCID-FONDREN ROAD	11	19	24	28	30	36	2.7	3.7	4.0	4.7	5.0	6.0
HARRIS-MONTGOMERY COUNTIES MUD 386	12	16	16	17	18	21	3.5	4.6	4.6	4.9	5.2	6.1
HEMPSTEAD	35	57	72	87	102	120	4.6	6.5	7.1	7.4	7.6	7.9
HILLCREST VILLAGE	4	5	5	6	6	7	4.8	6.0	6.0	7.2	7.2	8.3
HILLTOP LAKES WSC	8	13	15	17	19	22	5.5	8.3	9.1	9.6	10.2	11.2
HILSHIRE VILLAGE	5	8	10	12	13	15	6.0	9.0	10.4	11.3	11.0	11.5
HITCHCOCK	28	46	55	66	75	91	3.0	4.1	4.4	5.0	5.4	6.3
HMW SUD	43	77	99	139	199	261	4.0	6.0	6.5	7.7	11.1	14.5
HOUSTON	11,745	19,117	22,886	27,709	30,664	35,985	4.8	7.2	8.0	9.0	9.4	10.4
HUMBLE	79	161	215	262	304	344	4.0	6.8	8.0	9.0	9.9	10.8
HUNTSVILLE	210	331	384	435	490	546	4.6	6.9	7.8	8.6	9.4	10.3
JACINTO CITY	25	13	0	0	0	0	2.1	1.1	0.0	0.0	0.0	0.0
JAMAICA BEACH	7	10	11	12	13	15	6.3	9.0	9.8	10.6	11.3	12.9
JERSEY VILLAGE	50	75	85	92	97	104	5.6	8.3	9.3	9.8	10.2	10.6
JEWETT	8	14	17	21	24	28	4.2	6.2	6.7	7.1	7.3	7.7
JOHNSTON WATER UTILITY	18	28	37	49	64	84	8.6	10.4	10.9	11.6	12.2	13.0

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
KATY	143	291	366	429	486	547	5.9	8.1	9.9	11.3	12.4	13.6
KENDLETON	5	9	11	13	16	18	7.8	11.3	12.0	12.6	13.9	14.1
KINGS MANOR MUD	14	21	22	24	26	30	3.0	4.6	4.8	5.2	5.7	6.5
KIRK MONT MUD	11	17	19	23	26	31	4.4	6.1	6.3	7.0	7.3	8.1
LA MARQUE	95	144	161	189	222	262	3.9	5.5	6.0	6.9	8.0	9.3
LA PORTE	158	285	322	367	404	490	4.2	7.4	8.2	9.2	9.9	11.9
LAKE BONANZA WSC	7	14	19	26	35	51	2.9	4.5	4.8	5.3	5.7	6.8
LAKE CONROE HILLS MUD	7	13	18	25	33	47	3.2	4.6	5.1	5.6	6.0	6.9
LAKE JACKSON	151	241	275	322	377	445	5.0	7.8	8.6	9.8	11.1	12.6
LAKE LIVINGSTON WSC	10	0	0	0	0	0	0.7	0.0	0.0	0.0	0.0	0.0
LAKE MUD	15	27	31	35	39	46	3.5	5.9	6.8	7.7	8.5	10.1
LAZY RIVER IMPROVEMENT DISTRICT	5	8	11	12	13	14	4.8	6.0	6.6	7.2	7.8	8.3
LEAGUE CITY	439	781	952	1,182	1,367	1,691	3.6	5.7	6.3	7.4	8.3	10.0
LEGGETT WSC	9	14	17	19	21	23	4.0	5.5	6.2	6.5	6.9	7.2
LIBERTY	45	78	95	106	115	121	4.3	7.0	7.9	8.3	8.5	8.5
LIBERTY COUNTY FWSD 1 HULL	4	6	7	9	11	13	5.1	6.7	7.1	8.3	9.4	10.3
LIVINGSTON	63	97	120	133	141	140	9.1	12.5	14.3	14.9	15.1	14.4
LONGHORN TOWN UD	9	13	14	15	16	16	5.1	7.4	7.9	8.5	9.1	9.1
LUCE BAYOU PUD	4	6	7	7	8	8	4.6	6.4	7.0	7.0	8.0	8.0
MADISON COUNTY WSC	5	8	9	11	13	15	4.0	6.0	6.4	7.3	8.2	9.0
MADISONVILLE	26	42	50	57	61	66	4.7	7.1	8.0	8.5	8.7	8.9
MAGNOLIA	30	53	71	93	122	174	5.6	8.2	9.0	9.3	9.4	9.8
MANVEL	5	13	20	29	38	47	4.9	7.8	8.9	9.9	10.3	10.1
MASON CREEK UD	40	53	56	61	64	70	4.7	6.3	6.6	7.2	7.6	8.3
MEADOWCREEK MUD	12	20	22	24	26	30	3.7	5.1	5.6	6.1	6.6	7.6
MEADOWS PLACE	23	32	35	39	42	48	4.4	6.0	6.4	7.0	7.4	8.2

Water User Group	Advanced Conservation Savings (ac ft/yr)							Advanced Conservation Savings (gpcpd)						
	2020	2030	2040	2050	2060	2070		2020	2030	2040	2050	2060	2070	
MEMORIAL POINT UD	5	8	9	10	12	13		4.0	5.7	5.9	6.2	7.1	7.4	
MEMORIAL VILLAGES WATER AUTHORITY	128	161	182	205	228	265		11.2	13.0	13.5	14.0	14.4	15.4	
MERCY WSC	7	12	14	17	20	25		3.2	5.0	5.4	6.1	6.8	8.1	
MISSOURI CITY	13	23	29	36	42	51		4.2	6.0	6.6	7.3	7.6	8.3	
MONT BELVIEU	65	102	134	169	204	252		9.4	11.5	12.3	13.0	13.3	14.2	
MONTGOMERY	16	37	54	69	81	95		5.3	6.6	7.8	8.3	8.4	8.0	
MONTGOMERY COUNTY MUD 112	7	12	13	14	15	16		5.4	7.2	7.8	8.4	9.0	9.6	
MONTGOMERY COUNTY MUD 115	6	10	13	15	16	18		4.5	5.8	6.0	6.9	7.4	8.3	
MONTGOMERY COUNTY MUD 119	21	34	46	52	55	60		6.5	8.1	8.8	9.9	10.5	11.4	
MONTGOMERY COUNTY MUD 15	17	29	35	46	60	86		4.0	6.3	6.6	7.4	7.9	9.1	
MONTGOMERY COUNTY MUD 18	45	72	89	107	124	160		6.3	7.8	8.5	9.1	9.6	10.0	
MONTGOMERY COUNTY MUD 19	9	10	11	11	12	13		2.6	2.8	3.1	3.1	3.3	3.6	
MONTGOMERY COUNTY MUD 56	5	8	10	12	13	15		3.1	3.8	3.8	4.6	4.9	5.7	
MONTGOMERY COUNTY MUD 8	17	27	33	41	48	63		5.1	7.6	8.3	9.3	9.9	10.8	
MONTGOMERY COUNTY MUD 83	11	16	18	20	22	25		4.7	6.6	7.2	7.8	8.3	9.3	
MONTGOMERY COUNTY MUD 84	13	23	26	29	31	35		6.1	8.3	9.4	10.5	11.2	12.7	
MONTGOMERY COUNTY MUD 88	0	4	5	6	7	7		0.0	6.0	6.0	7.2	8.4	8.4	
MONTGOMERY COUNTY MUD 89	15	24	27	32	38	47		2.4	3.7	4.2	4.6	4.9	5.9	
MONTGOMERY COUNTY MUD 9	34	55	66	83	92	105		5.1	8.0	8.4	9.4	10.4	11.9	
MONTGOMERY COUNTY MUD 95	5	9	12	14	16	19		2.9	4.0	4.2	4.9	5.7	6.7	
MONTGOMERY COUNTY MUD 98	6	13	17	21	23	28		3.8	6.4	6.7	8.3	9.1	11.0	
MONTGOMERY COUNTY MUD 99	5	9	12	14	15	16		5.4	7.5	7.9	9.2	9.9	10.6	
MONTGOMERY COUNTY UD 2	8	13	15	18	21	26		3.7	5.9	6.5	7.3	7.8	8.8	
MONTGOMERY COUNTY UD 3	24	42	48	54	59	66		5.8	9.5	10.8	12.2	13.3	14.9	
MONTGOMERY COUNTY UD 4	17	31	36	44	58	83		4.9	6.9	8.0	8.5	8.7	9.7	
MONTGOMERY COUNTY WCID 1	10	17	20	25	30	39		2.6	4.1	4.3	4.9	5.4	6.3	

Water User Group	Advanced Conservation Savings (ac ft/yr)							Advanced Conservation Savings (gpcpd)						
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070		
MORGANS POINT	4	6	7	8	8	9	8.1	11.2	12.3	13.2	12.5	13.4		
MOSCOW WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0		
MOUNT HOUSTON ROAD MUD	19	31	39	47	54	66	2.7	3.5	3.9	4.3	4.7	5.5		
MSEC ENTERPRISES	120	264	334	412	505	610	5.5	6.9	8.2	9.5	10.7	12.4		
NASSAU BAY	27	40	45	49	51	54	6.1	8.8	9.7	10.4	10.6	11.1		
NEEDVILLE	10	17	18	21	24	29	3.1	5.3	5.5	6.2	6.9	7.9		
NEW CANEY MUD	32	58	70	79	84	92	3.1	5.0	5.5	5.6	5.3	5.1		
NEW WAVERLY	6	11	13	14	15	15	4.7	8.3	9.5	9.9	10.4	10.3		
NEWPORT MUD	33	52	58	67	73	88	3.1	4.7	5.2	5.8	6.2	7.3		
NORMANGEE	4	7	9	10	11	12	4.8	7.8	9.6	9.9	10.3	10.7		
NORTH BELT UD	14	21	24	26	28	30	4.6	6.9	7.7	8.1	8.5	8.8		
NORTH CHANNEL WATER AUTHORITY	300	490	556	660	748	922	3.3	5.2	5.7	6.6	7.3	8.8		
NORTH FOREST MUD	6	9	10	11	11	13	3.6	5.3	5.8	6.4	6.4	7.6		
NORTH FORT BEND WATER AUTHORITY	1,693	3,124	4,415	5,861	6,643	7,974	5.4	7.2	8.4	10.1	10.9	12.8		
NORTH GREEN MUD	11	13	14	15	16	18	2.3	2.7	2.9	3.0	3.2	3.5		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	3,512	5,827	6,979	8,620	9,487	11,403	4.3	6.7	7.6	9.1	9.6	11.2		
NORTH ZULCH MUD	7	11	12	14	16	20	4.3	6.3	6.5	7.1	7.7	9.1		
NORTHWEST HARRIS COUNTY MUD 16	15	23	24	26	28	32	3.8	5.4	5.6	6.1	6.5	7.5		
OAK HOLLOW UTILITY	7	13	16	22	27	37	3.5	5.4	5.6	6.6	6.9	8.2		
OAK RIDGE NORTH	17	28	34	38	39	39	4.8	7.6	8.6	9.3	9.4	9.4		
ONALASKA WSC	14	27	36	46	55	70	3.5	5.4	6.1	7.0	7.7	9.1		
ONE FIVE O WSC	10	16	19	23	26	33	3.2	4.7	5.2	5.9	6.3	7.6		
OYSTER CREEK	7	12	13	14	15	17	5.3	9.0	9.5	9.9	10.3	11.2		
P B & S C WSC	8	13	15	18	20	25	3.8	5.6	6.1	6.8	7.1	8.5		
PALMER PLANTATION MUD 1	14	21	23	25	26	28	5.7	7.0	7.7	8.4	8.7	9.4		
PALMER PLANTATION MUD 2	11	15	16	18	19	22	3.3	4.5	4.8	5.4	5.7	6.6		

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcpd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
PANORAMA VILLAGE	16	23	25	30	35	43	5.8	8.2	8.4	9.3	9.8	10.7
PARKWAY MUD	20	34	38	43	47	57	3.0	4.8	5.4	6.0	6.5	7.9
PASADENA	609	951	1,084	1,247	1,434	1,645	3.7	5.6	6.2	6.9	7.8	8.7
PATTISON WSC	8	13	16	21	26	32	4.2	5.6	5.8	6.5	6.9	7.4
PEARLAND	560	949	1,153	1,443	1,790	2,204	3.9	6.1	6.7	7.7	8.8	10.2
PECAN GROVE MUD 1	66	93	100	109	115	126	4.5	6.3	6.8	7.4	7.8	8.5
PENNINGTON WSC	4	7	8	9	10	12	2.8	4.5	5.1	6.0	6.4	7.3
PHELPS SUD	7	10	11	13	14	17	3.1	4.3	4.6	5.4	5.7	6.8
PINE VILLAGE PUD	8	12	14	17	19	24	3.1	4.4	4.8	5.5	5.8	7.0
PINEHURST DECKER PRAIRIE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PINEWOOD COMMUNITY	4	6	6	7	8	9	3.0	4.2	4.2	4.8	5.5	6.2
PLANTATION MUD	14	22	23	26	28	33	3.1	4.8	5.0	5.7	6.1	7.2
POINT AQUARIUS MUD	13	18	21	24	29	36	5.7	7.8	8.5	9.0	9.8	10.7
PORTER SUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PRAIRIE VIEW	21	35	48	64	82	104	5.5	6.8	7.2	7.7	8.1	8.6
PRAIRIE VIEW A&M UNIVERSITY	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
PROVIDENCE WSC	6	5	0	0	0	0	2.5	1.9	0.0	0.0	0.0	0.0
QUADVEST	162	290	400	580	832	1,176	5.7	7.8	8.4	9.7	11.1	12.9
QUAIL VALLEY UD	67	112	156	193	222	255	4.1	5.6	6.6	8.2	9.4	10.8
RANCH UTILITIES	5	9	10	12	13	15	3.0	4.2	4.6	5.5	6.0	6.9
RAYFORD ROAD MUD	42	61	69	83	96	116	3.4	5.0	5.2	5.8	6.2	7.3
RICHMOND	57	86	100	110	126	174	3.9	5.7	6.3	6.6	7.1	9.3
RICHWOOD	13	21	23	27	31	38	3.1	4.8	5.0	5.7	6.2	7.3
RIVER PLANTATION MUD	17	24	31	39	48	56	5.7	7.5	8.0	8.5	8.9	9.9
RIVERSIDE WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
ROLLING FORK PUD	13	17	19	20	21	23	4.4	5.8	6.5	6.8	7.1	7.8

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcpd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ROMAN FOREST CONSOLIDATED MUD	8	12	14	17	20	26	4.2	6.3	6.5	7.0	7.2	8.0
ROSENBERG	140	247	294	353	408	514	3.1	5.2	5.8	6.7	7.3	8.6
ROYAL VALLEY UTILITIES	16	25	30	33	35	38	7.0	8.8	9.2	10.1	10.7	11.6
SAGEMEADOW UD	23	37	43	51	60	74	3.3	4.9	5.2	5.7	6.3	7.3
SAN JACINTO SUD	10	17	20	24	28	35	3.3	5.0	5.5	6.2	6.8	8.1
SAN LEON MUD	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
SEABROOK	52	78	87	97	104	115	3.8	5.5	6.0	6.5	6.9	7.5
SEALY	37	63	79	92	105	117	4.9	7.4	8.3	8.6	8.8	8.7
SEDONA LAKES MUD 1	6	10	12	15	18	22	4.7	6.8	7.2	8.1	8.7	9.5
SEQUOIA IMPROVEMENT DISTRICT	5	8	9	10	10	12	4.4	6.5	6.9	7.6	7.6	9.1
SHENANDOAH	33	62	83	94	99	99	9.8	14.2	17.3	18.5	18.3	17.0
SHEPHERD	10	17	20	24	28	34	3.4	5.3	5.8	6.5	7.2	8.3
SHOREACRES	10	13	14	16	17	20	6.1	7.8	8.2	9.2	9.6	11.2
SIENNA PLANTATION	146	257	369	540	753	1,018	6.0	8.3	8.7	10.1	11.6	13.5
SODA WSC	6	10	12	15	17	21	2.8	4.1	4.6	5.4	5.8	6.9
SOUTH CLEVELAND WSC	8	14	17	21	25	31	2.8	4.4	4.8	5.4	6.0	6.9
SOUTH HOUSTON	53	100	123	136	146	164	2.8	5.1	6.1	6.5	6.8	7.4
SOUTHEAST WSC	10	18	21	26	30	38	4.3	7.3	8.1	9.3	10.2	12.2
SOUTHERN MONTGOMERY COUNTY MUD	32	44	48	53	57	66	2.5	3.3	3.5	3.8	4.0	4.6
SOUTHERN WATER	14	22	25	28	30	35	2.9	4.2	4.8	5.3	5.7	6.7
SOUTHSIDE PLACE	9	12	13	14	15	18	3.6	4.8	5.2	5.6	5.8	6.4
SOUTHWEST HARRIS COUNTY MUD 1	5	8	3	0	0	0	2.3	3.0	1.1	0.0	0.0	0.0
SPLENDORA	26	45	56	76	99	151	3.0	4.8	5.0	5.6	6.0	7.5
SPRING CREEK UD	33	56	65	79	101	164	2.7	4.2	4.6	5.1	5.9	9.3
SPRING MEADOWS MUD	11	20	22	25	27	29	2.6	4.3	4.8	5.4	5.9	6.3
SPRING VALLEY	28	40	46	53	60	69	6.5	8.5	9.0	9.7	10.2	10.9

Water User Group	Advanced Conservation Savings (ac ft/yr)							Advanced Conservation Savings (gpcd)						
	2020	2030	2040	2050	2060	2070	2080	2020	2030	2040	2050	2060	2070	2080
STANLEY LAKE MUD	19	31	43	59	79	108		5.7	8.2	8.8	9.2	9.5	10.0	
SUBURBAN UTILITY	12	20	21	24	26	31		3.1	5.1	5.4	6.2	6.7	8.0	
SUGAR LAND	889	1,422	1,610	1,763	2,018	2,306		6.0	8.9	9.6	10.1	11.1	12.4	
SUNBELT FWSD	94	167	196	241	283	365		3.0	5.1	5.7	6.7	7.4	9.1	
SURFSIDE BEACH	5	8	8	9	9	10		6.2	8.6	8.6	9.7	9.7	10.8	
SWEENEY	16	26	29	31	32	34		4.0	6.4	7.1	7.6	7.8	8.3	
T & W WATER SERVICE	51	81	104	137	186	308		6.0	7.5	7.8	8.4	9.4	12.8	
TARKINGTON SUD	14	25	32	40	48	62		3.1	4.8	5.3	5.9	6.4	7.6	
TDCJ JESTER UNITS	31	36	37	39	40	43		7.5	8.7	9.0	9.5	9.7	10.4	
TDCJ RAMSEY AREA	34	36	36	37	38	39		16.3	17.3	17.3	17.7	18.2	18.7	
TEMPE WSC 1	7	12	14	17	19	23		2.7	4.2	4.5	5.1	5.5	6.4	
TEXAS CITY	221	381	453	548	634	793		3.8	6.0	6.7	7.6	8.4	10.0	
THE COMMONS WATER SUPPLY	12	18	20	22	25	29		3.2	4.6	4.9	5.2	5.8	6.6	
THE CONSOLIDATED WSC	0	0	0	0	0	0		0.0	0.0	0.0	0.0	0.0	0.0	
THE WOODLANDS	174	474	592	789	1,037	1,363		1.3	3.4	4.0	5.1	6.2	7.5	
THUNDERBIRD UD	34	56	64	69	72	77		4.5	6.1	7.0	7.5	7.9	8.4	
TOMBALL	81	129	157	164	173	214		5.7	8.6	9.9	10.0	10.2	12.2	
TRAIL OF THE LAKES MUD	32	48	53	59	64	75		3.2	4.5	4.9	5.4	5.9	6.8	
TRINITY	15	25	27	30	33	41		3.5	5.4	5.8	6.6	7.1	8.4	
TRINITY BAY CONSERVATION DISTRICT	68	122	164	245	331	433		5.1	7.7	8.8	11.4	13.5	15.5	
TRINITY RURAL WSC	15	23	26	29	31	38		3.2	4.5	5.0	5.7	5.9	6.9	
VALLEY RANCH MUD 1	7	12	17	20	22	26		3.2	4.3	4.8	5.7	6.2	7.4	
VARNER CREEK UD	7	12	13	14	14	17		4.1	7.1	7.7	8.2	8.2	10.0	
WALKER COUNTY RURAL SUD	31	47	53	61	68	80		3.6	5.2	5.6	6.2	6.7	7.7	
WALLER	15	29	37	42	46	50		5.3	9.5	11.2	11.8	11.9	11.8	
WALLIS	5	9	10	12	14	18		3.4	5.7	5.9	6.6	7.2	8.6	

Water User Group	Advanced Conservation Savings (ac ft/yr)						Advanced Conservation Savings (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
WATERWOOD MUD 1	3	4	5	5	6	7	6.1	7.4	8.7	8.1	9.1	10.2
WEBSTER	81	112	149	165	173	171	4.9	6.2	7.9	8.3	8.4	8.1
WEST COLUMBIA	16	26	29	33	36	43	3.6	5.9	6.5	7.4	8.0	9.4
WEST END WSC	6	10	12	14	17	22	2.9	4.3	4.6	4.8	5.3	6.3
WEST HARDIN WSC	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
WEST HARRIS COUNTY MUD 6	9	12	13	13	14	16	3.0	3.6	3.8	3.6	3.8	4.3
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	2,061	3,383	4,104	5,048	5,634	6,881	3.3	5.1	5.8	6.7	7.3	8.8
WEST UNIVERSITY PLACE	91	149	176	219	274	343	5.3	8.1	8.9	10.3	11.9	13.9
WESTWOOD NORTH WSC	14	20	24	29	33	39	4.8	6.8	7.3	8.0	8.3	8.8
WESTWOOD SHORES MUD	6	10	11	12	14	17	4.8	7.4	8.1	9.1	10.2	11.9
WHITE OAK UTILITIES	5	11	13	15	16	19	3.4	5.7	6.8	7.8	8.3	9.9
WHITE OAK WSC	3	5	6	7	7	8	2.6	3.5	4.2	4.9	4.9	5.6
WILLIS	26	38	43	52	61	81	3.2	4.5	4.8	5.2	5.4	6.3
WOOD BRANCH VILLAGE	4	5	0	0	0	0	3.0	3.5	0.0	0.0	0.0	0.0
WOODCREEK MUD	11	16	17	19	21	24	3.1	4.4	4.7	5.2	5.7	6.4
WOODCREEK WATER OF LIBERTY	10	17	20	25	29	37	3.1	4.8	5.1	5.9	6.3	7.5

APPENDIX 5B-C

GALLONS PER-CAPITA DAILY GOALS FOR MUNICIPAL WUGS

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Table 5B-C1 – GPCD Goals for Municipal WUGs

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ALVIN	155	151	148	147	147	146	150	144	140	138	137	136
ANAHUAC	105	101	98	96	96	96	100	92	86	82	80	77
ANGLETON	92	88	85	83	83	83	88	80	75	71	69	67
AUSTIN COUNTY WSC	131	127	124	123	122	122	125	117	113	110	109	108
BACLIFF MUD	66	63	60	60	60	60	63	60	60	60	60	60
BAKER ROAD MUD	225	222	220	219	219	219	218	214	210	209	209	209
BAYBROOK MUD 1	256	253	251	250	250	250	246	237	231	231	229	231
BAYTOWN	120	116	113	112	111	111	116	108	104	101	100	99
BAYVIEW MUD	76	72	70	69	69	69	73	67	65	63	62	61
BELLAIRE	199	194	191	190	189	189	193	186	182	179	178	176
BELLVILLE	248	244	241	239	239	239	240	232	227	225	225	225
BLUE BELL MANOR UTILITY	201	197	193	192	191	191	195	190	186	184	183	182
BLUE RIDGE WEST MUD	121	119	118	118	118	118	117	114	113	112	111	110
BOLIVAR PENINSULA SUD	60	60	60	60	60	60	59	58	57	57	56	55
BRAZORIA	91	87	84	83	82	82	88	82	78	76	75	73
BRAZORIA COUNTY MUD 2	368	366	365	364	364	364	354	342	333	325	318	312
BRAZORIA COUNTY MUD 21	133	132	131	131	131	130	128	125	124	123	122	121
BRAZORIA COUNTY MUD 25	88	85	82	81	81	81	85	81	78	77	76	75
BRAZORIA COUNTY MUD 29	92	89	86	85	85	85	89	84	81	79	78	77
BRAZORIA COUNTY MUD 3	139	137	135	134	134	134	134	130	128	127	126	125
BRAZORIA COUNTY MUD 31	235	232	229	228	228	228	227	220	217	214	213	211
BRAZORIA COUNTY MUD 6	193	191	191	190	190	190	188	185	184	183	182	181
BROOKSHIRE MWD	102	99	97	96	96	95	98	91	87	84	82	79
BUFFALO	175	171	168	167	166	166	168	158	150	146	143	141
BUNKER HILL VILLAGE	382	378	374	373	372	372	372	366	363	361	360	359

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
CAPE ROYALE UD	232	228	226	225	225	225	223	213	207	203	202	201
CENTERVILLE	167	162	159	158	157	157	161	150	146	143	143	143
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	85	83	81	81	80	80	82	78	76	75	74	72
CHAMBERS COUNTY MUD 1	73	69	67	65	65	65	70	65	62	60	60	60
CHATEAU WOODS MUD	102	99	97	96	96	96	98	94	91	89	88	87
CHIMNEY HILL MUD	95	91	88	87	87	87	92	86	83	81	80	79
CLEAR BROOK CITY MUD	84	81	79	78	78	78	80	76	73	71	70	69
CLEAR LAKE CITY WATER AUTHORITY	166	163	161	160	160	160	160	154	150	148	147	146
CLEVELAND	178	174	171	169	169	169	171	162	155	151	148	146
CLUTE	116	112	109	107	107	107	112	107	104	101	101	100
CONCORD-ROBBINS WSC	67	64	61	60	60	60	64	60	60	60	60	60
CONROE	153	150	149	148	148	148	149	144	141	140	139	138
CORINTHIAN POINT MUD 2	261	258	256	255	255	255	253	249	246	245	244	242
COUNTRY TERRACE WATER	87	84	82	81	81	81	84	79	77	75	75	74
COUNTY-OTHER, AUSTIN	106	103	101	100	99	99	101	95	91	88	86	83
COUNTY-OTHER, BRAZORIA	136	132	130	130	129	129	132	127	124	123	122	121
COUNTY-OTHER, CHAMBERS	102	99	98	97	97	97	99	95	93	92	91	91
COUNTY-OTHER, FORT BEND	126	124	123	122	122	122	121	118	117	116	115	114
COUNTY-OTHER, GALVESTON	111	108	105	104	104	104	107	101	98	96	95	93
COUNTY-OTHER, HARRIS	124	120	118	117	117	117	120	115	112	111	110	109
COUNTY-OTHER, LEON	102	97	95	94	94	94	96	87	82	79	77	74
COUNTY-OTHER, LIBERTY	109	105	102	100	100	100	104	96	91	87	84	82
COUNTY-OTHER, MADISON	163	159	156	155	155	155	155	145	139	134	130	126
COUNTY-OTHER, MONTGOMERY	110	107	106	105	105	105	106	102	100	99	99	98
COUNTY-OTHER, POLK	93	90	87	86	86	86	90	84	81	79	79	78
COUNTY-OTHER, SAN JACINTO	103	100	98	97	97	97	98	92	89	88	87	86

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
COUNTY-OTHER, TRINITY	65	60	60	61	61	61	64	60	60	60	60	60
COUNTY-OTHER, WALKER	188	184	181	179	179	179	182	177	173	171	170	169
COUNTY-OTHER, WALLER	110	106	105	104	103	103	105	100	98	96	96	95
CROSBY MUD	108	102	102	102	101	101	103	94	92	89	87	85
CUT & SHOOT	79	75	72	71	71	70	76	71	67	65	65	64
DAISETTA	104	99	96	95	95	95	100	94	91	89	88	87
DANBURY	92	88	85	83	83	83	88	82	78	76	76	75
DAYTON	199	195	194	193	193	193	193	188	185	183	182	180
DEER PARK	112	108	105	104	104	104	107	98	92	87	84	81
DEVERS	199	196	194	193	193	193	193	188	186	185	184	183
DOBBIN PLANTERSVILLE WSC	69	67	66	66	65	65	67	63	62	61	60	60
DODGE OAKHURST WSC	104	100	98	97	97	97	100	95	92	90	90	88
DOMESTIC WATER	85	82	80	79	79	79	82	77	75	73	72	71
DOUGLAS UTILITY	82	77	74	73	73	73	79	74	71	70	70	69
EAST PLANTATION UD	176	172	168	166	166	166	170	163	160	157	156	155
EL DORADO UD	83	79	75	73	73	73	80	73	69	66	65	65
FAR HILLS UD	234	231	229	228	228	228	226	222	220	218	217	216
FIRST COLONY MUD 9	158	156	155	155	155	155	153	150	149	148	147	147
FLO COMMUNITY WSC	114	111	108	107	106	106	109	102	96	92	89	86
FOREST HILLS MUD	99	96	94	93	93	93	94	89	86	84	83	82
FORT BEND COUNTY FWSD 1	63	60	60	60	60	60	61	58	56	54	53	52
FORT BEND COUNTY FWSD 2	80	78	77	77	77	77	78	74	73	72	71	70
FORT BEND COUNTY MUD 115	425	423	422	422	422	422	412	404	397	394	393	393
FORT BEND COUNTY MUD 116	207	206	205	205	205	205	201	198	197	196	195	194
FORT BEND COUNTY MUD 121	111	110	109	109	108	108	107	104	104	103	102	101
FORT BEND COUNTY MUD 128	202	200	199	199	199	199	197	193	192	191	191	190

Water User Group ¹	Projected Per Capita Demand (gpcd)					Per Capita Demand after Demand Mgmt. (gpcd)						
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
FORT BEND COUNTY MUD 129	222	220	220	219	219	219	216	213	212	211	210	210
FORT BEND COUNTY MUD 140	150	148	147	147	147	147	146	143	141	140	140	139
FORT BEND COUNTY MUD 149	91	89	88	88	88	88	86	82	80	78	77	75
FORT BEND COUNTY MUD 152	177	175	174	174	174	174	169	165	163	160	159	157
FORT BEND COUNTY MUD 155	140	138	137	137	137	137	134	130	128	126	125	124
FORT BEND COUNTY MUD 158	167	165	164	164	164	164	162	156	155	153	152	150
FORT BEND COUNTY MUD 162	87	85	84	84	84	84	83	80	79	77	76	75
FORT BEND COUNTY MUD 187	107	105	104	104	104	104	103	100	99	98	97	97
FORT BEND COUNTY MUD 23	101	100	99	99	99	99	97	94	93	92	91	90
FORT BEND COUNTY MUD 24	90	88	87	87	87	87	86	82	81	79	78	76
FORT BEND COUNTY MUD 25	115	113	111	110	110	110	111	107	105	104	103	102
FORT BEND COUNTY MUD 26	104	102	101	101	101	101	101	98	96	95	95	94
FORT BEND COUNTY MUD 42	171	169	168	168	168	168	166	162	161	159	159	158
FORT BEND COUNTY MUD 46	232	230	229	229	229	229	225	221	220	218	217	217
FORT BEND COUNTY MUD 47	100	98	97	97	97	97	96	93	91	89	88	87
FORT BEND COUNTY MUD 48	111	109	108	108	108	108	108	104	103	102	101	100
FORT BEND COUNTY MUD 49	138	136	135	135	135	135	133	130	129	128	127	127
FORT BEND COUNTY MUD 5	70	68	67	67	67	67	67	64	63	61	61	60
FORT BEND COUNTY MUD 81	535	533	532	532	532	532	519	509	504	503	502	501
FORT BEND COUNTY WCID 2	175	173	172	172	172	172	169	164	162	161	161	160
FORT BEND COUNTY WCID 3	526	524	523	523	523	523	514	511	509	509	508	508
FREEPORT	100	95	92	90	90	90	96	91	87	85	82	80
FRIENDSWOOD	158	154	152	151	150	150	151	143	138	134	131	130
FULSHEAR	102	101	101	101	101	101	98	95	94	92	91	89
G & W WSC	104	101	100	99	99	99	101	97	95	94	93	93
GALENA PARK	69	65	62	60	60	60	67	61	60	60	60	60

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
GALVESTON	290	285	283	282	282	282	276	258	245	235	226	217
GALVESTON COUNTY FWSD 6	180	176	174	173	173	173	173	166	164	161	161	159
GALVESTON COUNTY MUD 12	107	103	101	100	100	100	102	95	92	90	89	87
GALVESTON COUNTY WCID 1	100	96	94	93	93	93	95	88	84	81	79	76
GALVESTON COUNTY WCID 12	204	200	198	197	197	197	198	193	190	188	188	188
GALVESTON COUNTY WCID 8	95	91	89	88	88	88	89	79	73	68	65	61
GLENDALE WSC	126	123	121	119	119	119	121	115	112	109	108	107
GREEN TRAILS MUD	272	268	265	264	264	264	265	258	255	254	253	252
GREENWOOD UD	68	66	64	64	63	63	63	54	51	48	45	42
GROVETON	95	91	88	86	86	86	92	85	81	78	77	75
GULF UTILITY	154	153	153	152	152	152	149	146	145	144	144	143
HARDIN WSC	90	86	85	84	84	83	86	81	79	77	77	75
HARRIS COUNTY FWSD 1-A	80	77	75	74	74	74	75	67	63	60	57	54
HARRIS COUNTY FWSD 27	96	93	91	90	90	90	92	88	86	85	84	83
HARRIS COUNTY FWSD 58	185	182	180	179	179	179	178	174	172	170	170	169
HARRIS COUNTY MUD 106	250	249	248	248	248	248	242	235	231	228	224	223
HARRIS COUNTY MUD 11	93	90	87	86	86	86	89	84	81	79	79	77
HARRIS COUNTY MUD 119	76	72	69	67	66	66	74	68	65	62	62	61
HARRIS COUNTY MUD 122	92	89	87	86	86	86	88	84	83	81	80	79
HARRIS COUNTY MUD 132	160	156	152	152	152	152	155	149	145	144	144	143
HARRIS COUNTY MUD 148	67	65	64	64	63	63	64	61	60	60	60	60
HARRIS COUNTY MUD 151	151	149	147	146	146	146	146	142	140	139	138	137
HARRIS COUNTY MUD 152	122	119	118	117	117	117	117	114	112	111	110	109
HARRIS COUNTY MUD 153	153	151	149	149	148	148	148	144	142	141	140	140
HARRIS COUNTY MUD 154	114	111	109	108	107	107	111	106	103	102	101	100
HARRIS COUNTY MUD 158	96	93	91	90	89	89	92	88	85	83	83	82

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY MUD 180	80	77	75	74	73	73	76	71	67	65	64	62
HARRIS COUNTY MUD 189	80	77	77	76	76	76	78	75	74	74	73	73
HARRIS COUNTY MUD 216	129	126	124	123	123	123	122	115	111	108	105	103
HARRIS COUNTY MUD 221	89	87	87	87	86	86	85	83	82	81	81	80
HARRIS COUNTY MUD 23	70	67	65	64	64	64	67	63	61	60	60	60
HARRIS COUNTY MUD 278	89	88	88	87	87	87	86	84	82	81	80	79
HARRIS COUNTY MUD 290	110	109	109	109	109	109	106	103	102	101	100	98
HARRIS COUNTY MUD 321	185	182	180	179	179	179	179	174	171	170	169	169
HARRIS COUNTY MUD 342	158	155	153	152	152	152	153	149	147	146	145	145
HARRIS COUNTY MUD 344	224	221	219	218	218	218	218	213	211	210	209	208
HARRIS COUNTY MUD 345	202	199	197	196	195	195	196	191	189	187	186	185
HARRIS COUNTY MUD 36	212	209	207	206	206	206	206	202	199	198	198	198
HARRIS COUNTY MUD 361	122	119	117	116	116	116	117	112	110	108	108	106
HARRIS COUNTY MUD 372	271	268	266	265	265	265	263	259	257	255	255	254
HARRIS COUNTY MUD 400	146	145	145	145	144	144	142	139	139	138	138	137
HARRIS COUNTY MUD 412	185	182	180	179	179	179	177	170	165	161	159	158
HARRIS COUNTY MUD 420	80	77	75	74	74	74	76	72	70	68	67	66
HARRIS COUNTY MUD 46	148	145	142	141	141	141	143	138	135	134	133	132
HARRIS COUNTY MUD 49	87	86	85	84	84	84	84	81	80	79	78	77
HARRIS COUNTY MUD 5	73	69	67	65	65	65	69	64	60	58	57	57
HARRIS COUNTY MUD 50	112	107	105	105	105	105	106	96	92	88	85	82
HARRIS COUNTY MUD 55	92	88	85	83	83	83	88	82	78	75	73	71
HARRIS COUNTY MUD 58	101	98	96	95	95	95	98	95	93	91	91	91
HARRIS COUNTY MUD 6	102	99	97	96	96	96	98	94	92	90	90	89
HARRIS COUNTY MUD 8	95	90	87	86	86	86	92	87	83	83	82	82
HARRIS COUNTY MUD 96	77	76	75	74	74	74	74	71	70	69	68	67

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
HARRIS COUNTY UD 14	60	60	60	60	60	60	59	58	57	56	55	54
HARRIS COUNTY UD 15	129	126	123	122	122	122	125	121	118	116	115	115
HARRIS COUNTY WCID 1	91	86	83	82	82	82	86	78	73	71	69	67
HARRIS COUNTY WCID 133	111	107	103	102	101	101	107	102	99	96	95	95
HARRIS COUNTY WCID 156	203	200	198	197	197	197	196	193	191	189	189	188
HARRIS COUNTY WCID 50	114	111	109	108	108	108	109	104	102	100	99	97
HARRIS COUNTY WCID 70	139	136	134	133	133	133	132	125	120	116	114	110
HARRIS COUNTY WCID 74	99	95	91	89	89	89	96	91	87	85	84	83
HARRIS COUNTY WCID 89	76	73	71	70	70	70	71	65	62	59	57	55
HARRIS COUNTY WCID 96	166	165	164	164	164	164	161	159	158	158	157	157
HARRIS COUNTY WCID-FONDREN ROAD	85	82	80	79	79	79	81	77	74	73	72	71
HARRIS-MONTGOMERY COUNTIES MUD 386	124	121	119	118	118	118	120	116	114	112	112	111
HEMPSTEAD	173	170	168	167	167	166	168	163	160	159	158	158
HILLCREST VILLAGE	144	140	137	135	135	135	138	131	126	121	119	117
HILLTOP LAKES WSC	172	168	165	164	164	164	166	159	156	154	153	152
HILSHIRE VILLAGE	234	229	226	224	224	224	228	220	215	212	212	212
HITCHCOCK	99	95	92	91	91	91	95	90	87	86	85	84
HMW SUD	119	116	114	113	113	113	114	110	107	105	102	98
HOUSTON	181	177	175	173	173	173	174	165	159	154	151	148
HUMBLE	140	135	133	131	131	131	135	128	124	122	121	120
HUNTSVILLE	173	169	167	165	165	165	167	159	154	151	150	149
JACINTO CITY	66	62	60	60	60	60	63	59	58	58	58	58
JAMAICA BEACH	235	232	229	228	228	228	228	222	219	217	216	214
JERSEY VILLAGE	202	199	196	195	195	195	195	186	181	178	177	177
JEWETT	145	142	140	139	139	139	140	135	133	131	131	131
JOHNSTON WATER UTILITY	356	353	351	350	350	350	347	342	340	338	337	337

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
KATY	215	212	211	210	210	210	209	203	200	198	197	196
KENDLETON	285	283	282	282	282	282	271	254	243	232	222	214
KINGS MANOR MUD	105	102	100	99	99	99	102	97	95	93	93	92
KIRK MONT MUD	146	141	138	136	136	136	141	134	131	129	128	127
LA MARQUE	140	136	134	133	132	132	132	121	113	106	100	95
LA PORTE	125	122	118	117	116	116	120	112	108	105	104	102
LAKE BONANZA WSC	90	87	85	84	84	84	86	82	80	78	78	76
LAKE CONROE HILLS MUD	105	102	100	99	99	99	100	95	91	88	87	86
LAKE JACKSON	174	170	167	165	165	165	169	162	158	155	154	152
LAKE LIVINGSTON WSC	61	60	60	60	60	60	59	57	55	53	51	50
LAKE MUD	78	75	73	72	72	72	74	68	65	63	62	60
LAZY RIVER IMPROVEMENT DISTRICT	212	209	207	206	206	206	206	202	200	199	197	197
LEAGUE CITY	119	117	115	114	114	114	114	108	105	103	102	100
LEGGETT WSC	148	145	142	141	141	141	140	130	121	116	111	107
LIBERTY	152	148	145	143	143	143	145	135	127	123	120	117
LIBERTY COUNTY FWSD 1 HULL	135	132	130	129	129	129	129	125	122	120	119	118
LIVINGSTON	375	371	368	366	366	366	361	344	331	322	315	310
LONGHORN TOWN UD	201	199	198	198	198	198	195	191	189	188	188	188
LUCE BAYOU PUD	162	159	157	156	156	156	155	148	143	140	136	135
MADISON COUNTY WSC	132	129	126	125	125	125	127	122	119	117	115	114
MADISONVILLE	164	160	157	155	155	155	157	148	141	137	135	132
MAGNOLIA	200	198	196	196	196	195	194	189	187	186	186	185
MANVEL	128	125	124	124	124	124	120	113	108	104	102	101
MASON CREEK UD	172	167	164	164	163	163	166	160	157	156	155	154
MEADOWCREEK MUD	122	120	119	119	119	119	118	115	114	113	112	111
MEADOWS PLACE	148	144	140	139	138	138	143	137	133	131	130	130

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
MEMORIAL POINT UD	145	142	139	138	138	138	138	127	120	115	110	106
MEMORIAL VILLAGES WATER AUTHORITY	490	487	485	484	484	484	478	474	471	470	469	468
MERCY WSC	87	83	81	80	80	80	82	74	69	66	63	60
MISSOURI CITY	140	136	134	133	133	133	135	129	126	124	124	123
MONT BELVIEU	389	387	386	385	385	385	380	375	373	371	371	370
MONTGOMERY	211	209	209	208	208	208	204	199	197	196	196	197
MONTGOMERY COUNTY MUD 112	222	219	217	216	216	216	216	211	208	207	206	205
MONTGOMERY COUNTY MUD 115	156	153	151	150	150	150	150	147	144	143	142	141
MONTGOMERY COUNTY MUD 119	244	241	239	238	238	238	237	232	230	228	227	226
MONTGOMERY COUNTY MUD 15	117	115	114	113	113	113	113	108	107	105	104	103
MONTGOMERY COUNTY MUD 18	246	243	242	242	242	242	239	235	233	232	232	231
MONTGOMERY COUNTY MUD 19	117	113	109	108	107	107	114	110	106	104	104	103
MONTGOMERY COUNTY MUD 56	97	94	92	91	91	91	93	90	88	86	86	85
MONTGOMERY COUNTY MUD 8	134	130	127	126	125	125	129	122	119	116	115	114
MONTGOMERY COUNTY MUD 83	168	167	167	167	167	166	163	160	159	158	158	157
MONTGOMERY COUNTY MUD 84	197	194	192	191	191	191	189	181	177	175	174	172
MONTGOMERY COUNTY MUD 88	164	161	159	158	158	158	161	150	147	144	142	142
MONTGOMERY COUNTY MUD 89	71	70	69	69	69	69	68	65	65	64	63	62
MONTGOMERY COUNTY MUD 9	140	138	136	135	135	134	135	129	127	125	124	122
MONTGOMERY COUNTY MUD 95	76	73	71	70	70	70	72	68	66	64	63	62
MONTGOMERY COUNTY MUD 98	102	99	97	96	96	96	97	91	89	87	86	84
MONTGOMERY COUNTY MUD 99	197	194	192	191	191	191	188	180	175	170	166	163
MONTGOMERY COUNTY UD 2	111	106	103	102	102	102	106	99	96	95	94	92
MONTGOMERY COUNTY UD 3	131	127	127	126	126	126	122	108	101	95	90	84
MONTGOMERY COUNTY UD 4	149	144	141	140	140	139	143	136	133	131	130	129
MONTGOMERY COUNTY WCID 1	77	72	68	68	68	67	73	67	63	62	62	61

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
MORGANS POINT	319	316	314	313	313	313	310	304	302	300	301	299
MOSCOW WSC	132	129	126	125	125	125	130	128	125	125	125	124
MOUNT HOUSTON ROAD MUD	89	87	86	86	86	86	85	83	82	81	81	80
MSEC ENTERPRISES	205	202	200	199	199	199	199	194	191	189	188	186
NASSAU BAY	233	228	225	224	224	223	225	215	209	207	206	206
NEEDVILLE	95	91	88	86	86	86	91	85	82	80	79	78
NEW CANEY MUD	75	70	68	66	66	66	71	65	62	60	60	60
NEW WAVERLY	149	145	142	141	140	140	143	134	130	128	127	127
NEWPORT MUD	97	95	93	93	92	92	92	88	86	85	84	83
NORMANGEE	145	141	138	136	136	136	139	133	127	126	126	125
NORTH BELT UD	171	166	163	162	161	161	164	156	152	151	150	149
NORTH CHANNEL WATER AUTHORITY	111	108	106	104	104	104	107	101	97	95	94	92
NORTH FOREST MUD	119	116	114	113	113	113	112	103	96	91	88	83
NORTH FORT BEND WATER AUTHORITY	200	198	197	197	197	197	194	190	188	187	186	184
NORTH GREEN MUD	105	102	99	98	98	98	102	98	96	94	94	94
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	151	149	147	146	146	146	147	142	139	137	136	134
NORTH ZULCH MUD	121	118	115	114	114	114	116	109	104	101	100	99
NORTHWEST HARRIS COUNTY MUD 16	125	122	120	119	119	119	120	116	114	112	112	110
OAK HOLLOW UTILITY	104	101	100	99	98	98	100	95	93	91	91	89
OAK RIDGE NORTH	160	156	153	151	151	151	155	148	144	141	141	141
ONALASKA WSC	92	89	86	85	85	85	88	81	77	74	73	72
ONE FIVE O WSC	96	92	90	89	89	89	92	85	81	78	76	74
OYSTER CREEK	197	193	190	188	188	188	192	184	180	178	177	176
P B & S C WSC	120	116	114	113	113	113	116	110	108	106	105	104
PALMER PLANTATION MUD 1	212	210	209	209	209	209	206	203	201	200	200	198
PALMER PLANTATION MUD 2	114	112	111	111	111	111	111	107	106	105	104	104

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
PANORAMA VILLAGE	205	201	199	198	197	197	198	193	190	188	187	186
PARKWAY MUD	78	76	74	73	72	72	75	70	68	66	65	64
PASADENA	132	129	126	124	124	124	128	123	119	117	115	115
PATTISON WSC	138	135	134	133	132	132	134	129	127	126	125	124
PEARLAND	129	127	126	125	125	125	124	119	117	115	114	112
PECAN GROVE MUD 1	157	152	149	148	148	148	152	146	141	140	139	139
PENNINGTON WSC	85	82	80	78	78	78	83	79	76	75	74	73
HELPS SUD	98	94	92	90	90	90	94	89	87	84	84	82
PINE VILLAGE PUD	91	88	86	85	85	85	87	83	80	79	78	77
PINEHURST DECKER PRAIRIE WSC	61	60	60	60	60	60	60	59	58	58	58	58
PINEWOOD COMMUNITY	85	82	80	79	79	79	81	77	75	73	73	72
PLANTATION MUD	95	91	87	86	85	85	91	85	82	80	79	78
POINT AQUARIUS MUD	183	180	178	177	177	177	177	172	169	168	166	165
PORTER SUD	60	60	60	60	60	60	60	60	60	60	60	60
PRAIRIE VIEW	212	208	206	205	205	205	206	201	199	197	196	196
PRAIRIE VIEW A&M UNIVERSITY	60	60	60	60	60	60	60	60	60	60	60	60
PROVIDENCE WSC	66	63	60	60	60	60	63	60	60	60	60	60
QUADVEST	199	196	194	193	193	193	192	187	185	183	181	179
QUAIL VALLEY UD	149	147	146	146	146	146	145	141	139	137	136	134
RANCH UTILITIES	87	84	82	81	81	81	83	79	77	75	75	74
RAYFORD ROAD MUD	113	111	109	108	108	108	109	105	103	102	101	100
RICHMOND	146	142	139	138	137	137	142	136	132	130	130	127
RICHWOOD	93	89	86	85	84	84	88	82	78	75	74	73
RIVER PLANTATION MUD	217	213	212	212	212	211	211	205	204	203	202	201
RIVERSIDE WSC	60	60	60	60	60	60	60	60	60	60	60	60
ROLLING FORK PUD	157	154	152	151	151	151	151	147	145	144	143	142

Water User Group ¹	Projected Per Capita Demand (gpcd)					Per Capita Demand after Demand Mgmt. (gpcd)						
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
ROMAN FOREST CONSOLIDATED MUD	128	125	123	122	122	122	123	118	116	115	114	113
ROSENBERG	105	102	100	99	98	98	101	96	93	91	91	89
ROYAL VALLEY UTILITIES	280	278	277	277	277	277	273	269	268	266	265	264
SAGEMEADOW UD	103	98	95	93	93	93	99	93	89	87	86	85
SAN JACINTO SUD	82	78	74	73	73	73	78	72	68	67	66	65
SAN LEON MUD	60	60	60	60	60	60	60	60	60	60	60	60
SEABROOK	130	127	124	123	123	123	126	121	118	116	115	115
SEALY	183	179	176	175	174	174	178	171	167	166	165	165
SEDONA LAKES MUD 1	136	133	130	129	129	129	130	122	118	115	114	113
SEQUOIA IMPROVEMENT DISTRICT	143	140	138	137	137	137	137	130	126	123	123	122
SHENANDOAH	390	387	385	384	384	384	380	372	367	365	365	366
SHEPHERD	108	104	102	100	100	100	104	98	95	93	92	91
SHOREACRES	198	194	191	189	189	189	192	186	182	179	179	178
SIENNA PLANTATION	213	212	211	211	211	211	207	203	202	200	199	197
SODA WSC	75	72	69	68	68	68	72	67	65	63	62	61
SOUTH CLEVELAND WSC	77	74	72	71	71	71	73	68	66	65	64	63
SOUTH HOUSTON	103	99	95	94	93	93	98	90	84	80	78	76
SOUTHEAST WSC	117	113	110	109	109	109	110	101	96	91	88	84
SOUTHERN MONTGOMERY COUNTY MUD	103	100	97	96	96	96	99	92	86	83	80	78
SOUTHERN WATER	95	92	90	89	89	89	91	87	85	83	83	82
SOUTHSIDE PLACE	136	132	128	127	127	126	132	126	123	121	120	120
SOUTHWEST HARRIS COUNTY MUD 1	66	63	62	61	60	60	63	60	60	60	60	60
SPLENDORA	88	86	84	83	82	82	84	77	74	71	69	66
SPRING CREEK UD	79	77	75	75	74	74	76	72	70	69	68	64
SPRING MEADOWS MUD	73	70	68	67	67	67	69	65	63	61	60	60
SPRING VALLEY	242	238	235	233	233	233	235	229	225	223	222	221

Water User Group ¹	Projected Per Capita Demand (gpcd)					Per Capita Demand after Demand Mgmt. (gpcd)						
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
STANLEY LAKE MUD	197	194	192	191	190	190	191	185	183	181	180	180
SUBURBAN UTILITY	88	85	83	82	82	82	84	78	76	75	74	73
SUGAR LAND	223	221	220	220	220	220	216	211	210	209	208	207
SUNBELT FWSD	92	87	84	83	82	82	88	80	75	72	71	69
SURFSIDE BEACH	250	247	244	243	243	243	243	238	236	233	232	231
SWEENEY	130	126	123	121	121	121	126	120	115	113	113	112
T & W WATER SERVICE	224	221	219	218	218	217	217	213	211	209	208	204
TARKINGTON SUD	95	92	90	89	89	89	92	87	84	83	82	81
TDCJ JESTER UNITS	326	324	323	323	323	323	319	316	314	313	313	312
TDCJ RAMSEY AREA	755	752	749	748	748	748	737	733	731	729	728	728
TEMPE WSC 1	81	78	75	74	74	74	77	73	70	68	67	67
TEXAS CITY	123	119	117	115	115	115	118	109	104	99	96	93
THE COMMONS WATER SUPPLY	108	106	105	105	104	104	104	101	100	99	98	97
THE CONSOLIDATED WSC	102	98	95	93	93	93	101	97	95	93	93	93
THE WOODLANDS	215	212	211	210	210	210	213	208	206	205	203	202
THUNDERBIRD UD	163	161	160	160	160	160	158	154	152	151	151	150
TOMBALL	225	222	220	219	219	219	218	209	203	199	198	196
TRAIL OF THE LAKES MUD	103	101	100	99	99	99	100	96	94	93	92	91
TRINITY	99	95	92	90	90	90	95	89	86	83	83	81
TRINITY BAY CONSERVATION DISTRICT	157	153	150	149	149	149	151	145	141	137	135	133
TRINITY RURAL WSC	106	103	101	100	100	100	102	96	93	91	90	89
VALLEY RANCH MUD 1	98	95	93	92	92	92	94	90	87	86	85	84
VARNER CREEK UD	125	121	117	117	117	117	120	112	108	107	107	105
WALKER COUNTY RURAL SUD	119	115	113	111	111	111	113	105	100	96	93	90
WALLER	157	153	150	149	149	149	149	138	132	128	125	123
WALLIS	108	104	101	99	99	99	103	95	91	88	86	84

Water User Group ¹	Projected Per Capita Demand (gpcd)						Per Capita Demand after Demand Mgmt. (gpcd)					
	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070
WATERWOOD MUD 1	252	248	246	245	245	245	246	239	237	237	235	234
WEBSTER	229	227	225	225	225	224	224	220	217	216	216	216
WEST COLUMBIA	100	95	92	91	91	91	96	89	84	83	82	81
WEST END WSC	98	94	91	90	89	89	95	91	87	86	85	85
WEST HARDIN WSC	60	60	60	60	60	60	60	60	60	60	60	60
WEST HARRIS COUNTY MUD 6	121	117	115	113	113	113	117	113	110	109	109	108
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	115	113	111	110	110	110	111	107	105	103	102	101
WEST UNIVERSITY PLACE	172	168	165	163	163	163	167	160	156	153	151	149
WESTWOOD NORTH WSC	160	158	158	157	157	157	154	151	150	149	148	148
WESTWOOD SHORES MUD	116	113	111	109	109	109	112	105	102	100	99	97
WHITE OAK UTILITIES	87	84	82	81	81	81	83	78	75	73	72	70
WHITE OAK WSC	81	78	76	75	75	75	78	74	72	70	69	69
WILLIS	112	109	107	106	106	106	108	104	102	101	100	99
WOOD BRANCH VILLAGE	69	64	60	60	60	60	65	60	60	60	60	60
WOODCREEK MUD	110	107	105	103	103	103	107	102	99	98	97	96
WOODCREEK WATER OF LIBERTY	88	85	83	82	82	82	84	79	77	76	75	74

1. Italicized WUG names indicate WUGs for which the utility service area extends beyond the Region H boundary into other regional planning areas. Per-capita demands reflect projections for the entire WUG and are limited to demand reduction strategies recommended by the Region H Water Planning Group.

CHAPTER 6 APPENDICES

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APPENDIX 6-A

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY 303(D) LIST OF
IMPAIRED WATERS**



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Table 6A-1 – TCEQ 303(d) List of Impaired Waters

Segment ID	Segment Name	Size (Miles)	Segment Description
0607	Pine Island Bayou	92.76	From the confluence with the Neches River in Hardin/Jefferson County to FM 787 in Hardin County
0607C	Willow Creek	20.72	From the confluence of Pine Island Bayou north of Nome in Jefferson County to the upstream perennial portion of the stream east of Devers in Liberty County
0702	Intracoastal Waterway Tidal	67.29	From the confluence with Galveston Bay at Port Bolivar to the confluence with the Sabine-Neches/Port Arthur Canal (including Taylor Bayou Tidal from the confluence with the Intracoastal Waterway up to the saltwater lock 7.7 km (4.8 mi) downstream of SH 7
0801C	Cotton Bayou	6.93	From the confluence of Cotton Lake southeast of Mont Belvieu in Chambers County upstream to a point (NHD RC 12040203000496) approximately 1 mi north of IH 10 in Chambers County
0802	Trinity River Below Lake Livingston	75.94	From a point 3.1 km (1.9 mi) downstream of US 90 in Liberty County to Livingston Dam in Polk/San Jacinto County
0804	Trinity River Above Lake Livingston	159.80	From a point 1.8 km (1.1 mi) upstream of Boggy Creek in Houston/Leon County to a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County
0804H	Upper Keechi Creek	66.38	From confluence with segment 0804 Trinity River to the upper end of NHD stream Upper Keechi Creek (NHD RC 12030201001075)
0901	Cedar Bayou Tidal	19.00	From the confluence with Galveston Bay 1.0 km (0.6 mi) downstream of Tri-City Beach Road in Chambers County to a point 2.2 km (1.4 mi) upstream of IH 10 in Chambers/Harris County
1001	San Jacinto River Tidal	16.15	From a point 100 meters (110 yards) downstream of IH 10 in Harris County to Lake Houston Dam in Harris County
1005	Houston Ship Channel/San Jacinto River Tidal	16.78	From the confluence with Galveston Bay at Morgan's Point in Harris/Chambers County to a point 100 meters (110 yards) downstream of IH 10 in Harris County

Segment ID	Segment Name	Size (Miles)	Segment Description
1006	Houston Ship Channel Tidal	27.01	From the confluence with the San Jacinto River in Harris County to a point immediately upstream of Greens Bayou in Harris County, including tidal portions of tributaries
1007	Houston Ship Channel/Buffalo Bayou Tidal	36.86	From a point immediately upstream of Greens Bayou in Harris County to a point 100 meters (110 yards) upstream of US 59 in Harris County, including tidal portion of tributaries
1007H	Pine Gully Above Tidal	1.06	From the Sims Bayou confluence to 0.11 km (0.07 mi) east of Broadway Street in Harris County
1007I	Plum Creek Above Tidal	3.55	From the Sims Bayou confluence to Telephone Road in Harris County
1007K	Country Club Bayou Above Tidal	1.25	From just downstream of South Lockwood Drive to the confluence with Brays Bayou to approximately 0.5 mi upstream of North Wayside Drive in Harris County
1007O	Unnamed Tributary of Buffalo Bayou	0.47	From the confluence with Buffalo Bayou to IH-10 between Hirsch Road and Lockwood in Harris County
1007R	Hunting Bayou Above Tidal	11.14	From the confluence with Hunting Bayou Tidal at IH-10 to Maury Street on the north fork and Bain Street on the south fork
1007W	Harris County Flood Control Ditch D 138	0.78	From the confluence with Brays Bayou to a point immediately south of Beechnut Street in Houston
1008	Spring Creek	56.95	From the confluence with the West Fork of the San Jacinto River in Harris/Montgomery County to the confluence with Kickapoo Creek in Harris/Waller County
1008I	Walnut Creek	25.49	From the Spring Creek confluence to a point 41.1 km (25.5 mi) upstream
1008J	Brushy Creek	16.26	From the Spring Creek confluence upstream to a point 5.6 km (3.5 mi) upstream of FM 1488
1010C	Spring Branch	13.99	From the Caney Creek confluence to a point 0.54 km (0.34 mi) upstream of SH 105

Segment ID	Segment Name	Size (Miles)	Segment Description
1011	Peach Creek	42.56	From the confluence with Caney Creek in Montgomery County to SH 150 in Walker County
1013A	Little White Oak Bayou	5.48	From the White Oak Bayou confluence to Yale Street in Harris County
1013C	Unnamed Non-Tidal Tributary of Buffalo Bayou Tidal	0.56	Located approximately 1.8 mi upstream of the Buffalo Bayou/White Oak Bayou confluence between IH-10 and Memorial Drive west of IH-45 in Harris County
1014C	Horsepen Creek	6.75	From the Langham Creek confluence upstream to a point 0.1 km (0.06 mi) west of Barker Cypress Road
1014M	Newman Branch (Neimans Bayou)	3.04	From the Buffalo Bayou Above Tidal confluence to 0.1 km (0.06 mi) upstream of Hammerly Blvd in Harris County
1015A	Mound Creek	15.38	From the confluence with Lake Creek to a point 0.69 km east of FM 149 near Conroe
1016D	Unnamed Tributary of Greens Bayou	4.49	From the confluence with Greens Bayou, west of El Dorado Country Club to Lee Road, west of US Hwy 59 in Harris County
1017D	Unnamed Tributary of Whiteoak Bayou	1.83	From the confluence with White Oak Bayou downstream of TC Jester, to Hempstead Hwy, north of US Hwy 290 in Harris County
1101	Clear Creek Tidal	12.23	From the Clear Lake confluence at a point 3.2 km (2.0 mi) downstream of El Camino Real in Galveston/Harris County to a point 100 m (110 yards) upstream of FM528 in Galveston/Harris County
1102	Clear Creek Above Tidal	31.12	From a point 100 meters (110 yards) upstream of FM 528 in Galveston/Harris County to Rouen Road in Fort Bend County
1102F	Mary's Creek Bypass	2.37	From the Mary's Creek confluence NE of FM 518 to a point 0.96 km (0.60 mi) upstream to the Mary's Creek confluence (NW of County Road 126)
1103	Dickinson Bayou Tidal	14.58	From the Dickinson Bay confluence 2.1 km (1.3 mi) downstream of SH 146 in Galveston County to a point 4.0 km (2.5 mi) downstream of FM 517 in Galveston County

Segment ID	Segment Name	Size (Miles)	Segment Description
1103A	Bensons Bayou	2.38	From the Dickinson Bayou confluence to point 0.6 km (0.37 mi) upstream of FM 646 in Galveston County
1103C	Geisler Bayou	3.17	From the Dickinson Bayou Tidal confluence to a point 1.37 km (0.85 mi) upstream of FM 646 in Galveston County
1105	Bastrop Bayou Tidal	22.92	From the confluence with Bastrop Bay 1.1 km (0.7 mi) downstream of the Intracoastal Waterway in Brazoria County to a point 8.6 km (5.3 mi) upstream of Business 288 at Lake Jackson in Brazoria County
1105A	Flores Bayou	12.44	From a point 2.6 km (1.6 mi) downstream of County Road 171 upstream to SH 35 in Brazoria County
1105B	Austin Bayou Tidal	5.99	From the Bastrop Bayou Tidal confluence to the FM 2004 bridge crossing in Brazoria County
1105C	Austin Bayou Above Tidal	21.70	From FM 2004 upstream (Austin Bayou Tidal upper boundary) to 1.73 mi upstream from where the water body crosses county road 51.
1105E	Brushy Bayou	5.15	From the confluence with Austin Bayou Above Tidal (1105C) upstream to end of canal approximately 0.4 mi upstream of FM 210 crossing east of the City of Angleton in Brazoria County.
1107	Chocolate Bayou Tidal	15.57	From the Chocolate Bay confluence 1.4 km (0.9 mi) downstream of FM 2004 to a point 4.2 km (2.6 mi) downstream of SH 35 in Brazoria County
1108	Chocolate Bayou Above Tidal	22.26	From a point 4.2 km (2.6 mi) downstream of SH 35 in Brazoria County to SH 6 in Brazoria County
1109	Oyster Creek Tidal	24.74	From the Intercoastal Waterway confluence to a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County
1110	Oyster Creek Above Tidal	67.88	From a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County to a point 4.3 km (2.7 mi) upstream of Scanlan Road in Fort Bend County
1113	Armand Bayou Tidal	9.39	From the Clear Lake confluence (at NASA Road 1 bridge) in Harris County to a point 0.8 km (0.5 mi) downstream of Genoa-Red Bluff Road in Pasadena in Harris County (includes Mud Lake/Pasadena Lake)

Segment ID	Segment Name	Size (Miles)	Segment Description
1113A	Armand Bayou Above Tidal	4.57	From the upper segment boundary of Armand Bayou Tidal, 0.8 km (0.5 mi) downstream of Genoa-Red Bluff Road), upstream to Beltway 8 in Harris County
1202H	Allen's Creek	18.05	From the confluence with the Brazos River, two miles northeast of Wallis, to the headwaters one mile north of IH 10 in Austin County.
1202J	Big Creek	34.41	Big Creek - from the confluence of the Brazos River upstream to the confluence of Cottonwood Creek and Coon Creek
1202K	Mill Creek	18.05	From confluence of East and West Mill Creeks downstream to confluence with Brazos River
1209	Navasota River Below Lake Limestone	126.61	From the confluence with the Brazos River in Grimes County to Sterling C. Robertson Dam in Leon/Robertson County
1209J	Shepherd Creek	16.33	From the confluence with the Navasota River in Madison County to a point 0.7 mi upstream of FM 1452 in Madison County
1245C	Bullhead Bayou	11.76	From its confluence with Steep Bank Creek in Fort Colony, upstream to its headwaters in Pecan Grove in Fort Bend County
1245D	Unnamed Tributary of Bullhead Bayou	1.34	Tributary to Bullhead Bayou in Fort Bend County
1245F	Alcorn Bayou	8.63	From the confluence with Steep Bank Creek upstream to its headwaters 0.5 km east of Pecan Grove in Fort Bend county
1245I	Steep Bank Creek	5.11	From confluence with Oyster Creek (Flat Bank Creek portion) upstream to end of water body, 0.2 km east of US 59 in city of First Colony, Fort Bend County.
1301	San Bernard River Tidal	33.69	From the confluence with the Intracoastal Waterway in Brazoria County to a point 3.2 km (2.0 mi) upstream of SH 35 in Brazoria County
1302	San Bernard River Above Tidal	110.13	From a point 3.2 km (2.0 mi) upstream of SH 35 in Brazoria County to the county road southeast of New Ulm in Austin County

Segment ID	Segment Name	Size (Miles)	Segment Description
1302D	Peach Creek	29.02	From the confluence with the San Bernard River in Wharton Co. to the headwaters approximately 8 km upstream of FM-102 in Wharton Co.
1304A	Linnville Bayou	20.61	From the confluence with Caney Creek in Matagorda County upstream to a point 0.7 km above SH 35 in Brazoria/Matagorda Counties
2422B	Double Bayou West Fork	14.47	From the Trinity Bay confluence to Belton Road in Chambers County
2422D	Double Bayou East Fork	17.01	From the Trinity Bay confluence to a point 2.6 km (1.6 mi) upstream of SH 65
2423A	Oyster Bayou	21.95	From the East Bay confluence to a point 2.2 km (1.4 mi) upstream from SH 65 in Chambers County
2424A	Highland Bayou	13.78	From Jones Bay confluence to Avenue Q 0.8 km (0.5 mi) north of SH 6 between Arcadia and Alta Loma in Galveston County
2424C	Marchand Bayou	1.83	From Highland Bayou confluence to 0.72 km (0.45 mi) north of IH 45 in Galveston County
2424G	Highland Bayou Diversion Canal	8.91	From the confluence with an unnamed tributary adjacent to Jones Bay upstream to the Highland Bayou confluence
2425B	Jarbo Bayou	2.13	From Clear Lake confluence with Clear Lake to 1.1 km (0.67 mi) upstream of FM 518 in Galveston County
2426C	Goose Creek Tidal	3.79	From the Tabbs Bay confluence upstream to the East Fork of Goose Creek confluence
2431A	Moses Bayou	4.49	From Moses Lake confluence to 2.2 km (1.4 mi) upstream of SH 3 in Galveston County
2431C	Unnamed Tributary to the Southern Arm of Moses Lake (West)	2.79	From the confluence with the southern arm (west) of Moses Lake to a point 0.45 mi upstream of State Highway 3 near La Marque
2432C	Halls Bayou Tidal	20.89	From the Chocolate Bay confluence upstream to a point 31.5 km (19.6 mi) upstream

APPENDIX 6-B
IMPACTS TO RESOURCES

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Appendix 6-B – Impacts to Resources

6-B-1. OVERVIEW

The Region H Water Planning Group (RHWPG), in developing the 2021 Regional Water Plan (RWP), balanced meeting water needs with good stewardship of the water, agricultural, and natural resources within the region to promote a balance of economic, social, aesthetic, and ecological viability. The Region H strategy selection and evaluation process, described in **Chapter 5**, included application of rating criteria for impacts to environmental land and habitat, instream flows, and bay and estuary inflow. As part of the evaluation of impacts of the 2021 RWP, the RHWPG conducted a quantitative assessment of potential impacts of strategies and projects on agricultural and natural resources in accordance with Title 31, Texas Administrative Code (TAC) § 357.34(e)(3) and Texas Water Development Board (TWDB) guidance.

Multiple agricultural and environmental impacts matrices were developed to quantify and compare the potential impacts of strategies and projects. Impact matrices were developed to take into consideration the following categories:

- Agricultural Resources
- Wildlife Habitat – Project Acreage
- Wildlife Habitat – Environmental Land and Habitat
- Environmental Water Needs
- Bays, Estuaries, and Arms of The Gulf of Mexico
- Cultural Resources

Each category was quantitatively assessed, with a corresponding ranking from 1 to 5 assigned based upon the results of this assessment. Where possible, numerical inputs such as total project acreage or acreage impacted were utilized as inputs to the evaluation process. Where numerical inputs were not available or variable, impacts were categorized by level of impact and assigned a corresponding ranking. Evaluation methodologies and ranking assignments for each category are discussed in the following sections.

6-B-2. AGRICULTURAL RESOURCES

Potential impacts to agricultural resources were quantified and scored based on direct impacts to agricultural acreage; strategies and projects in the RWP are not expected to reduce the availability of firm water supplies of irrigation users. A quantitative assessment was conducted to assess the impact to agricultural acreage for each key project. Where data on disturbed or developed acreage was not available from project sponsors, acreage was estimated using project-specific assumptions or based upon project components types and standard RWP assumptions on component acreage as applied in the TWDB Unified Costing Model. This assessment considered the infrastructure required for a project, as well as the presence of agricultural resources in the project area. *Table 6-B-1* describes the quantitative thresholds used to score each key project for its impact on agricultural acreage and resources.

The following assumptions and observations were made for this criterion:

- Non-infrastructure projects do not impact agricultural lands or production.
- Projects developed in an urban setting do not impact agricultural lands or production.
- WUG-level infrastructure, pipelines, and groundwater wells can generally be located in areas avoiding most or all agricultural impacts.
- If the location of a project is known and data is available to estimate impacts to agricultural resources, this information was used to evaluate the project and assign an impact score.
- Scoring for groundwater reduction plans (GRPs) considered whether the associated infrastructure is reflected in the RWP as a direct GRP component or included under one or more other key projects.
- For projects that have positive impacts to agricultural resources and/or provide additional water supply or demand management to agriculture, the project is rated as “positive”.

Table 6-B-1 – Agricultural Resources Impact Scoring Matrix

Estimated Agricultural Acres Impacted	Impact Description	Agricultural Resources Score
>10,000 acres	High Impact	1
5,001-10,000 acres	Medium High	2
2,001-5,000 acres	Medium	3
101-2,000 acres	Medium Low	4
1-100 acres	Low	5
No area impacted	None	5
Positive acreage impacts and provides water supply or demand management to agriculture	Positive	5

6-B-3. WILDLIFE HABITAT – PROJECT ACREAGE

This criterion evaluates the potential degree of impact to wildlife habitat based on total estimated project acreage. A quantitative assessment was conducted to estimate the total acreage impacted by the infrastructure of each key project. Where data on disturbed or developed acreage was not available from project sponsors, acreage was estimated using project-specific assumptions or based upon project components types and standard RWP assumptions on component acreage as applied in the TWDB Unified Costing Model. This estimate of total acreage was applied to evaluate and assign a score to each key project for this criteria, based on the quantitative thresholds shown in *Table 6-B-2*. It should be noted that application of total acreage is a highly conservative indicator of potential wildlife habitat impact, as many of the key projects recommended in the 2021 RWP are associated with infrastructure expansion at existing water facility sites or would be developed in heavily urbanized areas.

The following assumptions and observations were made for this criterion:

- If the location of the project is known and data is available regarding impacts to specific wildlife habitats or a detailed study has been conducted, this information was used to evaluate a project and assign an impact score.
- Non-infrastructure projects do not impact wildlife habitat.
- The majority of projects evaluated require infrastructure that will have low impact on wildlife habitat acreage.
- Scoring for GRPs considered whether the associated infrastructure is reflected in the RWP as a direct GRP component or included under one or more other key projects.
- Projects with potential medium high to high impacts to habitat acreage are expected to be those with a large geographic footprint, including reservoirs.

Table 6-B-2 –Habitat Project Acreage Impact Scoring Matrix

Summary	Impact Description	Wildlife Habitat Score
>10,000 acres	High	1
5,001-10,000 acres	Medium High	2
2,001-5,000 acres	Medium	3
101-2,000 acres	Medium Low	4
1-100 acres	Low	5
Non-infrastructure projects	None	5

6-B-4. WILDLIFE HABITAT - ENVIRONMENTAL LAND AND HABITAT

This criterion evaluates the degree of potential environmental land and habitat impacts based on project-specific considerations associated with development setting, degree of expected disturbance, impacts to surrounding areas, mitigation opportunities, and degree of opposition. *Table 6-B-3* explains the categories used to evaluate and score each key project for impacts on environmental land and habitat.

The "Environmental Land and Habitat" criterion was also evaluated and scored for each key project under the second phase (the Matrix Evaluation phase) of WMS evaluation described in **Section 5.3.4** of the RWP. The scoring for this criterion is consistent with the Region H WMS Rating Criteria matrix in **Table 5-2**. More detailed discussions regarding environmental land and habitat impacts for each key project can be found in the technical memoranda in **Appendix 5-B**.

The following assumptions and observations were made for this criterion:

- If environmental land impacts have been already been evaluated in a detailed study, this information was used to evaluate a project and assign an impact score.
- Non-infrastructure projects do not impact wildlife habitat.
- Projects with anticipated development on existing water facility sites or in urban settings are typically expected to have low to medium impacts.
- Large scale conveyance projects are typically expected to have medium impacts due to urbanized settings or the ability to select routes to reduce habitat impacts.

Table 6-B-3 – Environmental Land and Habitat Impact Scoring Matrix

Summary	Impact Description	Wildlife Habitat Score
Significant environmental issues and opposition.	High	1
Some environmental issues and opposition.	Medium High	2
Environmental impacts can be mitigated. Limited concerns.	Medium	3
Minimal mitigation of impacts needed. Minimal concerns.	Medium Low	4
Limited or no known impacts.	Low	5

6-B-5. ENVIRONMENTAL WATER NEEDS

This criterion evaluates the degree of impact that a project could have on an area’s overall environmental water needs. Water is vital to the environmental health of a region. Therefore, it is imperative to consider the extent to which water supply projects could impact the amount of water that will be available to the environment, and how this could affect environmental needs and health. The evaluation of environmental water needs focused on impacts to instream flows regimes upstream and downstream of the project. While Senate Bill 3 environmental flow parameters were considered as part of the evaluation process, the assessment of environmental water needs was not constrained to statutory flow requirements and incorporated project and site-specific considerations regarding potential impacts to both upstream and downstream flows. *Table 6-B-4* presents the categories used to evaluate and score each key project for this criterion. More detailed discussions regarding environmental flows, including instream flows, for each key project can be found in their respective technical memoranda in **Appendix 5-B**.

The following assumptions and observations were made for this criterion:

- If impacts on environmental water needs and instream flows have been already been evaluated in a detailed study, this information was used to evaluate a project and assign an impact score.
- Groundwater development projects, excluding aquifer storage and recovery, potentially increase instream flows through return flows from points of use.

- The majority of recommended treatment and transmission projects do not directly impact instream flows directly , as they are supplied through other source development projects.
- Source development projects such as intake expansions, reuse, and reservoir development are typically associated with reduced instream flows.
- Scoring for GRPs considered whether the associated infrastructure is reflected in the RWP as a direct GRP component or included under one or more other key projects.

Table 6-B-4 – Environmental Water Needs Impact Scoring Matrix

Environmental Water Needs	Impact Description	Environmental Needs Score
Significantly reduces instream flows.	Significant Decrease	1
Reduces instream flows.	Moderate Decrease	2
Limited or no impact.	None or Limited	3
Increases instream flows.	Moderate Increase	4
Significantly increases instream flows.	Significant Increase	5

6-B-6. BAYS, ESTUARIES, AND ARMS OF THE GULF OF MEXICO

This criterion evaluates the degree of potential environmental impact that the implementation of a project could have on nearby bays and estuaries, as well as arms of the Gulf of Mexico. Region H includes the Galveston and Trinity Bay estuaries and touches portions of the Gulf of Mexico. As a result, some projects included in the 2021 Region H Water Plan could have an environmental impact on these bays, estuaries, or the Gulf of Mexico. This criterion was primarily evaluated based on the degree of impact that a project could have on bay and estuary (B&E) flows. While Senate Bill 3 environmental flow parameters were considered as part of the evaluation process, the assessment of bay and estuary impacts was not constrained to statutory flow requirements and incorporated project and site-specific considerations regarding potential impacts to flows. It should be noted that the TCEQ water right permitting process as well as the rules for RWP development preclude the inclusion of strategy or project supply availability inconsistent with established instream flow requirements. *Table 6-B-5* depicts the categories used to evaluate and score each key project for this criterion. More detailed discussions regarding environmental flows, including B&E flows, for each key project can be found in the technical memoranda in **Appendix 5-B**.

The following assumptions and observations were made for this criterion:

- If impacts to environmental flows into bays and estuaries or the Gulf of Mexico have been evaluated in a detailed study, this information was used to evaluate a project and assign an impact score.
- Groundwater development projects, excluding aquifer storage and recovery, potentially increase flows through return flows from points of use.

- The majority of recommended treatment and transmission projects do not directly impact bay and estuary inflows directly, as they are supplied through other source development projects.
- Source development projects such as intake expansions, reuse, and reservoir development are typically associated with reduced bay and estuary inflows.
- Scoring for GRPs considered whether the associated infrastructure is reflected in the RWP as a direct GRP component or included under one or more other key projects.

Table 6-B-5 – Bay and Estuary Scoring Matrix

Environmental Water Needs	Impact Description	Environmental Needs Score
Significantly reduces B&E inflow.	Significant Decrease	1
Reduces B&E flows.	Moderate Decrease	2
Limited or no impact.	None or Limited	3
Increases B&E flows.	Moderate Increase	4
Significantly increases B&E flows.	Significant Increase	5

6-B-7. CULTURAL RESOURCES

This criterion evaluates the degree to which a project could impact cultural resources located within the area. Cultural resources are defined as the collective evidence of the past activities and accomplishments of people. Locations, buildings, and features with scientific, cultural, or historic value are considered to be cultural resources. *Table 6-B-6* lists the categories used to evaluate and score each key project for this criterion.

The following assumptions and observations were made for this criterion:

- If impacts to cultural resources have been discussed in a detailed study, this information was used to evaluate a project and assign an impact score.
- Non-infrastructure projects do not impact cultural resources.
- In most cases, Region H projects are expected to have no or low impact on cultural resources because they are located in areas that avoid areas of known cultural resources.
- Impacts to cultural resources can often be avoided during detailed design. Many of the projects in the RWP have not yet reached this point, but would be expected during the detailed design phase to investigate options for avoiding and mitigating impacts.
- Projects that primarily involve wells, conveyance, or development of infrastructure at existing facilities or heavily developed areas were assumed to have a low impact on cultural resources.
- New treatment and facilities that have siting flexibility to mitigate impacts to cultural resources were assumed to have a medium low impact.

- Reservoirs were assumed to have a medium to medium high impact, depending upon where the site will be located.

Table 6-B-6 – Cultural Resources Scoring Matrix

Summary	Impact Description	Cultural Resources Score
Projects with known high cultural impacts	High	1
Reservoirs with potential for above-average cultural impacts or development on natural lands	Medium High	2
Default assumption for reservoirs primarily on pre-disturbed sites	Medium	3
New treatment and other facilities with some flexibility in siting	Medium Low	4
Wells, transmission, development at existing facility or heavily developed area	Low	5
Non-infrastructure projects	None	5

6-B-8. SUMMARY OF IMPACTS ANALYSIS

Results of the analyses of impacts to agricultural, natural, and cultural resources for key WMS and projects evaluated in the RWP are summarized in *Table 6-B-7*. The table provides reference information on locations, development settings, and recommendation status. The table also provides reference information on the corresponding technical memoranda included in **Appendix 5-B** for each key water management strategy and project.

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Table 6-B-7 – Summary of Quantified Impacts to Agricultural, Natural, and Cultural Resources

Key WMS and Project Overview					Agricultural Impacts		Wildlife Habitat				Environmental Water Needs		Bays, Estuaries, and Arms of the Gulf of Mexico		Cultural Resources	
Name	Technical Memorandum	Considered or Recommended	Primary Counties	Primary Development Setting	Agricultural Impact Description	Score	Project Acreage Description	Score	Environmental Land and Habitat Impact Description	Score	Instream Flow Impact Description	Score	Bay and Estuary Impact Description	Score	Cultural Resource Impact Description	Score
Advanced Municipal Conservation and Water Loss Reduction	CNSV-001	Recommended	All	Urban	None	5	None	5	Low	5	None or Limited	3	None or Limited	3	None	5
Irrigation Conservation	CNSV-002	Recommended	Multiple	Rural	Positive	5	High	1	Medium Low	4	None or Limited	3	None or Limited	3	None	5
BWA Transmission Expansions	CONV-001	Recommended	Brazoria	Rural	None	5	Medium Low	4	Low	5	None or Limited	3	None or Limited	3	Low	5
CHCRWA Transmission and Internal Distribution	CONV-002	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
City of Houston GRP Transmission	CONV-003	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
COH, NHCRA, and CHCRWA Shared Transmission	CONV-004	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
CWA Transmission Expansion	CONV-005	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
East Texas Transfer	CONV-006	Recommended	Multiple	Rural	Medium Low	4	Medium Low	4	Medium High	2	Moderate Decrease	2	Moderate Decrease	2	Low	5
GCWA Industrial Raw Water Line	CONV-007	Recommended	Galveston	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
Lake Livingston to SJRA Transfer	CONV-008	Recommended	Multiple	Rural	Medium Low	4	Medium Low	4	Medium High	2	Moderate Decrease	2	Moderate Decrease	2	Low	5
LNVA Neches-Trinity Basin Interconnect	CONV-009	Recommended	Liberty	Rural	Positive	5	Low	5	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Low	5
NFBWA Phase 2 Distribution Segments	CONV-010	Recommended	Fort Bend	Urban	None	5	Medium Low	4	Medium	3	None or Limited	3	None or Limited	3	Low	5
NHCRA Distribution Expansion	CONV-011	Recommended	Harris	Urban	None	5	Medium Low	4	Medium	3	None or Limited	3	None or Limited	3	Low	5
NHCRA Transmission Lines	CONV-012	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
Southeast Transmission Line Improvements	CONV-013	Recommended	Harris	Urban	None	5	Low	5	Low	5	None or Limited	3	None or Limited	3	Low	5
Surfside Beach Supply Infrastructure	CONV-014	Recommended	Brazoria	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
WHCRA Distribution Expansion	CONV-015	Recommended	Harris	Urban	None	5	Medium Low	4	Medium	3	None or Limited	3	None or Limited	3	Low	5
WHCRA/NFBWA Transmission Line	CONV-016	Recommended	Harris	Urban	None	5	Medium Low	4	Medium	3	None or Limited	3	None or Limited	3	Low	5
Aquifer Storage and Recovery	GWDV-001	Recommended	Montgomery	Urban	None	5	Low	5	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Low	5
Brackish Groundwater Development and Groundwater Blending	GWDV-002	Recommended	Montgomery	Urban	None	5	Low	5	Medium Low	4	Moderate Increase	4	Moderate Increase	4	Low	5
BWA Brackish Groundwater Development	GWDV-003	Recommended	Brazoria	Urban	None	5	Low	5	Medium	3	Moderate Increase	4	Moderate Increase	4	Low	5
City of Houston Area 2 Groundwater Infrastructure	GWDV-004	Recommended	Harris	Urban	None	5	Low	5	Medium	3	Moderate Increase	4	Moderate Increase	4	Low	5
Expanded Use of Groundwater	GWDV-005	Recommended	Multiple	Mixed	Positive	5	Low	5	Medium Low	4	Moderate Increase	4	Moderate Increase	4	Low	5
Forestar Houston County Project	GWDV-006	Considered	Houston	Rural	Medium Low	4	Medium Low	4	Medium High	2	Moderate Increase	4	Moderate Increase	4	Low	5
Forestar Liberty County Project	GWDV-007	Considered	Liberty	Rural	Medium Low	4	Medium Low	4	Medium High	2	Moderate Increase	4	Moderate Increase	4	Low	5
GCWA Backup Well Development	GWDV-008	Recommended	Galveston	Rural	None	5	Low	5	Medium	3	Moderate Increase	4	Moderate Increase	4	Low	5
Groveton Groundwater Expansion	GWDV-009	Recommended	Trinity	Urban	None	5	Low	5	Low	5	None or Limited	3	None or Limited	3	Low	5
SJRA Catahoula Aquifer Supplies	GWDV-010	Recommended	Montgomery	Urban	None	5	Low	5	Low	5	Moderate Increase	4	Moderate Increase	4	Low	5
CHCRWA GRP	GWRP-001	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
City of Houston GRP	GWRP-002	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
City of Missouri City GRP	GWRP-003	Recommended	Fort Bend	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
City of Richmond GRP	GWRP-004	Recommended	Fort Bend	Urban	Positive	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
City of Rosenberg GRP	GWRP-005	Recommended	Fort Bend	Urban	None	5	Low	5	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Low	5
City of Sugar Land IWRP	GWRP-006	Recommended	Fort Bend	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
Fort Bend County MUD 25 GRP	GWRP-007	Recommended	Fort Bend	Urban	None	5	Low	5	Low	5	Moderate Decrease	2	Moderate Decrease	2	Low	5
Fort Bend County WC&ID No. 2 GRP	GWRP-008	Recommended	Fort Bend	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
Montgomery County MUDs 8 and 9 GRP	GWRP-009	Recommended	Montgomery	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
NFBWA GRP	GWRP-010	Recommended	Fort Bend	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
NHCRA GRP	GWRP-011	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
Porter SUD Joint GRP	GWRP-012	Recommended	Montgomery	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5

Key WMS and Project Overview					Agricultural Impacts		Wildlife Habitat				Environmental Water Needs		Bays, Estuaries, and Arms of the Gulf of Mexico		Cultural Resources	
Name	Technical Memorandum	Considered or Recommended	Primary Counties	Primary Development Setting	Agricultural Impact Description	Score	Project Acreage Description	Score	Environmental Land and Habitat Impact Description	Score	Instream Flow Impact Description	Score	Bay and Estuary Impact Description	Score	Cultural Resource Impact Description	Score
River Plantation and East Plantation Joint GRP	GWRP-013	Recommended	Montgomery	Urban	None	5	Low	5	Low	5	Moderate Decrease	2	Moderate Decrease	2	Low	5
SJRA GRP	GWRP-014	Recommended	Montgomery	Mixed	Medium Low	4	Medium Low	4	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
WHCRWA GRP	GWRP-015	Recommended	Harris	Urban	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Low	5
City of Houston Reuse	REUS-001	Recommended	Harris	Urban	None	5	Medium Low	4	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
City of Pearland Reuse	REUS-002	Recommended	Brazoria, Harris	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
Galveston County Industrial Reuse	REUS-003	Recommended	Galveston	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	Moderate Decrease	2	Low	5
NFBWA Member District Reuse	REUS-004	Recommended	Fort Bend	Urban	None	5	Medium Low	4	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
NHCRWA Member District Reuse	REUS-005	Recommended	Harris	Urban	None	5	Low	5	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
San Jacinto Basin Regional Return Flows	REUS-006	Recommended	Harris, Montgomery	Mixed	None	5	Low	5	Low	5	Moderate Decrease	2	Moderate Decrease	2	None	5
Wastewater Reclamation for Industry	REUS-007	Considered	Harris	Urban	None	5	Medium Low	4	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Low	5
Wastewater Reclamation for Municipal Irrigation	REUS-008	Recommended	Multiple	Rural	None	5	Medium Low	4	Low	5	Moderate Decrease	2	Moderate Decrease	2	Low	5
Westwood Shores MUD Reuse	REUS-009	Recommended	Trinity	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
Allens Creek Reservoir	SWDV-001	Recommended	Austin	Rural	Medium	3	Medium High	2	Medium Low	4	None or Limited	3	None or Limited	3	Medium	3
BRA System Operation Permit	SWDV-002	Recommended	Multiple	Rural	Positive	5	None	5	Medium	3	Moderate Decrease	2	Moderate Decrease	2	None	5
Dow Reservoir and Pump Station Expansion	SWDV-003	Recommended	Brazoria	Rural	Medium Low	4	Medium Low	4	Medium Low	4	Moderate Decrease	2	Moderate Decrease	2	Medium	3
Freeport Seawater Desalination	SWDV-004	Recommended	Brazoria	Urban	None	5	Low	5	Medium	3	None or Limited	3	Moderate Decrease	2	Low	5
Lake Somerville Augmentation	SWDV-005	Considered	Burleson, Brazos	Rural	Medium Low	4	Medium Low	4	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Low	5
Lone Star Lake	SWDV-006	Considered	Montgomery	Rural	Medium Low	4	Medium	3	High	1	Moderate Decrease	2	Moderate Decrease	2	Medium High	2
Manvel Supply Expansion	SWDV-007	Recommended	Brazoria	Mixed	Medium Low	4	Medium Low	4	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Medium Low	4
NRG Cedar Bayou Desalination	SWDV-008	Recommended	Brazoria	Urban	None	5	Low	5	Medium	3	None or Limited	3	Moderate Decrease	2	Low	5
BWA Treatment Expansion	TRET-001	Recommended	Brazoria	Urban	None	5	Low	5	Low	5	None or Limited	3	None or Limited	3	Low	5
City of Houston Treatment Expansion	TRET-002	Recommended	Harris	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
City of Houston West Water Purification Plant	TRET-003	Recommended	Harris, Fort Bend, Waller	Urban	Medium Low	4	Medium Low	4	Medium	3	None or Limited	3	None or Limited	3	Medium Low	4
GCWA Western Galveston County Treatment Expansion	TRET-004	Recommended	Galveston	Rural	None	5	Low	5	Medium	3	None or Limited	3	None or Limited	3	Medium Low	4
Northeast Water Purification Plant Expansion	TRET-005	Recommended	Harris	Urban	None	5	Medium Low	4	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
Pearland Surface Water Treatment Plant	TRET-006	Recommended	Brazoria	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
SEWPP Additional Module	TRET-007	Recommended	Harris	Urban	None	5	Low	5	Medium Low	4	None or Limited	3	None or Limited	3	Low	5
Brazos Saltwater Barrier	OTHR-001	Recommended	Brazoria	Rural	None	5	Low	5	Medium High	2	Moderate Decrease	2	Moderate Decrease	2	Low	5
GCWA Shannon Pumping Plant Expansion	OTHR-002	Recommended	Fort Bend	Rural	None	5	Low	5	Medium	3	Moderate Decrease	2	Moderate Decrease	2	Low	5
Municipal Drought Management	OTHR-003	Considered	All	Urban	None	5	None	5	Low	5	None or Limited	3	None or Limited	3	None	5
New and Expanded Contracts	OTHR-004	Recommended	Multiple	Mixed	None	5	None	5	Low	5	Moderate Decrease	2	Moderate Decrease	2	None	5

APPENDIX 6-C

AGRICULTURAL CENSUS AND TEXAS LAND TRENDS DATA

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Table 6C-1 – Land in Farms

County	Land in Farms (Acres)					% Change ('97 17)
	1997	2002	2007	2012	2017	
Austin	367,432	367,497	333,928	369,960	330,481	-10.06%
Brazoria	566,809	613,891	528,957	631,021	460,005	-18.84%
Chambers	241,933	274,853	267,343	253,743	205,397	-15.10%
Fort Bend	431,582	415,251	382,740	339,295	279,483	-35.24%
Galveston	104,941	127,280	103,387	89,554	73,125	-30.32%
Harris	311,005	304,868	259,039	236,402	218,659	-29.69%
Leon	514,724	562,615	569,101	594,393	487,598	-5.27%
Liberty	306,783	304,574	297,855	286,793	252,488	-17.70%
Madison	223,690	244,524	273,109	291,350	245,552	9.77%
Montgomery	193,375	197,892	169,914	155,362	144,872	-25.08%
Polk	135,988	129,956	131,664	139,199	125,133	-7.98%
San Jacinto	84,620	93,497	95,492	111,900	84,442	-0.21%
Trinity	98,748	104,724	108,974	111,262	98,887	0.14%
Walker	183,988	206,311	224,050	280,512	227,230	23.50%
Waller	238,110	277,000	271,004	314,981	253,194	6.33%
Region H	4,003,728	4,224,733	4,016,557	4,205,727	3,486,546	-12.92%

Source: United States Department of Agriculture, Census of Agriculture

Table 6C-2 – Total Cropland

County	Total Cropland (Acres)					% Change ('97 17)
	1997	2002	2007	2012	2017	
Austin	161,192	134,793	96,559	71,224	74,067	-54.05%
Brazoria	203,341	224,640	186,201	175,913	131,802	-35.18%
Chambers	118,316	134,492	115,588	92,779	98,953	-16.37%
Fort Bend	193,138	194,001	152,112	135,854	140,694	-27.15%
Galveston	30,285	45,773	21,819	17,562	16,984	-43.92%
Harris	118,827	124,340	91,438	59,879	52,722	-55.63%
Leon	182,633	184,627	121,142	74,011	71,219	-61.00%
Liberty	159,841	156,413	127,704	101,071	68,327	-57.25%
Madison	79,105	91,864	39,646	35,322	33,964	-57.06%
Montgomery	47,711	57,776	33,782	31,559	25,345	-46.88%
Polk	42,208	44,673	23,720	23,208	22,586	-46.49%
San Jacinto	28,355	35,427	21,027	24,262	16,910	-40.36%
Trinity	49,188	42,771	27,340	17,913	20,051	-59.24%
Walker	60,192	61,715	37,146	38,639	27,459	-54.38%
Waller	116,477	124,431	103,518	79,906	71,422	-38.68%
Region H	1,590,809	1,657,736	1,198,742	979,102	872,505	-45.15%

Source: United States Department of Agriculture, Census of Agriculture

Table 6C-3 – Irrigated Land

County	Irrigated Land (Acres)					% Change ('97 17)
	1997	2002	2007	2012	2017	
Austin	4,954	3,541	1,559	4,253	3,980	-19.66%
Brazoria	29,596	17,138	11,980	20,439	20,048	-32.26%
Chambers	24,894	16,152	11,508	15,184	21,029	-15.53%
Fort Bend	17,039	15,751	8,339	10,309	9,620	-43.54%
Galveston	1,449	1,703	614	424	1,107	-23.60%
Harris	10,454	7,295	7,037	5,945	7,266	-30.50%
Leon	1,667	1,383	2,831	759	1,991	19.44%
Liberty	14,092	11,828	5,313	5,242	5,215	-62.99%
Madison	208	243	456	2,256	1,268	509.62%
Montgomery	474	1,287	2,262	1,188	682	43.88%
Polk	377	99	1,440	443	281	-25.46%
San Jacinto	104	292	943	538	1,007	868.27%
Trinity	52	213	310	152	266	411.54%
Walker	325	600	885	522	584	79.69%
Waller	8,120	11,908	9,904	10,067	11,639	43.34%
Region H	113,805	89,433	65,381	77,721	85,983	-24.45%

Source: United States Department of Agriculture, Census of Agriculture

Table 6C-4 – Rice Production

County	Rice (Hundredweight)					% Change ('97 17)
	1997	2002	2007	2012	2017	
Austin	175,843	130,601	0	27,900	0	-100.00%
Brazoria	1,134,188	1,013,213	572,285	1,222,931	813,054	-28.31%
Chambers	949,505	713,173	639,692	676,453	1,010,653	6.44%
Fort Bend	658,485	803,346	278,716	356,338	765,709	16.28%
Galveston	51,563	75,527	(D)	(D)	0	-100.00%
Harris	356,432	107,876	62,265	(D)	0	-100.00%
Leon	0	0	0	0	0	N/A
Liberty	604,582	464,751	193,188	154,837	(D)	N/A
Madison	0	0	0	0	0	N/A
Montgomery	0	0	0	0	0	N/A
Polk	0	0	0	0	0	N/A
San Jacinto	0	0	0	0	0	N/A
Trinity	0	0	0	0	0	N/A
Walker	0	0	0	0	0	N/A
Waller	468,471	679,960	581,785	537,648	866,716	85.01%
Region H	4,399,069	3,988,447	2,327,931	2,976,107	3,456,132	-21.43%

Source: United States Department of Agriculture, Census of Agriculture

Table 6C-5 – Land Trends

County	Year	Cropland	Grazing Land	Timber	Wildlife Management	Other	Total
Austin	1997	15,350	321,076	722	665	287	338,100
	2002	13,065	321,093	563	2,583	304	337,608
	2007	11,571	317,299	0	7,544	259	336,673
	2012	11,201	311,909	0	13,582	362	337,054
	2017	10,131	304,884	0	20,879	893	336,787
	Δ	-5,219	-16,192	-722	20,214	606	-1,313
Brazoria	1997	141,712	351,067	554	33	15,227	508,593
	2002	127,647	397,474	580	4,971	4,141	534,813
	2007	110,832	393,763	846	8,590	6,467	520,498
	2012	106,898	388,889	494	7,529	6,242	510,052
	2017	97,553	380,180	167	12,104	4,709	494,713
	Δ	-44,159	29,113	-387	12,071	-10,518	-13,880
Chambers	1997	110,603	136,939	12,748	0	601	260,891
	2002	64,405	165,494	13,296	0	1,386	244,581
	2007	51,081	188,599	14,054	0	1,402	255,136
	2012	41,249	196,868	13,913	0	1,180	253,210
	2017	42,426	190,463	12,853	31	1,751	247,524
	Δ	-68,177	53,524	105	31	1,150	-13,367
Fort Bend	1997	161,434	284,207	121	110	3,278	449,150
	2002	139,117	255,940	170	110	3,460	398,797
	2007	126,168	247,688	182	112	3,549	377,699
	2012	119,066	251,729	63	1,373	4,509	376,740
	2017	103,170	249,004	0	4,562	4,677	361,413
	Δ	-58,264	-35,203	-121	4,452	1,399	-87,737
Galveston	1997	25,815	59,679	0	272	567	86,333
	2002	25,075	61,653	0	459	486	87,673
	2007	24,566	58,425	0	966	1,033	84,990
	2012	23,986	55,068	0	4,412	1,787	85,253
	2017	9,757	60,172	0	3,025	560	73,514
	Δ	-16,058	493	0	2,753	-7	-12,819
Harris	1997	86,668	254,642	57,488	726	9,907	409,431
	2002	70,769	244,181	51,101	3,317	23,045	392,413
	2007	59,680	219,222	45,622	6,077	13,966	344,567
	2012	49,763	206,849	42,948	7,526	14,831	321,917
	2017	42,749	201,770	35,905	11,016	8,870	300,310
	Δ	-43,919	-52,872	-21,583	10,290	-1,037	-109,121

County	Year	Cropland	Grazing Land	Timber	Wildlife Management	Other	Total
Leon	1997	0	478,126	21,898	348	181,929	682,301
	2002	0	534,469	25,677	554	122,017	682,717
	2007	6	657,319	30,534	0	240	688,099
	2012	74	663,533	34,187	3,141	1	700,936
	2017	70	617,564	41,376	5,679	1	664,690
	Δ	70	139,438	19,478	5,331	-181,928	-17,611
Liberty	1997	106,667	213,585	303,236	0	691	624,179
	2002	83,740	216,749	308,343	2,138	857	611,827
	2007	68,205	210,626	320,448	2,765	1,278	603,322
	2012	55,857	214,614	316,787	1,665	2,111	591,034
	2017	52,710	213,236	314,131	3,239	2,522	585,838
	Δ	-53,957	-349	10,895	3,239	1,831	-38,341
Madison	1997	0	284,978	4,252	0	0	289,230
	2002	170	283,424	4,498	0	9	288,101
	2007	0	278,866	4,864	2,220	0	285,950
	2012	0	274,736	4,916	3,750	13	283,415
	2017	0	274,919	2,707	5,843	6	283,475
	Δ	0	-10,059	-1,545	5,843	6	-5,755
Montgomery	1997	317	146,426	265,346	0	312	412,401
	2002	317	149,305	222,039	123	224	372,008
	2007	0	153,358	208,615	123	167	362,263
	2012	22	147,464	195,466	134	758	343,844
	2017	0	148,181	169,571	415	740	318,907
	Δ	-317	1,755	-95,775	415	428	-93,494
Polk	1997	0	95,235	446,830	0	473	542,538
	2002	0	89,041	444,979	0	440	534,460
	2007	0	101,804	433,444	0	405	535,653
	2012	0	86,303	434,834	0	1,216	522,353
	2017	0	87,215	436,389	0	785	524,389
	Δ	0	-8,020	-10,441	0	312	-18,149
San Jacinto	1997	640	72,338	126,192	0	10	199,180
	2002	2,049	76,527	122,158	792	76	201,602
	2007	1,946	80,612	135,791	793	263	219,405
	2012	2,220	80,672	119,835	644	423	203,794
	2017	3,122	67,798	114,110	4,377	222	189,629
	Δ	2,482	-4,540	-12,082	4,377	212	-9,551
Trinity	1997	90	122,593	266,896	692	32	390,303
	2002	79	120,683	269,261	855	38	390,916
	2007	70	120,769	268,274	929	38	390,080
	2012	47	118,265	269,996	963	184	389,455
	2017	51	118,510	268,808	1,496	75	388,940
	Δ	-39	-4,083	1,912	804	43	-1,363

County	Year	Cropland	Grazing Land	Timber	Wildlife Management	Other	Total
Walker	1997	0	176,761	142,374	0	7	319,142
	2002	0	179,235	140,983	149	7	320,374
	2007	0	178,340	139,722	1,891	58	320,011
	2012	0	156,454	156,675	6,818	262	320,209
	2017	6	162,238	140,094	13,714	272	316,324
	Δ	6	-14,523	-2,280	13,714	265	-2,818
Waller	1997	43,026	121,042	551	85	997	165,701
	2002	41,321	122,916	362	350	1,009	165,958
	2007	35,907	122,960	113	1,720	2,843	163,543
	2012	36,052	120,074	165	3,895	3,336	163,522
	2017	34,923	120,446	0	4,949	2,902	163,220
	Δ	-8,103	-596	-551	4,864	1,905	-2,481

Source: Texas Land Trends, Texas A&M Institute of Renewable Natural Resources

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APPENDIX 6-D

THREATENED AND ENDANGERED SPECIES

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Table 6D-1 – State- and Federally- Listed Threatened and Endangered Species by County

Species	County														
	Austin	Brazoria	Chambers	Fort Bend	Galveston	Harris	Leon	Liberty	Madison	Montgomery	Polk	San Jacinto	Trinity	Walker	Waller
Alligator snapping turtle		X	X		X	X	X	X	X	X	X	X	X	X	
Atlantic hawksbill sea turtle					X										
Attwater's greater prairie-chicken	X			X	X										
Bachman's sparrow							X	X	X		X	X	X	X	
Black bear											X				
Black rail	X	X	X	X	X	X	X	X	X	X		X		X	X
Blackside darter								X							
Blue whale		X	X		X	X									
Brazos heelsplitter	X	X		X											X
Chub shiner								X		X	X	X			
Eskimo curlew					X										
Green sea turtle		X			X										
Gulf of Mexico bryde's whale		X	X		X	X									
Houston daisy					X	X									
Houston toad	X			X		X	X	X	X						X
Humpback whale		X	X		X	X									
Interior least tern	X			X			X	X	X	X	X	X	X	X	X
Kemp's ridley sea turtle		X			X										
Large-fruited sand-verbena							X								
Leatherback sea turtle		X			X										
Loggerhead sea turtle		X			X	X									
Louisiana black bear			X			X		X		X	X	X	X	X	X
Louisiana pigtoe						X	X	X	X	X	X	X	X	X	
Louisiana pine snake								X		X	X	X	X	X	
Navasota ladies'-tresses							X		X						
Neches river rose-mallow													X		
North Atlantic right whale		X	X		X	X									
Oceanic whitetip shark		X	X		X	X									
Paddlefish											X		X	X	
Piping plover	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rafinesque's big-eared bat		X	X	X	X	X		X	X	X	X	X	X	X	X
Red-cockaded woodpecker						X	X	X	X	X	X	X	X	X	X
Reddish egret	X	X	X	X	X	X		X		X					X
Rufa red knot	X	X	X	X	X	X	X	X	X	X		X		X	X
Sandbank pocketbook						X	X	X	X	X	X	X	X	X	
Sei whale		X	X		X	X									
Sharpnose shiner	X			X											X
Shortfin mako shark		X	X		X	X									
Small-headed pipewort							X								
Smalltooth sawfish					X										

Species	County														
	Austin	Brazoria	Chambers	Fort Bend	Galveston	Harris	Leon	Liberty	Madison	Montgomery	Polk	San Jacinto	Trinity	Walker	Waller
South Texas siren (large form)									X						
Southern hickorynut											X		X		
Sperm whale		X	X		X	X									
Swallow-tailed kite	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Texas fawnsfoot	X	X		X			X		X						X
Texas heelsplitter							X	X	X		X	X	X	X	
Texas horned lizard	X	X	X	X	X	X	X	X	X	X		X	X	X	X
Texas pigtoe											X		X		
Texas prairie dawn				X		X							X		
Texas trailing phlox											X				
Trinity pigtoe							X		X				X	X	
West Indian manatee		X			X										
Western creek chubsucker						X				X	X	X		X	
White-faced ibis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
White-tailed hawk	X	X	X	X	X	X									X
Whooping crane	X	X		X		X	X		X	X				X	X
Wood stork	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Zone-tailed hawk														X	

APPENDIX 6-E

SOCIOECONOMIC IMPACTS OF UNMET NEEDS

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Socioeconomic Impacts of Projected Water Shortages for the Region H Regional Water Planning Area

Prepared in Support of the 2021 Region H Regional Water Plan



Dr. John R. Ellis
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Texas Water Development Board

November 2019

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Executive Summary

Evaluating the social and economic impacts of not meeting identified water needs is a required analysis in the regional water planning process. The Texas Water Development Board (TWDB) estimates these impacts for regional water planning groups (RWPGs) and summarizes the impacts in the state water plan. The analysis presented is for the Region H Regional Water Planning Group (Region H).

Based on projected water demands and existing water supplies, Region H identified water needs (potential shortages) that could occur within its region under a repeat of the drought of record for six water use categories (irrigation, livestock, manufacturing, mining, municipal and steam-electric power). The TWDB then estimated the annual socioeconomic impacts of those needs—if they are not met—for each water use category and as an aggregate for the region.

This analysis was performed using an economic impact modeling software package, IMPLAN (Impact for Planning Analysis), as well as other economic analysis techniques, and represents a snapshot of socioeconomic impacts that may occur during a single year repeat of the drought of record with the further caveat that no mitigation strategies are implemented. Decade specific impact estimates assume that growth occurs, and future shocks are imposed on an economy at 10-year intervals. The estimates presented are not cumulative (i.e., summing up expected impacts from today up to the decade noted), but are simply snapshots of the estimated annual socioeconomic impacts should a drought of record occur in each particular decade based on anticipated water supplies and demands for that same decade.

For regional economic impacts, income losses and job losses are estimated within each planning decade (2020 through 2070). The income losses represent an approximation of gross domestic product (GDP) that would be foregone if water needs are not met.

The analysis also provides estimates of financial transfer impacts, which include tax losses (state, local, and utility tax collections); water trucking costs; and utility revenue losses. In addition, social impacts are estimated, encompassing lost consumer surplus (a welfare economics measure of consumer wellbeing); as well as population and school enrollment losses.

IMPLAN data reported that Region H generated more than \$510 billion in GDP (2018 dollars) and supported roughly 4.1 million jobs in 2016. The Region H estimated total population was approximately 7 million in 2016.

It is estimated that not meeting the identified water needs in Region H would result in an annually combined lost income impact of approximately \$4.6 billion in 2020, increasing to \$13.8 billion in 2070 (Table ES-1). In 2020, the region would lose approximately 29,000 jobs, and by 2070 job losses would increase to approximately 149,000 if anticipated needs are not mitigated.

All impact estimates are in year 2018 dollars and were calculated using a variety of data sources and tools including the use of a region-specific IMPLAN model, data from TWDB annual water use

estimates, the U.S. Census Bureau, Texas Agricultural Statistics Service, and the Texas Municipal League.

Table ES-1 Region H socioeconomic impact summary

Regional Economic Impacts	2020	2030	2040	2050	2060	2070
Income losses (\$ millions)*	\$4,600	\$8,521	\$10,313	\$11,301	\$12,437	\$13,784
Job losses	28,805	66,183	95,862	110,604	127,869	148,164
Financial Transfer Impacts	2020	2030	2040	2050	2060	2070
Tax losses on production and imports (\$ millions)*	\$507	\$815	\$944	\$1,021	\$1,115	\$1,226
Water trucking costs (\$ millions)*	\$4	\$3	\$8	\$10	\$13	\$258
Utility revenue losses (\$ millions)*	\$72	\$626	\$1,134	\$1,403	\$1,722	\$2,085
Utility tax revenue losses (\$ millions)*	\$1	\$12	\$22	\$27	\$33	\$40
Social Impacts	2020	2030	2040	2050	2060	2070
Consumer surplus losses (\$ millions)*	\$59	\$515	\$878	\$1,469	\$2,980	\$4,359
Population losses	5,289	12,151	17,600	20,307	23,477	27,203
School enrollment losses	1,012	2,324	3,366	3,884	4,491	5,203

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

1 Introduction

Water shortages during a repeat of the drought of record would likely curtail or eliminate certain economic activity in businesses and industries that rely heavily on water. Insufficient water supplies could not only have an immediate and real impact on the regional economy in the short term, but they could also adversely and chronically affect economic development in Texas. From a social perspective, water supply reliability is critical as well. Shortages could disrupt activity in homes, schools and government, and could adversely affect public health and safety. For these reasons, it is important to evaluate and understand how water supply shortages during drought could impact communities throughout the state.

As part of the regional water planning process, RWPGs must evaluate the social and economic impacts of not meeting water needs (31 Texas Administrative Code §357.33 (c)). Due to the complexity of the analysis and limited resources of the planning groups, the TWDB has historically performed this analysis for the RWPGs upon their request. Staff of the TWDB's Water Use, Projections, & Planning Division designed and conducted this analysis in support of Region H, and those efforts for this region as well as the other 15 regions allow consistency and a degree of comparability in the approach.

This document summarizes the results of the analysis and discusses the methodology used to generate the results. Section 1 provides a snapshot of the region's economy and summarizes the identified water needs in each water use category, which were calculated based on the RWPG's water supply and demand established during the regional water planning process. Section 2 defines each of ten impact assessment measures used in this analysis. Section 3 describes the methodology for the impact assessment and the approaches and assumptions specific to each water use category (i.e., irrigation, livestock, manufacturing, mining, municipal, and steam-electric power). Section 4 presents the impact estimates for each water use category with results summarized for the region as a whole. Appendix A presents a further breakdown of the socioeconomic impacts by county.

1.1 Regional Economic Summary

The Region H Regional Water Planning Area generated more than \$510 billion in gross domestic product (2018 dollars) and supported roughly 4.1 million jobs in 2016, according to the IMPLAN dataset utilized in this socioeconomic analysis. This activity accounted for nearly 30 percent of the state's total gross domestic product of 1.73 trillion dollars for the year based on IMPLAN. Table 1-1 lists all economic sectors ranked by the total value-added to the economy in Region H. The manufacturing and mining sectors (including oil and gas extraction and petroleum refineries) generated more than 25 percent of the region's total value-added and were also significant sources of tax revenue. The top employers in the region were in the public administration, health care, and retail trade sectors. Region H's estimated total population was close to 7 million in 2016, comprising 25 percent of the state's total.

This represents a snapshot of the regional economy as a whole, and it is important to note that not all economic sectors were included in the TWDB socioeconomic impact analysis. Data

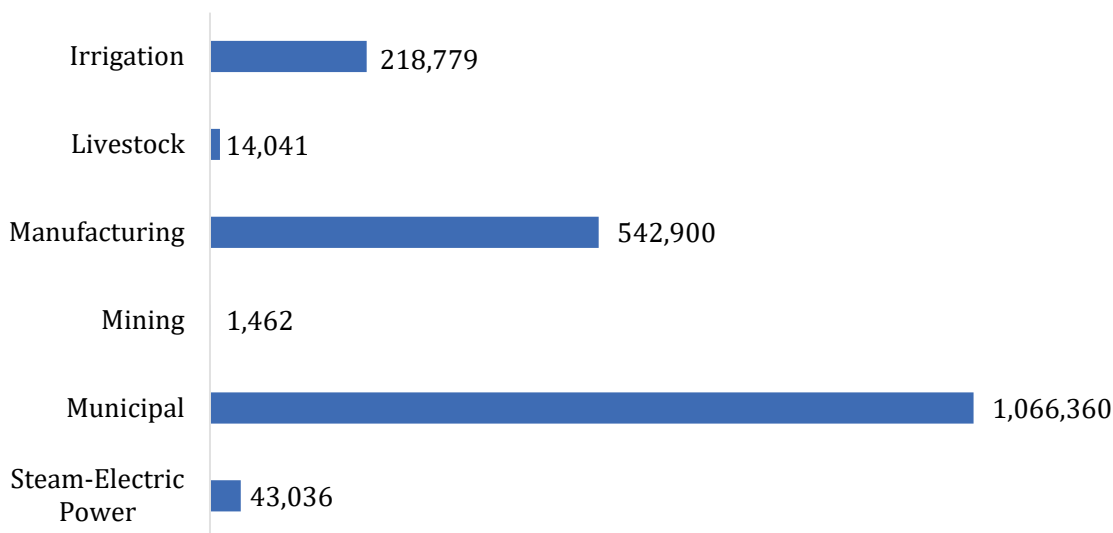
considerations prompted use of only the more water-intensive sectors within the economy because damage estimates could only be calculated for those economic sectors which had both reliable income and water use estimates.

Table 1-1 Region H regional economy by economic sector*

Economic sector	Value-added (\$ millions)	Tax (\$ millions)	Jobs
Manufacturing	\$77,054.9	\$2,445.7	245,107
Mining, Quarrying, and Oil and Gas Extraction	\$53,253.7	\$4,778.1	134,003
Real Estate and Rental and Leasing	\$49,060.4	\$5,941.4	181,440
Professional, Scientific, and Technical Services	\$43,742.8	\$829.6	347,563
Wholesale Trade	\$41,208.9	\$5,398.2	183,641
Public Administration	\$37,764.0	\$(116.3)	405,515
Construction	\$34,660.2	\$357.4	323,162
Health Care and Social Assistance	\$24,613.3	\$295.0	377,106
Finance and Insurance	\$22,571.0	\$947.7	202,699
Retail Trade	\$22,251.1	\$4,857.3	360,968
Administrative and Support and Waste Management and Remediation Services	\$19,943.8	\$416.7	311,499
Transportation and Warehousing	\$18,819.0	\$1,509.6	183,611
Utilities	\$14,459.5	\$1,798.7	18,945
Other Services (except Public Administration)	\$13,458.3	\$1,253.2	284,129
Accommodation and Food Services	\$13,036.2	\$1,874.1	321,732
Management of Companies and Enterprises	\$8,740.2	\$133.9	47,545
Information	\$8,620.3	\$2,064.9	45,803
Educational Services	\$3,388.3	\$114.5	73,245
Arts, Entertainment, and Recreation	\$3,025.3	\$374.5	62,813
Agriculture, Forestry, Fishing and Hunting	\$660.5	\$27.8	29,892
Grand Total	\$510,331.9	\$35,301.9	4,140,419

*Source: 2016 IMPLAN for 536 sectors aggregated by 2-digit NAICS (North American Industry Classification System)

Figure 1-1 illustrates Region H's breakdown of the 2016 water use estimates by TWDB water use category. The categories with the highest use in Region H in 2016 were municipal (56 percent) and manufacturing (29 percent). Notably, more than 50 percent of the state's manufacturing water use occurred within Region H.

Figure 1-1 Region H 2016 water use estimates by water use category (in acre-feet)

Source: TWDB Annual Water Use Estimates (all values in acre-feet)

1.2 Identified Regional Water Needs (Potential Shortages)

As part of the regional water planning process, the TWDB adopted water demand projections for water user groups (WUG) in Region H with input from the planning group. WUG-level demand projections were established for utilities that provide more than 100 acre-feet of annual water supply, combined rural areas (designated as county-other), and county-wide water demand projections for five non-municipal categories (irrigation, livestock, manufacturing, mining and steam-electric power). The RWPG then compared demands to the existing water supplies of each WUG to determine potential shortages, or needs, by decade.

Table 1-2 summarizes the region's identified water needs in the event of a repeat of the drought of record. Demand management, such as conservation, or the development of new infrastructure to increase supplies, are water management strategies that may be recommended by the planning group to address those needs. This analysis assumes that no strategies are implemented, and that the identified needs correspond to future water shortages. Note that projected water needs generally increase over time, primarily due to anticipated population growth, economic growth, or declining supplies. To provide a general sense of proportion, total projected needs as an overall percentage of total demand by water use category are also presented in aggregate in Table 1-2. Projected needs for individual water user groups within the aggregate can vary greatly and may reach 100% for a given WUG and water use category. A detailed summary of water needs by WUG and county appears in Chapter 4 of the 2021 Region H Regional Water Plan.

Table 1-2 Regional water needs summary by water use category

Water Use Category		2020	2030	2040	2050	2060	2070
Irrigation	water needs (acre-feet per year)	84,455	84,455	84,455	84,455	84,455	84,538
	% of the category's total water demand	25%	25%	25%	25%	25%	25%
Livestock	water needs (acre-feet per year)	1,276	1,659	1,913	1,912	1,911	1,919
	% of the category's total water demand	9%	12%	14%	13%	13%	14%
Manufacturing	water needs (acre-feet per year)	31,431	62,474	63,994	65,314	65,339	65,405
	% of the category's total water demand	5%	9%	9%	9%	9%	9%
Mining	water needs (acre-feet per year)	3,340	4,236	4,034	4,048	4,248	4,582
	% of the category's total water demand	22%	26%	26%	28%	30%	34%
Municipal*	water needs (acre-feet per year)	24,239	217,667	386,593	474,367	578,028	694,876
	% of the category's total water demand	2%	16%	26%	29%	33%	36%
Steam-electric power	water needs (acre-feet per year)	4,968	4,968	4,968	4,968	4,968	4,968
	% of the category's total water demand	5%	5%	5%	5%	5%	5%
Total water needs (acre-feet per year)		149,709	375,459	545,957	635,064	738,949	856,288

* Municipal category consists of residential and non-residential (commercial and institutional) subcategories.

2 Impact Assessment Measures

A required component of the regional and state water plans is to estimate the potential economic and social impacts of potential water shortages during a repeat of the drought of record. Consistent with previous water plans, ten impact measures were estimated and are described in Table 2-1.

Table 2-1 Socioeconomic impact analysis measures

Regional economic impacts	Description
Income losses - value-added	The value of output less the value of intermediate consumption; it is a measure of the contribution to gross domestic product (GDP) made by an individual producer, industry, sector, or group of sectors within a year. Value-added measures used in this report have been adjusted to include the direct, indirect, and induced monetary impacts on the region.
Income losses - electrical power purchase costs	Proxy for income loss in the form of additional costs of power as a result of impacts of water shortages.
Job losses	Number of part-time and full-time jobs lost due to the shortage. These values have been adjusted to include the direct, indirect, and induced employment impacts on the region.
Financial transfer impacts	Description
Tax losses on production and imports	Sales and excise taxes not collected due to the shortage, in addition to customs duties, property taxes, motor vehicle licenses, severance taxes, other taxes, and special assessments less subsidies. These values have been adjusted to include the direct, indirect and induced tax impacts on the region.
Water trucking costs	Estimated cost of shipping potable water.
Utility revenue losses	Foregone utility income due to not selling as much water.
Utility tax revenue losses	Foregone miscellaneous gross receipts tax collections.
Social impacts	Description
Consumer surplus losses	A welfare measure of the lost value to consumers accompanying restricted water use.
Population losses	Population losses accompanying job losses.
School enrollment losses	School enrollment losses (K-12) accompanying job losses.

2.1 Regional Economic Impacts

The two key measures used to assess regional economic impacts are income losses and job losses. The income losses presented consist of the sum of value-added losses and the additional purchase costs of electrical power.

Income Losses - Value-added Losses

Value-added is the value of total output less the value of the intermediate inputs also used in the production of the final product. Value-added is similar to GDP, a familiar measure of the productivity of an economy. The loss of value-added due to water shortages is estimated by input-output analysis using the IMPLAN software package, and includes the direct, indirect, and induced monetary impacts on the region. The indirect and induced effects are measures of reduced income as well as reduced employee spending for those input sectors which provide resources to the water shortage impacted production sectors.

Income Losses - Electric Power Purchase Costs

The electrical power grid and market within the state is a complex interconnected system. The industry response to water shortages, and the resulting impact on the region, are not easily modeled using traditional input/output impact analysis and the IMPLAN model. Adverse impacts on the region will occur and are represented in this analysis by estimated additional costs associated with power purchases from other generating plants within the region or state. Consequently, the analysis employs additional power purchase costs as a proxy for the value-added impacts for the steam-electric power water use category, and these are included as a portion of the overall income impact for completeness.

For the purpose of this analysis, it is assumed that power companies with insufficient water will be forced to purchase power on the electrical market at a projected higher rate of 5.60 cents per kilowatt hour. This rate is based upon the average day-ahead market purchase price of electricity in Texas that occurred during the recent drought period in 2011. This price is assumed to be comparable to those prices which would prevail in the event of another drought of record.

Job Losses

The number of jobs lost due to the economic impact is estimated using IMPLAN output associated with each TWDB water use category. Because of the difficulty in predicting outcomes and a lack of relevant data, job loss estimates are not calculated for the steam-electric power category.

2.2 Financial Transfer Impacts

Several impact measures evaluated in this analysis are presented to provide additional detail concerning potential impacts on a portion of the economy or government. These financial transfer impact measures include lost tax collections (on production and imports), trucking costs for imported water, declines in utility revenues, and declines in utility tax revenue collected by the

state. These measures are not solely adverse, with some having both positive and negative impacts. For example, cities and residents would suffer if forced to pay large costs for trucking in potable water. Trucking firms, conversely, would benefit from the transaction. Additional detail for each of these measures follows.

Tax Losses on Production and Imports

Reduced production of goods and services accompanying water shortages adversely impacts the collection of taxes by state and local government. The regional IMPLAN model is used to estimate reduced tax collections associated with the reduced output in the economy. Impact estimates for this measure include the direct, indirect, and induced impacts for the affected sectors.

Water Trucking Costs

In instances where water shortages for a municipal water user group are estimated by RWPGs to exceed 80 percent of water demands, it is assumed that water would need to be trucked in to support basic consumption and sanitation needs. For water shortages of 80 percent or greater, a fixed, maximum of \$35,000¹ per acre-foot of water applied as an economic cost. This water trucking cost was utilized for both the residential and non-residential portions of municipal water needs.

Utility Revenue Losses

Lost utility income is calculated as the price of water service multiplied by the quantity of water not sold during a drought shortage. Such estimates are obtained from utility-specific pricing data provided by the Texas Municipal League, where available, for both water and wastewater. These water rates are applied to the potential water shortage to estimate forgone utility revenue as water providers sold less water during the drought due to restricted supplies.

Utility Tax Losses

Foregone utility tax losses include estimates of forgone miscellaneous gross receipts taxes. Reduced water sales reduce the amount of utility tax that would be collected by the State of Texas for water and wastewater service sales.

2.3 Social Impacts

Consumer Surplus Losses for Municipal Water Users

Consumer surplus loss is a measure of impact to the wellbeing of municipal water users when their water use is restricted. Consumer surplus is the difference between how much a consumer is

¹ Based on staff survey of water hauling firms and historical data concerning transport costs for potable water in the recent drought in California for this estimate. There are many factors and variables that would determine actual water trucking costs including distance to, cost of water, and length of that drought.

willing and able to pay for a commodity (i.e., water) and how much they actually have to pay. The difference is a benefit to the consumer's wellbeing since they do not have to pay as much for the commodity as they would be willing to pay. Consumer surplus may also be viewed as an estimate of how much consumers would be willing to pay to keep the original quantity of water which they used prior to the drought. Lost consumer surplus estimates within this analysis only apply to the residential portion of municipal demand, with estimates being made for reduced outdoor and indoor residential use. Lost consumer surplus estimates varied widely by location and degree of water shortage.

Population and School Enrollment Losses

Population loss due to water shortages, as well as the associated decline in school enrollment, are based upon the job loss estimates discussed in Section 2.1. A simplified ratio of job and net population losses are calculated for the state as a whole based on a recent study of how job layoffs impact the labor market population.² For every 100 jobs lost, 18 people were assumed to move out of the area. School enrollment losses are estimated as a proportion of the population lost based upon public school enrollment data from the Texas Education Agency concerning the age K-12 population within the state (approximately 19%).

² Foote, Andrew, Grosz, Michel, Stevens, Ann. "Locate Your Nearest Exit: Mass Layoffs and Local Labor Market Response." University of California, Davis. April 2015, <http://paa2015.princeton.edu/papers/150194>. The study utilized Bureau of Labor Statistics data regarding layoffs between 1996 and 2013, as well as Internal Revenue Service data regarding migration, to model the change in the population as the result of a job layoff event. The study found that layoffs impact both out-migration and in-migration into a region, and that a majority of those who did move following a layoff moved to another labor market rather than an adjacent county.

3 Socioeconomic Impact Assessment Methodology

This portion of the report provides a summary of the methodology used to estimate the potential economic impacts of future water shortages. The general approach employed in the analysis was to obtain estimates for income and job losses on the smallest geographic level that the available data would support, tie those values to their accompanying historic water use estimate, and thereby determine a maximum impact per acre-foot of shortage for each of the socioeconomic measures. The calculations of economic impacts are based on the overall composition of the economy divided into many underlying economic sectors. Sectors in this analysis refer to one or more of the 536 specific production sectors of the economy designated within IMPLAN, the economic impact modeling software used for this assessment. Economic impacts within this report are estimated for approximately 330 of these sectors, with the focus on the more water-intensive production sectors. The economic impacts for a single water use category consist of an aggregation of impacts to multiple, related IMPLAN economic sectors.

3.1 Analysis Context

The context of this socioeconomic impact analysis involves situations where there are physical shortages of groundwater or surface water due to a recurrence of drought of record conditions. Anticipated shortages for specific water users may be nonexistent in earlier decades of the planning horizon, yet population growth or greater industrial, agricultural or other sector demands in later decades may result in greater overall demand, exceeding the existing supplies. Estimated socioeconomic impacts measure what would happen if water user groups experience water shortages for a period of one year. Actual socioeconomic impacts would likely become larger as drought of record conditions persist for periods greater than a single year.

3.2 IMPLAN Model and Data

Input-Output analysis using the IMPLAN software package was the primary means of estimating the value-added, jobs, and tax related impact measures. This analysis employed regional level models to determine key economic impacts. IMPLAN is an economic impact model, originally developed by the U.S. Forestry Service in the 1970's to model economic activity at varying geographic levels. The model is currently maintained by the Minnesota IMPLAN Group (MIG Inc.) which collects and sells county and state specific data and software. The year 2016 version of IMPLAN, employing data for all 254 Texas counties, was used to provide estimates of value-added, jobs, and taxes on production for the economic sectors associated with the water user groups examined in the study. IMPLAN uses 536 sector-specific Industry Codes, and those that rely on water as a primary input were assigned to their appropriate planning water user categories (irrigation, livestock, manufacturing, mining, and municipal). Estimates of value-added for a water use category were obtained by summing value-added estimates across the relevant IMPLAN sectors associated with that water use category. These calculations were also performed for job losses as well as tax losses on production and imports.

The adjusted value-added estimates used as an income measure in this analysis, as well as the job and tax estimates from IMPLAN, include three components:

- **Direct effects** representing the initial change in the industry analyzed;
- **Indirect effects** that are changes in inter-industry transactions as supplying industries respond to reduced demands from the directly affected industries; and,
- **Induced effects** that reflect changes in local spending that result from reduced household income among employees in the directly and indirectly affected industry sectors.

Input-output models such as IMPLAN only capture backward linkages and do not include forward linkages in the economy.

3.3 Elasticity of Economic Impacts

The economic impact of a water need is based on the size of the water need relative to the total water demand for each water user group. Smaller water shortages, for example, less than 5 percent, are generally anticipated to result in no initial negative economic impact because water users are assumed to have a certain amount of flexibility in dealing with small shortages. As a water shortage intensifies, however, such flexibility lessens and results in actual and increasing economic losses, eventually reaching a representative maximum impact estimate per unit volume of water. To account for these characteristics, an elasticity adjustment function is used to estimate impacts for the income, tax and job loss measures. Figure 3-1 illustrates this general relationship for the adjustment functions. Negative impacts are assumed to begin accruing when the shortage reaches the lower bound 'b1' (5 percent in Figure 3-1), with impacts then increasing linearly up to the 100 percent impact level (per unit volume) once the upper bound reaches the 'b2' level shortage (40 percent in Figure 3-1).

To illustrate this, if the total annual value-added for manufacturing in the region was \$2 million and the reported annual volume of water used in that industry is 10,000 acre-feet, the estimated economic measure of the water shortage would be \$200 per acre-foot. The economic impact of the shortage would then be estimated using this value-added amount as the maximum impact estimate (\$200 per acre-foot) applied to the anticipated shortage volume and then adjusted by the elasticity function. Using the sample elasticity function shown in Figure 3-1, an approximately 22 percent shortage in the livestock category would indicate an economic impact estimate of 50% of the original \$200 per acre-foot impact value (i.e., \$100 per acre-foot).

Such adjustments are not required in estimating consumer surplus, utility revenue losses, or utility tax losses. Estimates of lost consumer surplus rely on utility-specific demand curves with the lost consumer surplus estimate calculated based on the relative percentage of the utility's water shortage. Estimated changes in population and school enrollment are indirectly related to the elasticity of job losses.

Assumed values for the lower and upper bounds 'b1' and 'b2' vary by water use category and are presented in Table 3-1.

Figure 3-1 Example economic impact elasticity function (as applied to a single water user's shortage)

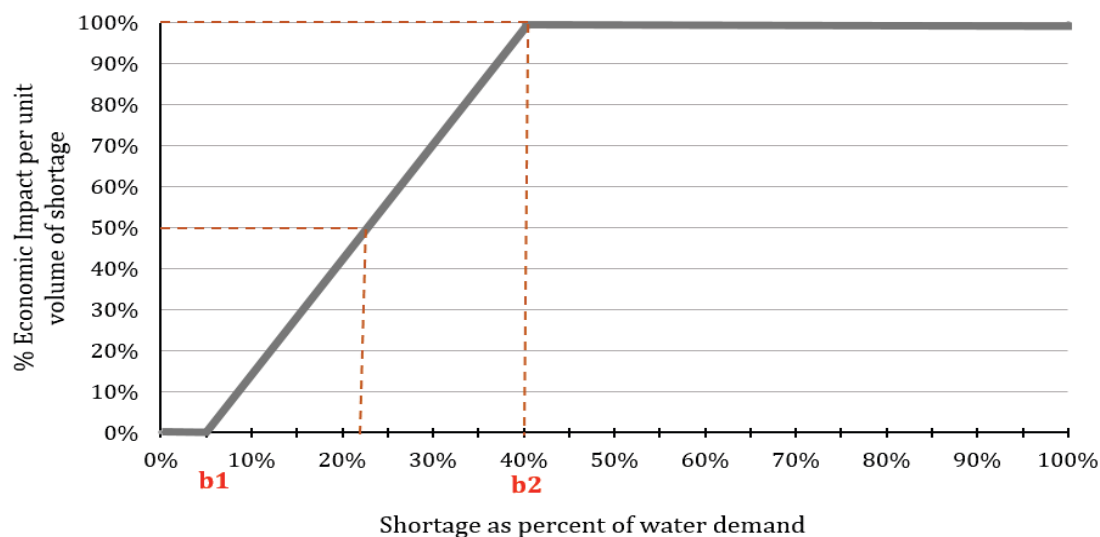


Table 3-1 Economic impact elasticity function lower and upper bounds

Water use category	Lower bound (b1)	Upper bound (b2)
Irrigation	5%	40%
Livestock	5%	10%
Manufacturing	5%	40%
Mining	5%	40%
Municipal (non-residential water intensive subcategory)	5%	40%
Steam-electric power	N/A	N/A

3.4 Analysis Assumptions and Limitations

The modeling of complex systems requires making many assumptions and acknowledging the model's uncertainty and limitations. This is particularly true when attempting to estimate a wide range of socioeconomic impacts over a large geographic area and into future decades. Some of the key assumptions and limitations of this methodology include:

1. The foundation for estimating the socioeconomic impacts of water shortages resulting from a drought are the water needs (potential shortages) that were identified by RWPGs as part of the

regional water planning process. These needs have some uncertainty associated with them but serve as a reasonable basis for evaluating the potential impacts of a drought of record event.

2. All estimated socioeconomic impacts are snapshots for years in which water needs were identified (i.e., 2020, 2030, 2040, 2050, 2060, and 2070). The estimates are independent and distinct “what if” scenarios for each particular year, and water shortages are assumed to be temporary events resulting from a single year recurrence of drought of record conditions. The evaluation assumed that no recommended water management strategies are implemented. In other words, growth occurs and future shocks are imposed on an economy at 10-year intervals, and the resulting impacts are estimated. Note that the estimates presented are not cumulative (i.e., summing up expected impacts from today up to the decade noted), but are simply snapshots of the estimated annual socioeconomic impacts should a drought of record occur in each particular decade based on anticipated water supplies and demands for that same decade.
3. Input-output models such as IMPLAN rely on a static profile of the structure of the economy as it appears today. This presumes that the relative contributions of all sectors of the economy would remain the same, regardless of changes in technology, availability of limited resources, and other structural changes to the economy that may occur in the future. Changes in water use efficiency will undoubtedly take place in the future as supplies become more stressed. Use of the static IMPLAN structure was a significant assumption and simplification considering the 50-year time period examined in this analysis. To presume an alternative future economic makeup, however, would entail positing many other major assumptions that would very likely generate as much or more error.
4. This is not a form of cost-benefit analysis. That approach to evaluating the economic feasibility of a specific policy or project employs discounting future benefits and costs to their present value dollars using some assumed discount rate. The methodology employed in this effort to estimate the economic impacts of future water shortages did not use any discounting methods to weigh future costs differently through time.
5. All monetary values originally based upon year 2016 IMPLAN and other sources are reported in constant year 2018 dollars to be consistent with the water management strategy requirements in the State Water Plan.
6. IMPLAN based loss estimates (income-value-added, jobs, and taxes on production and imports) are calculated only for those IMPLAN sectors for which the TWDB’s Water Use Survey (WUS) data was available and deemed reliable. Every effort is made in the annual WUS effort to capture all relevant firms who are significant water users. Lack of response to the WUS, or omission of relevant firms, impacts the loss estimates.

7. Impacts are annual estimates. The socioeconomic analysis does not reflect the full extent of impacts that might occur as a result of persistent water shortages occurring over an extended duration. The drought of record in most regions of Texas lasted several years.
8. Value-added estimates are the primary estimate of the economic impacts within this report. One may be tempted to add consumer surplus impacts to obtain an estimate of total adverse economic impacts to the region, but the consumer surplus measure represents the change to the wellbeing of households (and other water users), not an actual change in the flow of dollars through the economy. The two measures (value-added and consumer surplus) are both valid impacts but ideally should not be summed.
9. The value-added, jobs, and taxes on production and import impacts include the direct, indirect and induced effects to capture backward linkages in the economy described in Section 2.1. Population and school enrollment losses also indirectly include such effects as they are based on the associated losses in employment. The remaining measures (consumer surplus, utility revenue, utility taxes, additional electrical power purchase costs, and potable water trucking costs), however, do not include any induced or indirect effects.
10. The majority of impacts estimated in this analysis may be more conservative (i.e., smaller) than those that might actually occur under drought of record conditions due to not including impacts in the forward linkages in the economy. Input-output models such as IMPLAN only capture backward linkages on suppliers (including households that supply labor to directly affected industries). While this is a common limitation in this type of economic modeling effort, it is important to note that forward linkages on the industries that use the outputs of the directly affected industries can also be very important. A good example is impacts on livestock operators. Livestock producers tend to suffer substantially during droughts, not because there is not enough water for their stock, but because reductions in available pasture and higher prices for purchased hay have significant economic effects on their operations. Food processors could be in a similar situation if they cannot get the grains or other inputs that they need. These effects are not captured in IMPLAN, resulting in conservative impact estimates.
11. The model does not reflect dynamic economic responses to water shortages as they might occur, nor does the model reflect economic impacts associated with a recovery from a drought of record including:
 - a. The likely significant economic rebound to some industries immediately following a drought, such as landscaping;
 - b. The cost and time to rebuild liquidated livestock herds (a major capital investment in that industry);
 - c. Direct impacts on recreational sectors (i.e., stranded docks and reduced tourism); or,
 - d. Impacts of negative publicity on Texas' ability to attract population and business in the event that it was not able to provide adequate water supplies for the existing economy.

12. Estimates for job losses and the associated population and school enrollment changes may exceed what would actually occur. In practice, firms may be hesitant to lay off employees, even in difficult economic times. Estimates of population and school enrollment changes are based on regional evaluations and therefore do not necessarily reflect what might occur on a statewide basis.
13. **The results must be interpreted carefully. It is the general and relative magnitudes of impacts as well as the changes of these impacts over time that should be the focus rather than the absolute numbers.** Analyses of this type are much better at predicting relative percent differences brought about by a shock to a complex system (i.e., a water shortage) than the precise size of an impact. To illustrate, assuming that the estimated economic impacts of a drought of record on the manufacturing and mining water user categories are \$2 and \$1 million, respectively, one should be more confident that the economic impacts on manufacturing are twice as large as those on mining and that these impacts will likely be in the millions of dollars. But one should have less confidence that the actual total economic impact experienced would be \$3 million.
14. The methodology does not capture “spillover” effects between regions – or the secondary impacts that occur outside of the region where the water shortage is projected to occur.
15. The methodology that the TWDB has developed for estimating the economic impacts of unmet water needs, and the assumptions and models used in the analysis, are specifically designed to estimate potential economic effects at the regional and county levels. Although it may be tempting to add the regional impacts together in an effort to produce a statewide result, the TWDB cautions against that approach for a number of reasons. The IMPLAN modeling (and corresponding economic multipliers) are all derived from regional models – a statewide model of Texas would produce somewhat different multipliers. As noted in point 14 within this section, the regional modeling used by TWDB does not capture spillover losses that could result in other regions from unmet needs in the region analyzed, or potential spillover gains if decreased production in one region leads to increases in production elsewhere. The assumed drought of record may also not occur in every region of Texas at the same time, or to the same degree.

4 Analysis Results

This section presents estimates of potential economic impacts that could reasonably be expected in the event of water shortages associated with a drought of record and if no recommended water management strategies were implemented. Projected economic impacts for the six water use categories (irrigation, livestock, manufacturing, mining, municipal, and steam-electric power) are reported by decade.

4.1 Impacts for Irrigation Water Shortages

Five of the 15 counties in the region are projected to experience water shortages in the irrigated agriculture water use category for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-1. Note that tax collection impacts were not estimated for this water use category. IMPLAN data indicates a negative tax impact (i.e., increased tax collections) for the associated production sectors, primarily due to past subsidies from the federal government. However, it was not considered realistic to report increasing tax revenues during a drought of record.

Table 4-1 Impacts of water shortages on irrigation in Region H

Impact measure	2020	2030	2040	2050	2060	2070
Income losses (\$ millions)*	\$16	\$16	\$16	\$16	\$16	\$16
Job losses	398	398	398	398	398	398

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.2 Impacts for Livestock Water Shortages

Five of the 15 counties in the region are projected to experience water shortages in the livestock water use category one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-2.

Table 4-2 Impacts of water shortages on livestock in Region H

Impact measure	2020	2030	2040	2050	2060	2070
Income losses (\$ millions)*	\$47	\$66	\$79	\$79	\$79	\$79
Jobs losses	1,818	2,425	2,831	2,831	2,831	2,831
Tax losses on production and imports (\$ millions)*	\$3	\$3	\$4	\$4	\$4	\$4

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.3 Impacts of Manufacturing Water Shortages

Manufacturing water shortages in the region are projected to occur in seven of the 15 counties in the region for at least one decade of the planning horizon. Estimated impacts to this water use category appear in Table 4-3.

Table 4-3 Impacts of water shortages on manufacturing in Region H

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses (\$ millions)*	\$1,214	\$3,190	\$3,262	\$3,332	\$3,334	\$3,342
Job losses	5,997	16,195	16,518	16,841	16,840	16,860
Tax losses on production and imports (\$ millions)*	\$89	\$220	\$225	\$230	\$230	\$231

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.4 Impacts of Mining Water Shortages

Mining water shortages in the region are projected to occur in nine of the 15 counties in the region for one or more decades within the planning horizon. Estimated impacts to this water use type appear in Table 4-4.

Table 4-4 Impacts of water shortages on mining in Region H

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses (\$ millions)*	\$2,947	\$3,317	\$3,067	\$3,062	\$3,109	\$3,182
Job losses	18,787	21,185	19,706	19,787	20,176	20,760
Tax losses on production and Imports (\$ millions)*	\$406	\$456	\$419	\$415	\$419	\$426

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.5 Impacts for Municipal Water Shortages

Nine of the 15 counties in the region are projected to experience water shortages in the municipal water use category for one or more decades within the planning horizon.

Impact estimates were made for two sub-categories within municipal water use: residential and non-residential. Non-residential municipal water use includes commercial and institutional users, which are further divided into non-water-intensive and water-intensive subsectors including car wash, laundry, hospitality, health care, recreation, and education. Lost consumer surplus estimates were made only for needs in the residential portion of municipal water use. Available IMPLAN and TWDB Water Use Survey data for the non-residential, water-intensive portion of municipal demand allowed these sectors to be included in income, jobs, and tax loss impact estimate.

Trucking cost estimates, calculated for shortages exceeding 80 percent, assumed a fixed, maximum cost of \$35,000 per acre-foot to transport water for municipal use. The estimated impacts to this water use category appear in Table 4-5.

Table 4-5 Impacts of water shortages on municipal water users in Region H

Impacts measure	2020	2030	2040	2050	2060	2070
Income losses¹ (\$ millions)*	\$116	\$1,672	\$3,630	\$4,552	\$5,639	\$6,906
Job losses¹	1,805	25,979	56,408	70,747	87,624	107,315
Tax losses on production and imports¹ (\$ millions)*	\$9	\$137	\$297	\$372	\$461	\$564
Trucking costs (\$ millions)*	\$4	\$3	\$8	\$10	\$13	\$258
Utility revenue losses (\$ millions)*	\$72	\$626	\$1,134	\$1,403	\$1,722	\$2,085
Utility tax revenue losses (\$ millions)*	\$1	\$12	\$22	\$27	\$33	\$40

¹ Estimates apply to the water-intensive portion of non-residential municipal water use.

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.6 Impacts of Steam-Electric Water Shortages

Steam-electric water shortages in the region are projected to occur in two of the 15 counties in the region for one or more decades within the planning horizon. Estimated impacts to this water use category appear in Table 4-6.

Note that estimated economic impacts to steam-electric water users:

- Are reflected as an income loss proxy in the form of estimated additional purchasing costs for power from the electrical grid to replace power that could not be generated due to a shortage;
- Do not include estimates of impacts on jobs. Because of the unique conditions of power generators during drought conditions and lack of relevant data, it was assumed that the industry would retain, perhaps relocating or repurposing, their existing staff in order to manage their ongoing operations through a severe drought.
- Do not presume a decline in tax collections. Associated tax collections, in fact, would likely increase under drought conditions since, historically, the demand for electricity increases during times of drought, thereby increasing taxes collected on the additional sales of power.

Table 4-6 Impacts of water shortages on steam-electric power in Region H

Impacts measure	2020	2030	2040	2050	2060	2070
Income Losses (\$ millions)*	\$260	\$260	\$260	\$260	\$260	\$260

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

4.7 Regional Social Impacts

Projected changes in population, based upon several factors (household size, population, and job loss estimates), as well as the accompanying change in school enrollment, were also estimated and are summarized in Table 4-7.

Table 4-7 Region-wide social impacts of water shortages in Region H

Impacts measure	2020	2030	2040	2050	2060	2070
Consumer surplus losses (\$ millions)*	\$59	\$515	\$878	\$1,469	\$2,980	\$4,359
Population losses	5,289	12,151	17,600	20,307	23,477	27,203
School enrollment losses	1,012	2,324	3,366	3,884	4,491	5,203

* Year 2018 dollars, rounded. Entries denoted by a dash (-) indicate no estimated economic impact. Entries denoted by a zero (\$0) indicate estimated income losses less than \$500,000.

Appendix A - County Level Summary of Estimated Economic Impacts for Region H

County level summary of estimated economic impacts of not meeting identified water needs by water use category and decade (in 2018 dollars, rounded). Values are presented only for counties with projected economic impacts for at least one decade.
 (* Entries denoted by a dash (-) indicate no estimated economic impact)

County	Water Use Category	Income losses (Million \$)*										Job losses										
		2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070			
AUSTIN	MINING	-	\$17.00	\$11.45	\$4.98	-	-	-	134	91	39	-	-	134	91	39	-	-	134	91	39	-
AUSTIN	MUNICIPAL	-	\$0.07	\$0.85	\$2.58	\$4.96	\$6.85	-	1	13	40	77	-	1	13	40	77	-	1	13	40	77
AUSTIN Total		-	\$17.07	\$12.30	\$7.56	\$4.96	\$6.85	-	136	104	80	77	-	136	104	80	77	-	136	104	80	106
BRAZORIA	IRRIGATION	\$12.64	\$12.64	\$12.64	\$12.64	\$12.64	\$12.66	315	315	315	315	315	315	315	315	315	315	315	315	315	315	316
BRAZORIA	MANUFACTURING	\$808.53	\$1,206.91	\$1,206.91	\$1,206.91	\$1,206.91	\$1,211.99	3,556	5,307	5,307	5,307	5,307	3,556	5,307	5,307	5,307	5,307	3,556	5,307	5,307	5,307	5,330
BRAZORIA	MINING	-	\$19.93	\$70.72	\$148.21	\$203.02	\$270.15	-	149	529	1,109	1,520	-	149	529	1,109	1,520	-	149	529	1,109	2,022
BRAZORIA	MUNICIPAL	-	\$2.58	\$27.93	\$77.52	\$119.17	\$164.21	-	40	434	1,205	1,852	-	40	434	1,205	1,852	-	40	434	1,205	2,552
BRAZORIA Total		\$821.17	\$1,242.07	\$1,318.20	\$1,445.29	\$1,541.75	\$1,659.01	3,871	5,812	6,586	7,937	8,994	3,871	5,812	6,586	7,937	8,994	3,871	5,812	6,586	7,937	10,219
CHAMBERS	IRRIGATION	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
CHAMBERS	MANUFACTURING	\$279.79	\$392.92	\$392.92	\$392.92	\$392.92	\$392.92	1,414	1,986	1,986	1,986	1,986	1,414	1,986	1,986	1,986	1,986	1,414	1,986	1,986	1,986	1,986
CHAMBERS	MUNICIPAL	\$2.12	\$6.90	\$13.68	\$18.72	\$24.34	\$30.28	33	107	213	291	378	33	107	213	291	378	33	107	213	291	471
CHAMBERS	STEAM/ELECTRIC POWER	\$72.71	\$72.71	\$72.71	\$72.71	\$72.71	\$72.71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CHAMBERS Total		\$354.84	\$472.74	\$479.53	\$484.57	\$490.19	\$496.13	1,453	2,099	2,204	2,283	2,370	1,453	2,099	2,204	2,283	2,370	1,453	2,099	2,204	2,283	2,462
FORT BEND	MANUFACTURING	-	\$345.35	\$345.35	\$345.35	\$345.35	\$345.35	-	1,948	1,948	1,948	1,948	-	1,948	1,948	1,948	1,948	-	1,948	1,948	1,948	1,948
FORT BEND	MINING	\$0.03	\$1.21	\$0.74	\$0.50	\$0.54	\$0.16	0	11	6	4	5	0	11	6	4	5	0	11	6	4	1
FORT BEND	MUNICIPAL	\$20.07	\$722.38	\$973.25	\$1,133.02	\$1,263.81	\$1,379.76	312	11,226	15,125	17,607	19,640	312	11,226	15,125	17,607	19,640	312	11,226	15,125	17,607	21,442
FORT BEND Total		\$20.11	\$1,068.94	\$1,319.34	\$1,478.87	\$1,609.70	\$1,725.27	312	13,184	17,079	19,559	21,592	312	13,184	17,079	19,559	21,592	312	13,184	17,079	19,559	23,391
GALVESTON	IRRIGATION	\$1.58	\$1.58	\$1.58	\$1.58	\$1.58	\$1.58	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
GALVESTON	LIVESTOCK	\$7.03	\$7.03	\$7.03	\$7.03	\$7.03	\$7.03	315	315	315	315	315	315	315	315	315	315	315	315	315	315	315
GALVESTON	MANUFACTURING	-	\$740.73	\$745.90	\$750.90	\$756.31	\$761.33	-	3,104	3,126	3,147	3,169	-	3,104	3,126	3,147	3,169	-	3,104	3,126	3,147	3,190
GALVESTON	MINING	\$206.20	\$221.23	\$243.48	\$262.72	\$281.35	\$300.59	1,621	1,739	1,914	2,065	2,212	1,621	1,739	1,914	2,065	2,212	1,621	1,739	1,914	2,065	2,363
GALVESTON	MUNICIPAL	\$43.85	\$63.34	\$65.09	\$68.35	\$73.34	\$79.13	681	984	1,012	1,062	1,140	681	984	1,012	1,062	1,140	681	984	1,012	1,062	1,230
GALVESTON Total		\$258.66	\$1,033.90	\$1,063.08	\$1,090.57	\$1,119.61	\$1,149.66	2,657	6,182	6,406	6,629	6,876	2,657	6,182	6,406	6,629	6,876	2,657	6,182	6,406	6,629	7,138

Region H

County	Water Use Category	Income losses (Million \$)*										Job losses					
		2020	2030	2040	2050	2060	2070	2020	2030	2040	2050	2060	2070				
HARRIS	LIVESTOCK	\$24.22	\$43.39	\$56.20	\$56.20	\$56.20	\$56.20	767	1,375	1,781	1,781	1,781	1,781				
HARRIS	MANUFACTURING	-	\$84.55	\$159.34	\$231.81	\$231.81	\$231.81	-	421	793	1,154	1,154	1,154				
HARRIS	MINING	\$2,740.78	\$2,723.10	\$2,674.73	\$2,644.96	\$2,621.70	\$2,603.09	17,166	17,056	16,753	16,566	16,420	16,304				
HARRIS	MUNICIPAL	\$24.06	\$729.84	\$2,241.51	\$2,721.03	\$3,325.02	\$4,032.88	374	11,342	34,834	42,285	51,672	62,672				
HARRIS	STEAM ELECTRIC POWER	\$187.72	\$187.72	\$187.72	\$187.72	\$187.72	\$187.72	-	-	-	-	-	-				
HARRIS Total		\$2,976.78	\$3,768.60	\$5,319.50	\$5,841.72	\$6,422.46	\$7,111.71	18,308	30,193	54,160	61,786	71,027	81,911				
LEON	MANUFACTURING	-	\$9.25	\$9.25	\$9.25	\$9.25	\$9.25	-	74	74	74	74	74				
LEON Total		-	\$9.25	\$9.25	\$9.25	\$9.25	\$9.25	-	74	74	74	74	74				
LIBERTY	IRRIGATION	\$1.46	\$1.46	\$1.46	\$1.46	\$1.46	\$1.46	37	37	37	37	37	37				
LIBERTY	LIVESTOCK	\$15.29	\$15.29	\$15.29	\$15.29	\$15.29	\$15.29	735	735	735	735	735	735				
LIBERTY	MINING	-	-	-	\$0.30	\$2.41	\$8.40	-	-	-	2	20	70				
LIBERTY	MUNICIPAL	-	\$0.01	\$0.12	\$0.35	\$0.69	\$1.15	-	0	2	5	11	18				
LIBERTY Total		\$16.75	\$16.75	\$16.87	\$17.40	\$19.84	\$26.30	773	773	775	781	803	860				
MADISON	MINING	-	\$334.73	\$66.03	-	-	-	-	2,096	414	-	-	-				
MADISON Total		-	\$334.73	\$66.03	-	-	-	-	2,096	414	-	-	-				
MONTGOMERY	MANUFACTURING	\$125.73	\$410.57	\$401.83	\$394.63	\$391.76	\$388.91	1,028	3,356	3,284	3,225	3,202	3,179				
MONTGOMERY	MUNICIPAL	\$25.06	\$143.84	\$302.37	\$523.97	\$817.63	\$1,197.57	389	2,235	4,699	8,143	12,706	18,610				
MONTGOMERY Total		\$150.78	\$554.41	\$704.21	\$918.60	\$1,209.39	\$1,586.48	1,417	5,591	7,983	11,368	15,908	21,789				
WALLER	MUNICIPAL	\$0.97	\$2.77	\$5.03	\$6.93	\$9.54	\$13.78	15	43	78	108	148	214				
WALLER Total		\$0.97	\$2.77	\$5.03	\$6.93	\$9.54	\$13.78	15	43	78	108	148	214				
REGION H Total		\$4,600.06	\$8,521.23	\$10,313.32	\$11,300.76	\$12,436.69	\$13,784.42	28,805	66,183	95,862	110,604	127,869	148,164				

CHAPTER 7 APPENDICES

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APPENDIX 7-A

CURRENT DROUGHT PREPARATIONS IN REGION H

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WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type															Response Type												Reduction Type					Reduction				
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A
COUNTY-OTHER, HARRIS	Oaks at Houston Point	HARRIS	SAN JACINTO	4			•													•			•																	50	%
COUNTY-OTHER, HARRIS	River Water Club	HARRIS	SAN JACINTO	1																																				10	%
COUNTY-OTHER, HARRIS	River Water Club	HARRIS	SAN JACINTO	2			•																																	10	%
COUNTY-OTHER, HARRIS	River Water Club	HARRIS	SAN JACINTO	3			•																																	25	%
COUNTY-OTHER, HARRIS	River Water Club	HARRIS	SAN JACINTO	4			•																																	50	%
COUNTY-OTHER, HARRIS	Riverwood Estates	HARRIS	SAN JACINTO	1																																				10	%
COUNTY-OTHER, HARRIS	Riverwood Estates	HARRIS	SAN JACINTO	2			•																																	10	%
COUNTY-OTHER, HARRIS	Riverwood Estates	HARRIS	SAN JACINTO	3			•																																	25	%
COUNTY-OTHER, HARRIS	Riverwood Estates	HARRIS	SAN JACINTO	4			•																																	50	%
COUNTY-OTHER, HARRIS	Spanish Cove PUD	HARRIS	SAN JACINTO	1			•																																	5	%
COUNTY-OTHER, HARRIS	Spanish Cove PUD	HARRIS	SAN JACINTO	2			•																																	10	%
COUNTY-OTHER, HARRIS	Spanish Cove PUD	HARRIS	SAN JACINTO	3			•																																	15	%
COUNTY-OTHER, HARRIS	Spanish Cove PUD	HARRIS	SAN JACINTO	4			•		•																															30	%
COUNTY-OTHER, HARRIS	Spanish Cove PUD	HARRIS	SAN JACINTO	Emergency				•	•												•																		•	0	
COUNTY-OTHER, HARRIS	Woodhaven Estates	HARRIS	SAN JACINTO	1																																				10	%
COUNTY-OTHER, HARRIS	Woodhaven Estates	HARRIS	SAN JACINTO	2			•																																	10	%
COUNTY-OTHER, HARRIS	Woodhaven Estates	HARRIS	SAN JACINTO	3			•																																	25	%
COUNTY-OTHER, HARRIS	Woodhaven Estates	HARRIS	SAN JACINTO	4			•																																	50	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	1			•																																	10	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	2			•																																	20	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	3			•																																	25	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	4			•																																	30	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	5		•			•																															40	%
COUNTY-OTHER, MONTGOMERY	City of Woodbranch Village	MONTGOMERY	SAN JACINTO	6			•																																	0	
COUNTY-OTHER, MONTGOMERY	Grand Oaks MUD	MONTGOMERY	SAN JACINTO	1																																				0	
COUNTY-OTHER, MONTGOMERY	Grand Oaks MUD	MONTGOMERY	SAN JACINTO	2																																				0	
COUNTY-OTHER, MONTGOMERY	Grand Oaks MUD	MONTGOMERY	SAN JACINTO	3																																				0	
COUNTY-OTHER, MONTGOMERY	Grand Oaks MUD	MONTGOMERY	SAN JACINTO	Emergency				•	•																															0	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 105	MONTGOMERY	SAN JACINTO	1			•																																	10	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type													Reduction Type					Reduction												
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit									
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 105	MONTGOMERY	SAN JACINTO	2				•																															•						15	%						
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 105	MONTGOMERY	SAN JACINTO	3				•																																		•				20	%					
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 105	MONTGOMERY	SAN JACINTO	Emergency																																										•		0				
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 127	MONTGOMERY	SAN JACINTO	1				•		•																																					•		5	%		
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 127	MONTGOMERY	SAN JACINTO	2				•		•																																						•		10	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 127	MONTGOMERY	SAN JACINTO	3				•		•																																						•		20	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 127	MONTGOMERY	SAN JACINTO	4				•		•																																						•		30	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 127	MONTGOMERY	SAN JACINTO	Emergency		•			•	•																																					•		0			
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 137	MONTGOMERY	SAN JACINTO	1				•																																									•		10	%
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 137	MONTGOMERY	SAN JACINTO	2				•																																								•		15	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 137	MONTGOMERY	SAN JACINTO	3				•																																									•		20	%
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 137	MONTGOMERY	SAN JACINTO	Emergency						•																																						•		0		
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	1				•																																									•		5	%
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	2				•																																									•		5	%
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	3				•																																								•		10	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	4				•																																								•		15	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	5		•				•																																						•		20	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 145	MONTGOMERY	SAN JACINTO	6				•																																								•		0		
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 24	HARRIS	SAN JACINTO	1																																												•		15	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 24	HARRIS	SAN JACINTO	2																																												•		25	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 24	HARRIS	SAN JACINTO	3																																												•		33	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 24	HARRIS	SAN JACINTO	Emergency																																											•		0			
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	1				•																																								•		5	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	2				•																																								•		10	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	3				•																																								•		20	%	
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	4				•																																								•		30	%	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type												Reduction Type					Reduction												
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit					
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	4			•									•			•		•	•		•	•			•												30	%							
COUNTY-OTHER, MONTGOMERY	Montgomery County MUD No. 96	MONTGOMERY	SAN JACINTO	Emergency	•			•	•								•					•	•		•	•	•		•												•		0					
COUNTY-OTHER, MONTGOMERY	MSEC Enterprises, Inc.	MONTGOMERY	SAN JACINTO	1													•										•													•		0						
COUNTY-OTHER, MONTGOMERY	MSEC Enterprises, Inc.	MONTGOMERY	SAN JACINTO	2			•										•		•						•		•															10	%					
COUNTY-OTHER, MONTGOMERY	MSEC Enterprises, Inc.	MONTGOMERY	SAN JACINTO	3			•										•		•	•		•	•		•		•															15	%					
COUNTY-OTHER, MONTGOMERY	MSEC Enterprises, Inc.	MONTGOMERY	SAN JACINTO	4	•		•		•											•		•	•		•		•																20	%				
COUNTY-OTHER, MONTGOMERY	Texas National MUD	MONTGOMERY	SAN JACINTO	1			•												•			•					•																10	%				
COUNTY-OTHER, MONTGOMERY	Texas National MUD	MONTGOMERY	SAN JACINTO	2			•										•				•	•							•															15	%			
COUNTY-OTHER, MONTGOMERY	Texas National MUD	MONTGOMERY	SAN JACINTO	3			•										•		•				•	•				•																20	%			
COUNTY-OTHER, MONTGOMERY	Texas National MUD	MONTGOMERY	SAN JACINTO	Emergency				•										•																					•				0					
COUNTY-OTHER, MONTGOMERY	Woodridge MUD	MONTGOMERY	SAN JACINTO	1					•											•			•					•																10	%			
COUNTY-OTHER, MONTGOMERY	Woodridge MUD	MONTGOMERY	SAN JACINTO	2					•											•		•	•	•					•															20	%			
COUNTY-OTHER, MONTGOMERY	Woodridge MUD	MONTGOMERY	SAN JACINTO	3					•											•		•	•	•					•																35	%		
COUNTY-OTHER, MONTGOMERY	Woodridge MUD	MONTGOMERY	SAN JACINTO	4					•											•		•	•	•					•																36	%		
COUNTY-OTHER, WALLER	Kickapoo FWSD	WALLER	SAN JACINTO	1			•													•		•						•																	10	%		
COUNTY-OTHER, WALLER	Kickapoo FWSD	WALLER	SAN JACINTO	2			•											•				•	•																							15	%	
COUNTY-OTHER, WALLER	Kickapoo FWSD	WALLER	SAN JACINTO	3			•											•		•			•	•				•		•																20	%	
COUNTY-OTHER, WALLER	Kickapoo FWSD	WALLER	SAN JACINTO	Emergency				•											•																						•				0			
COUNTY-OTHER, WALLER	Willow Creek Farms MUD	WALLER	SAN JACINTO	1			•														•		•					•																		10	%	
COUNTY-OTHER, WALLER	Willow Creek Farms MUD	WALLER	SAN JACINTO	2			•													•		•	•						•																		15	%
COUNTY-OTHER, WALLER	Willow Creek Farms MUD	WALLER	SAN JACINTO	3			•													•		•	•					•		•																	20	%
COUNTY-OTHER, WALLER	Willow Creek Farms MUD	WALLER	SAN JACINTO	Emergency				•												•																					•				0			
FORT BEND COUNTY MUD 115	Fort Bend County MUD No. 115	FORT BEND	BRAZOS	1			•														•		•					•																		10	%	
FORT BEND COUNTY MUD 115	Fort Bend County MUD No. 115	FORT BEND	BRAZOS	2			•														•		•						•																		15	%
FORT BEND COUNTY MUD 115	Fort Bend County MUD No. 115	FORT BEND	BRAZOS	3			•														•		•	•				•		•																20	%	
FORT BEND COUNTY MUD 115	Fort Bend County MUD No. 115	FORT BEND	BRAZOS	Emergency				•												•																						•				0		
FORT BEND COUNTY MUD 116	Fort Bend County MUD No. 116	FORT BEND	BRAZOS	1			•														•		•					•																			10	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type														Reduction Type						Reduction			
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit	
HARRIS COUNTY MUD 158	Harris County MUD No. 158	HARRIS	SAN JACINTO	1																		•																			•	0		
HARRIS COUNTY MUD 158	Harris County MUD No. 158	HARRIS	SAN JACINTO	2																				•																	•	0		
HARRIS COUNTY MUD 158	Harris County MUD No. 158	HARRIS	SAN JACINTO	3																				•	•																•	0		
HARRIS COUNTY MUD 158	Harris County MUD No. 158	HARRIS	SAN JACINTO	4																				•																	•	0		
HARRIS COUNTY MUD 158	Harris County MUD No. 158	HARRIS	SAN JACINTO	Emergency	•					•																																•	0	
HARRIS COUNTY MUD 216	Harris County MUD No. 216	HARRIS	SAN JACINTO	1																																						•	5	%
HARRIS COUNTY MUD 216	Harris County MUD No. 216	HARRIS	SAN JACINTO	2																																						•	10	%
HARRIS COUNTY MUD 216	Harris County MUD No. 216	HARRIS	SAN JACINTO	3																																						•	15	%
HARRIS COUNTY MUD 216	Harris County MUD No. 216	HARRIS	SAN JACINTO	Emergency																																					•	0		
HARRIS COUNTY MUD 278	Harris County MUD No. 278	HARRIS	SAN JACINTO	1																																						•	0	
HARRIS COUNTY MUD 278	Harris County MUD No. 278	HARRIS	SAN JACINTO	2																																						•	10	%
HARRIS COUNTY MUD 278	Harris County MUD No. 278	HARRIS	SAN JACINTO	3																																						•	15	%
HARRIS COUNTY MUD 278	Harris County MUD No. 278	HARRIS	SAN JACINTO	4																																						•	25	%
HARRIS COUNTY MUD 278	Harris County MUD No. 278	HARRIS	SAN JACINTO	Emergency																																					•	0		
HARRIS COUNTY MUD 290	Harris County MUD No. 290	HARRIS	SAN JACINTO	1																																						•	10	%
HARRIS COUNTY MUD 290	Harris County MUD No. 290	HARRIS	SAN JACINTO	2																																						•	15	%
HARRIS COUNTY MUD 290	Harris County MUD No. 290	HARRIS	SAN JACINTO	3																																						•	20	%
HARRIS COUNTY MUD 290	Harris County MUD No. 290	HARRIS	SAN JACINTO	Emergency																																					•	0		
HARRIS COUNTY MUD 361	Harris County MUD No. 361	HARRIS	SAN JACINTO	1																																						•	10	%
HARRIS COUNTY MUD 361	Harris County MUD No. 361	HARRIS	SAN JACINTO	2																																						•	15	%
HARRIS COUNTY MUD 361	Harris County MUD No. 361	HARRIS	SAN JACINTO	3																																						•	20	%
HARRIS COUNTY MUD 361	Harris County MUD No. 361	HARRIS	SAN JACINTO	Emergency																																					•	0		
HARRIS COUNTY MUD 372	Harris County MUD No. 372	HARRIS	SAN JACINTO	1																																						•	10	%
HARRIS COUNTY MUD 372	Harris County MUD No. 372	HARRIS	SAN JACINTO	2																																						•	15	%
HARRIS COUNTY MUD 372	Harris County MUD No. 372	HARRIS	SAN JACINTO	3																																						•	20	%
HARRIS COUNTY MUD 372	Harris County MUD No. 372	HARRIS	SAN JACINTO	Emergency																																					•	0		
HARRIS COUNTY MUD 412	Harris County MUD No. 412	HARRIS	SAN JACINTO	1																																						•	10	%
HARRIS COUNTY MUD 412	Harris County MUD No. 412	HARRIS	SAN JACINTO	2																																						•	15	%
HARRIS COUNTY MUD 412	Harris County MUD No. 412	HARRIS	SAN JACINTO	3																																						•	20	%
HARRIS COUNTY MUD 412	Harris County MUD No. 412	HARRIS	SAN JACINTO	4																																						•	0	
HARRIS COUNTY MUD 412	Harris County MUD No. 412	HARRIS	SAN JACINTO	Emergency																																					•	0		

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type											Reduction Type						Reduction																
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit									
HARRIS COUNTY MUD 49	Harris County MUD No. 49	HARRIS	SAN JACINTO	1			•												•		•										•									5	%											
HARRIS COUNTY MUD 49	Harris County MUD No. 49	HARRIS	SAN JACINTO	2			•														•	•																		10	%											
HARRIS COUNTY MUD 49	Harris County MUD No. 49	HARRIS	SAN JACINTO	3			•														•	•									•										15	%										
HARRIS COUNTY MUD 49	Harris County MUD No. 49	HARRIS	SAN JACINTO	Emergency				•											•										•												0	%										
HARRIS COUNTY MUD 55	Harris County MUD No. 55	HARRIS	SAN JACINTO	1			•													•		•				•															25	%										
HARRIS COUNTY MUD 55	Harris County MUD No. 55	HARRIS	SAN JACINTO	2			•														•	•																				35	%									
HARRIS COUNTY MUD 55	Harris County MUD No. 55	HARRIS	SAN JACINTO	3			•														•	•										•											50	%								
HARRIS COUNTY MUD 55	Harris County MUD No. 55	HARRIS	SAN JACINTO	Emergency				•											•																							0	%									
HARRIS COUNTY MUD 58	Harris County MUD No. 58	HARRIS	SAN JACINTO	1															•		•																						15	%								
HARRIS COUNTY MUD 58	Harris County MUD No. 58	HARRIS	SAN JACINTO	2																•	•																							25	%							
HARRIS COUNTY MUD 58	Harris County MUD No. 58	HARRIS	SAN JACINTO	3																•	•																							33	%							
HARRIS COUNTY MUD 58	Harris County MUD No. 58	HARRIS	SAN JACINTO	Emergency				•											•																									0	%							
HARRIS COUNTY MUD 6	Harris County MUD No. 6	HARRIS	SAN JACINTO	1															•		•																								5	%						
HARRIS COUNTY MUD 6	Harris County MUD No. 6	HARRIS	SAN JACINTO	2																•		•																								15	%					
HARRIS COUNTY MUD 6	Harris County MUD No. 6	HARRIS	SAN JACINTO	3																•	•																									20	%					
HARRIS COUNTY MUD 6	Harris County MUD No. 6	HARRIS	SAN JACINTO	Emergency				•											•																										0	%						
HARRIS COUNTY WCID 50	Harris County WCID No. 50	HARRIS	SAN JACINTO	1			•													•		•				•																				10	%					
HARRIS COUNTY WCID 50	Harris County WCID No. 50	HARRIS	SAN JACINTO	2			•														•	•				•																					15	%				
HARRIS COUNTY WCID 50	Harris County WCID No. 50	HARRIS	SAN JACINTO	3			•							•							•	•				•																					20	%				
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	1			•															•	•																								15	%				
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	2			•															•	•																									20	%			
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	3			•															•	•																									25	%			
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	4			•															•	•																									30	%			
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	5		•			•												•	•						•																			0	%				
HARRIS COUNTY WCID 96	Harris County WCID No. 96	HARRIS	SAN JACINTO	6			•															•																									0	%				
HOUSTON	City of Houston	HARRIS	SAN JACINTO	1											•						•	•																										5	%			
HOUSTON	City of Houston	HARRIS	SAN JACINTO	2			•									•	•							•	•																									10	%	
HOUSTON	City of Houston	HARRIS	SAN JACINTO	3			•									•	•							•	•																										20	%
HOUSTON	City of Houston	HARRIS	SAN JACINTO	4			•									•	•							•	•																										35	%
LAZY RIVER IMPROVEMENT DISTRICT	Lazy River ID	HARRIS	SAN JACINTO	1			•		•												•																											5	%			
LAZY RIVER IMPROVEMENT DISTRICT	Lazy River ID	HARRIS	SAN JACINTO	2			•		•													•																												10	%	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type										Reduction Type					Reduction			
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other
LAZY RIVER IMPROVEMENT DISTRICT	Lazy River ID	HARRIS	SAN JACINTO	3			•	•									•				•	•									•							20	%	
LAZY RIVER IMPROVEMENT DISTRICT	Lazy River ID	HARRIS	SAN JACINTO	4			•	•									•				•	•									•							30	%	
LAZY RIVER IMPROVEMENT DISTRICT	Lazy River ID	HARRIS	SAN JACINTO	Emergency	•		•	•									•																			•			0	
LEAGUE CITY	City of League City	GALVESTON	SAN JACINTO-BRAZOS	1			•										•	•	•		•		•	•				•		•	•							2	%	
LEAGUE CITY	City of League City	GALVESTON	SAN JACINTO-BRAZOS	2			•										•	•	•		•		•	•				•		•	•							10	%	
LEAGUE CITY	City of League City	GALVESTON	SAN JACINTO-BRAZOS	3			•										•	•	•		•		•	•				•		•	•							20	%	
LEAGUE CITY	City of League City	GALVESTON	SAN JACINTO-BRAZOS	4	•		•	•						•			•	•	•		•		•	•				•		•	•								35	%
LIVINGSTON	City of Livingston	POLK	TRINITY	1			•					•								•		•	•						•									5	%	
LIVINGSTON	City of Livingston	POLK	TRINITY	2			•					•								•		•	•						•									15	%	
LIVINGSTON	City of Livingston	POLK	TRINITY	3			•					•								•		•	•						•									25	%	
LIVINGSTON	City of Livingston	POLK	TRINITY	4	•		•	•												•		•	•						•										35	%
LIVINGSTON	City of Livingston	POLK	TRINITY	5	•			•				•									•		•	•					•		•								50	%
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	1			•														•	•							•									5	%	
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	2			•														•		•	•						•								15	%	
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	3			•														•		•	•					•									20	%	
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	4			•														•		•	•					•									25	%	
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	5	•		•	•													•		•	•					•									30	%	
MAGNOLIA	City of Magnolia	MONTGOMERY	SAN JACINTO	6			•	•														•														•			0	
MANUFACTURING, HARRIS	Chevron Phillips Chemical - Cedar Bayou Plant	HARRIS	TRINITY-SAN JACINTO	1								•	•									•							•									5	%	
MANUFACTURING, HARRIS	Chevron Phillips Chemical - Cedar Bayou Plant	HARRIS	TRINITY-SAN JACINTO	2								•	•									•	•							•								10	%	
MANUFACTURING, HARRIS	Chevron Phillips Chemical - Cedar Bayou Plant	HARRIS	TRINITY-SAN JACINTO	3								•										•	•							•								20	%	
MANUFACTURING, HARRIS	Chevron Phillips Chemical - Cedar Bayou Plant	HARRIS	TRINITY-SAN JACINTO	4								•										•	•							•								30	%	
MANUFACTURING, HARRIS	Chevron Phillips Chemical - Cedar Bayou Plant	HARRIS	TRINITY-SAN JACINTO	Emergency	•		•	•									•					•						•	•					•				0		
MONTGOMERY COUNTY MUD 115	Montgomery County MUD No. 115	MONTGOMERY	SAN JACINTO	1			•	•													•		•						•									5	%	
MONTGOMERY COUNTY MUD 115	Montgomery County MUD No. 115	MONTGOMERY	SAN JACINTO	2			•	•														•								•								10	%	
MONTGOMERY COUNTY MUD 115	Montgomery County MUD No. 115	MONTGOMERY	SAN JACINTO	3			•	•														•	•							•								20	%	
MONTGOMERY COUNTY MUD 115	Montgomery County MUD No. 115	MONTGOMERY	SAN JACINTO	4			•	•														•	•							•								30	%	
MONTGOMERY COUNTY MUD 115	Montgomery County MUD No. 115	MONTGOMERY	SAN JACINTO	Emergency	•		•	•														•													•			0		

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																		Response Type													Reduction Type							Reduction										
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit										
MONTGOMERY COUNTY MUD 15	Montgomery County MUD No. 15	MONTGOMERY	SAN JACINTO	1			•												•			•																				5	%										
MONTGOMERY COUNTY MUD 15	Montgomery County MUD No. 15	MONTGOMERY	SAN JACINTO	2			•																•																					15	%								
MONTGOMERY COUNTY MUD 15	Montgomery County MUD No. 15	MONTGOMERY	SAN JACINTO	3			•																•																						25	%							
MONTGOMERY COUNTY MUD 15	Montgomery County MUD No. 15	MONTGOMERY	SAN JACINTO	Emergency											•				•																				•						0								
MONTGOMERY COUNTY MUD 18	Montgomery County MUD No. 18	MONTGOMERY	SAN JACINTO	1			•																																						0								
MONTGOMERY COUNTY MUD 18	Montgomery County MUD No. 18	MONTGOMERY	SAN JACINTO	2			•																•																							10	%						
MONTGOMERY COUNTY MUD 18	Montgomery County MUD No. 18	MONTGOMERY	SAN JACINTO	3			•																•																								20	%					
MONTGOMERY COUNTY MUD 18	Montgomery County MUD No. 18	MONTGOMERY	SAN JACINTO	Emergency				•																																					•			0					
MONTGOMERY COUNTY MUD 19	Montgomery County MUD No. 19	MONTGOMERY	SAN JACINTO	1			•		•																																						5	%					
MONTGOMERY COUNTY MUD 19	Montgomery County MUD No. 19	MONTGOMERY	SAN JACINTO	2			•		•																																							10	%				
MONTGOMERY COUNTY MUD 19	Montgomery County MUD No. 19	MONTGOMERY	SAN JACINTO	3			•		•															•																								20	%				
MONTGOMERY COUNTY MUD 19	Montgomery County MUD No. 19	MONTGOMERY	SAN JACINTO	4			•		•																																							30	%				
MONTGOMERY COUNTY MUD 19	Montgomery County MUD No. 19	MONTGOMERY	SAN JACINTO	Emergency	•			•	•																																						•			0			
MONTGOMERY COUNTY MUD 89	Montgomery County MUD No. 89	MONTGOMERY	SAN JACINTO	1																																												10	%				
MONTGOMERY COUNTY MUD 89	Montgomery County MUD No. 89	MONTGOMERY	SAN JACINTO	2																				•																									15	%			
MONTGOMERY COUNTY MUD 89	Montgomery County MUD No. 89	MONTGOMERY	SAN JACINTO	3																				•																									20	%			
MONTGOMERY COUNTY MUD 89	Montgomery County MUD No. 89	MONTGOMERY	SAN JACINTO	4																																													0				
MONTGOMERY COUNTY MUD 89	Montgomery County MUD No. 89	MONTGOMERY	SAN JACINTO	Emergency					•																																						•			0			
MONTGOMERY COUNTY MUD 99	Montgomery County MUD No. 99	MONTGOMERY	SAN JACINTO	1			•		•																																								5	%			
MONTGOMERY COUNTY MUD 99	Montgomery County MUD No. 99	MONTGOMERY	SAN JACINTO	2			•		•																																									10	%		
MONTGOMERY COUNTY MUD 99	Montgomery County MUD No. 99	MONTGOMERY	SAN JACINTO	3			•		•															•																										20	%		
MONTGOMERY COUNTY MUD 99	Montgomery County MUD No. 99	MONTGOMERY	SAN JACINTO	4			•		•															•																										30	%		
MONTGOMERY COUNTY MUD 99	Montgomery County MUD No. 99	MONTGOMERY	SAN JACINTO	Emergency	•				•																																								•			0	
NEWPORT MUD	Newport MUD	HARRIS	SAN JACINTO	1			•				•	•																																					5	%			
NEWPORT MUD	Newport MUD	HARRIS	SAN JACINTO	2			•				•	•																																						10	%		
NEWPORT MUD	Newport MUD	HARRIS	SAN JACINTO	3			•				•													•																										20	%		
NEWPORT MUD	Newport MUD	HARRIS	SAN JACINTO	4			•				•													•																										30	%		

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type													Reduction Type					Reduction														
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit											
NEWPORT MUD	Newport MUD	HARRIS	SAN JACINTO	Emergency	•			•	•												•																			•				0										
NORTH BELT UD	North Belt Utility District	HARRIS	SAN JACINTO	1			•															•																					5	%										
NORTH BELT UD	North Belt Utility District	HARRIS	SAN JACINTO	2			•															•	•																					10	%									
NORTH BELT UD	North Belt Utility District	HARRIS	SAN JACINTO	3			•															•																							15	%								
NORTH BELT UD	North Belt Utility District	HARRIS	SAN JACINTO	4			•															•																							20	%								
NORTH BELT UD	North Belt Utility District	HARRIS	SAN JACINTO	Emergency	•				•																																			•			0							
NORTH CHANNEL WATER AUTHORITY	Harris County FWSD No. 51	HARRIS	SAN JACINTO	1			•															•																									10	%						
NORTH CHANNEL WATER AUTHORITY	Harris County FWSD No. 51	HARRIS	SAN JACINTO	2			•															•	•																								15	%						
NORTH CHANNEL WATER AUTHORITY	Harris County FWSD No. 51	HARRIS	SAN JACINTO	3			•															•	•																									20	%					
NORTH CHANNEL WATER AUTHORITY	Harris County FWSD No. 51	HARRIS	SAN JACINTO	Emergency				•															•																							•			0					
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 285	HARRIS	SAN JACINTO	1			•																•																										10	%				
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 285	HARRIS	SAN JACINTO	2			•																•	•																										15	%			
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 285	HARRIS	SAN JACINTO	3			•																•	•																										20	%			
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 285	HARRIS	SAN JACINTO	Emergency				•																•																							•			0				
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 421	HARRIS	SAN JACINTO	1			•																•																											5	%			
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 421	HARRIS	SAN JACINTO	2			•																•	•																											10	%		
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 421	HARRIS	SAN JACINTO	3			•																•	•																												15	%	
NORTH CHANNEL WATER AUTHORITY	Harris County MUD No. 421	HARRIS	SAN JACINTO	Emergency				•																•																									•			0		
NORTH CHANNEL WATER AUTHORITY	North Channel Water Authority	HARRIS	SAN JACINTO	1																				•																												10	%	
NORTH CHANNEL WATER AUTHORITY	North Channel Water Authority	HARRIS	SAN JACINTO	2																				•	•																											15	%	
NORTH CHANNEL WATER AUTHORITY	North Channel Water Authority	HARRIS	SAN JACINTO	3																				•	•																											20	%	
NORTH CHANNEL WATER AUTHORITY	North Channel Water Authority	HARRIS	SAN JACINTO	Emergency				•																•																									•			0		
NORTH CHANNEL WATER AUTHORITY	Northeast Harris County MUD No. 1	HARRIS	SAN JACINTO	1			•																•																													10	%	
NORTH CHANNEL WATER AUTHORITY	Northeast Harris County MUD No. 1	HARRIS	SAN JACINTO	2			•																	•	•																											15	%	
NORTH CHANNEL WATER AUTHORITY	Northeast Harris County MUD No. 1	HARRIS	SAN JACINTO	3			•																	•	•																												20	%
NORTH CHANNEL WATER AUTHORITY	Northeast Harris County MUD No. 1	HARRIS	SAN JACINTO	Emergency				•																•																										•			0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	1																				•																													5	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type														Reduction Type					Reduction	
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	2			•												•		•									•										10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	3			•														•	•																		15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	4			•											•	•			•	•						•											20	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	5				•	•										•			•	•					•												25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 1	FORT BEND	SAN JACINTO	Emergency					•											•																			•	0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	1																		•								•										5	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	2			•															•								•										10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	3			•																•	•																15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	4			•																•	•					•											20	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	5				•															•	•					•											25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 10	FORT BEND	SAN JACINTO	Emergency					•													•																	•	0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	1																			•							•										5	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	2			•																	•						•										10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	3			•																•	•																15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	4			•																	•	•				•											20	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	5				•																•	•				•											25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 12	FORT BEND	SAN JACINTO	Emergency					•														•																•	0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	1																			•							•										5	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	2			•																	•						•										10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	3			•																	•	•															15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	4			•																	•	•				•											20	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	5				•																•	•				•											25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 14	FORT BEND	SAN JACINTO	Emergency					•															•															•	0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	1																				•						•										5	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	2			•																		•					•										10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	3			•																		•	•														15	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type												Reduction Type					Reduction													
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit									
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	4			•																•	•																									20	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	5				•																•	•																								25	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 3	FORT BEND	SAN JACINTO	Emergency				•																																										0		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 5	FORT BEND	SAN JACINTO	1			•																		•	•																							10	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 5	FORT BEND	SAN JACINTO	2			•																			•	•																						15	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 5	FORT BEND	SAN JACINTO	3			•																			•	•																						20	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 5	FORT BEND	SAN JACINTO	Emergency				•																																										0		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	1																				•																									5	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	2			•																			•																								10	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	3			•																				•	•																						15	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	4			•																				•	•																						20	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	5				•																				•																						25	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 6	FORT BEND	SAN JACINTO	Emergency				•																																										0		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	1																					•																								5	%		
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	2			•																				•																							10	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	3			•																					•	•																						15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	4			•																				•	•																						20	%	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	5				•																				•																							25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 7	FORT BEND	SAN JACINTO	Emergency				•																																											0	
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	1																					•																										5	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	2			•																				•																								10	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	3			•																				•	•																							15	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	4			•																				•	•																							20	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	5				•																				•																							25	%
NORTH FORT BEND WATER AUTHORITY	Cinco MUD No. 9	FORT BEND	SAN JACINTO	Emergency				•																																											0	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type														Reduction Type						Reduction					
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit	
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	1																																				5	%			
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	2			•													•																					10	%		
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	3			•														•		•																		15	%		
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	4			•														•		•																		20	%		
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	5			•														•		•																		25	%		
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 2	FORT BEND	SAN JACINTO	Emergency			•													•																					0			
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	1																		•																			5	%		
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	2			•																																			10	%	
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	3			•															•		•																		15	%	
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	4			•															•		•																		20	%	
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	5			•															•		•																		25	%	
NORTH FORT BEND WATER AUTHORITY	Cinco Southwest MUD No. 3	FORT BEND	SAN JACINTO	Emergency			•														•																					0		
NORTH FORT BEND WATER AUTHORITY	Cornerstones MUD	HARRIS	SAN JACINTO	1																																						5	%	
NORTH FORT BEND WATER AUTHORITY	Cornerstones MUD	HARRIS	SAN JACINTO	2																																							10	%
NORTH FORT BEND WATER AUTHORITY	Cornerstones MUD	HARRIS	SAN JACINTO	3																																							15	%
NORTH FORT BEND WATER AUTHORITY	Cornerstones MUD	HARRIS	SAN JACINTO	Emergency			•															•																				0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 122	FORT BEND	SAN JACINTO-BRAZOS	1			•																																			10	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 122	FORT BEND	SAN JACINTO-BRAZOS	2			•																																				15	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 122	FORT BEND	SAN JACINTO-BRAZOS	3			•																																				20	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 122	FORT BEND	SAN JACINTO-BRAZOS	Emergency			•															•																				0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 123	FORT BEND	SAN JACINTO-BRAZOS	1			•																																				10	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 123	FORT BEND	SAN JACINTO-BRAZOS	2			•																																				15	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 123	FORT BEND	SAN JACINTO-BRAZOS	3			•																																				20	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 123	FORT BEND	SAN JACINTO-BRAZOS	Emergency			•																																			0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 124	FORT BEND	SAN JACINTO	1																																						16	Hrs	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 124	FORT BEND	SAN JACINTO	2																																						16	Hrs	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type															Response Type															Reduction Type					Reduction				
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 165	FORT BEND	SAN JACINTO-BRAZOS	2																																					25	%		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 165	FORT BEND	SAN JACINTO-BRAZOS	3																																					33	%		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 190	FORT BEND	SAN JACINTO-BRAZOS	1																																					16	Hrs		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 190	FORT BEND	SAN JACINTO-BRAZOS	2																																					16	Hrs		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 190	FORT BEND	SAN JACINTO-BRAZOS	3																																					20	%		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 190	FORT BEND	SAN JACINTO-BRAZOS	Emergency																																					0			
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 194	FORT BEND	SAN JACINTO-BRAZOS	1																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 194	FORT BEND	SAN JACINTO-BRAZOS	2																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 194	FORT BEND	SAN JACINTO-BRAZOS	3																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 194	FORT BEND	SAN JACINTO-BRAZOS	Emergency																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 2	FORT BEND	SAN JACINTO	1																																						10	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 2	FORT BEND	SAN JACINTO	2																																						15	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 2	FORT BEND	SAN JACINTO	3																																						20	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 2	FORT BEND	SAN JACINTO	Emergency																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 30	FORT BEND	SAN JACINTO	1																																						10	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 30	FORT BEND	SAN JACINTO	2																																						15	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 30	FORT BEND	SAN JACINTO	3																																						20	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 30	FORT BEND	SAN JACINTO	Emergency																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 5	FORT BEND	BRAZOS	1																																						10	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 5	FORT BEND	BRAZOS	2																																						15	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 5	FORT BEND	BRAZOS	3																																						20	%	
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 5	FORT BEND	BRAZOS	Emergency																																						0		
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 50	FORT BEND	SAN JACINTO-BRAZOS	1																																							10	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 50	FORT BEND	SAN JACINTO-BRAZOS	2																																							15	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 50	FORT BEND	SAN JACINTO-BRAZOS	3																																							20	%
NORTH FORT BEND WATER AUTHORITY	Fort Bend County MUD No. 50	FORT BEND	SAN JACINTO-BRAZOS	Emergency																																							0	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type											Reduction Type					Reduction								
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	1			•														•	•					•															10	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	2			•													•	•	•																				15	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	3			•													•	•						•															20	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	4																•	•	•					•																40	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	5	•				•												•	•					•															50	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 248	HARRIS	SAN JACINTO	6																		•						•															0			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 25	HARRIS	SAN JACINTO	1												•	•	•			•	•																					5	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 25	HARRIS	SAN JACINTO	2												•	•	•			•	•																						10	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 25	HARRIS	SAN JACINTO	3												•	•	•			•	•																						15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 25	HARRIS	SAN JACINTO	4												•	•	•			•	•						•																20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 25	HARRIS	SAN JACINTO	Emergency												•	•				•							•																0		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 261	HARRIS	SAN JACINTO	1			•														•	•						•																5	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 261	HARRIS	SAN JACINTO	2			•														•	•																						10	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 261	HARRIS	SAN JACINTO	3			•														•	•						•																15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 261	HARRIS	SAN JACINTO	4			•														•	•							•															20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 261	HARRIS	SAN JACINTO	Emergency	•				•												•																							0		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 358	HARRIS	SAN JACINTO	1			•														•	•						•																	10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 358	HARRIS	SAN JACINTO	2			•														•	•																							15	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type										Reduction Type						Reduction								
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 358	HARRIS	SAN JACINTO	3			•										•	•				•	•				•	•		•													20	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 358	HARRIS	SAN JACINTO	Emergency				•											•																				•					0		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 365	HARRIS	SAN JACINTO	1											•					•		•								•														10	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 365	HARRIS	SAN JACINTO	2											•						•	•								•														15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 365	HARRIS	SAN JACINTO	3											•						•	•	•						•															20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 365	HARRIS	SAN JACINTO	Emergency				•											•																			•							0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 367	HARRIS	SAN JACINTO	1			•													•		•						•			•														10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 367	HARRIS	SAN JACINTO	2			•											•			•	•									•														15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 367	HARRIS	SAN JACINTO	3			•										•	•				•	•					•	•		•														20	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 367	HARRIS	SAN JACINTO	Emergency				•											•																			•							0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 383	HARRIS	SAN JACINTO	1			•															•						•										•							0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 383	HARRIS	SAN JACINTO	2			•														•	•						•																	10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 383	HARRIS	SAN JACINTO	3			•															•	•	•																					15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 383	HARRIS	SAN JACINTO	4			•											•				•	•							•															25	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 383	HARRIS	SAN JACINTO	Emergency				•											•																			•							0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 391	HARRIS	SAN JACINTO	1			•													•		•						•																	10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 391	HARRIS	SAN JACINTO	2			•										•					•	•								•														15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 391	HARRIS	SAN JACINTO	3			•										•	•				•	•					•	•		•														20	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type												Reduction Type					Reduction									
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 391	HARRIS	SAN JACINTO	Emergency				•											•																					•			0					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 468	HARRIS	SAN JACINTO	1			•													•		•								•														10	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 468	HARRIS	SAN JACINTO	2			•															•	•																					15	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 468	HARRIS	SAN JACINTO	3			•															•	•						•		•														20	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 468	HARRIS	SAN JACINTO	Emergency				•												•																				•			0					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 480	HARRIS	SAN JACINTO	1			•														•		•							•															10	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 480	HARRIS	SAN JACINTO	2			•														•		•																							15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 480	HARRIS	SAN JACINTO	3			•															•	•							•		•														20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 480	HARRIS	SAN JACINTO	Emergency				•													•																			•			0					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 530	HARRIS	SAN JACINTO	1			•														•		•							•																10	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 530	HARRIS	SAN JACINTO	2			•														•		•																							15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 530	HARRIS	SAN JACINTO	3			•															•	•							•		•															20	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 530	HARRIS	SAN JACINTO	Emergency				•													•																				•			0				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County WCID No. 109	HARRIS	SAN JACINTO	1			•		•														•	•					•		•																5	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County WCID No. 109	HARRIS	SAN JACINTO	2			•		•												•		•	•					•																		10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County WCID No. 109	HARRIS	SAN JACINTO	3			•		•													•	•						•		•																15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County WCID No. 109	HARRIS	SAN JACINTO	4			•		•													•	•						•		•																20	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery Counties MUD No. 386	HARRIS	SAN JACINTO	1			•																•	•					•		•																5	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type												Reduction Type					Reduction													
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit									
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery Counties MUD No. 386	HARRIS	SAN JACINTO	2			•												•	•																											10	%				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery Counties MUD No. 386	HARRIS	SAN JACINTO	3			•													•																												20	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery Counties MUD No. 386	HARRIS	SAN JACINTO	4			•		•											•																													30	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery County MUD No. 530	HARRIS	SAN JACINTO	1			•													•																													10	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery County MUD No. 530	HARRIS	SAN JACINTO	2			•													•																													15	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery County MUD No. 530	HARRIS	SAN JACINTO	3			•													•																													20	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris-Montgomery County MUD No. 530	HARRIS	SAN JACINTO	Emergency					•											•																													0			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Lake Forest Utility District	HARRIS	SAN JACINTO	1			•																																											5	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Lake Forest Utility District	HARRIS	SAN JACINTO	2			•													•																														10	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Lake Forest Utility District	HARRIS	SAN JACINTO	3			•													•																															15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Lake Forest Utility District	HARRIS	SAN JACINTO	4			•													•																															20	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Lake Forest Utility District	HARRIS	SAN JACINTO	Emergency	•				•											•																															0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	1			•																																												5	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	2			•																																												10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	3			•																																												15	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	4			•																																												20	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	5	•				•																																										50	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Malcomson Road Utility District	HARRIS	SAN JACINTO	6																																															0	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type																	Reduction Type					Reduction									
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit										
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Memorial Hills Utility District	HARRIS	SAN JACINTO	1			•														•	•																							5	%							
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Memorial Hills Utility District	HARRIS	SAN JACINTO	2			•														•	•	•																								10	%					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Memorial Hills Utility District	HARRIS	SAN JACINTO	3			•														•		•						•																			15	%				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Memorial Hills Utility District	HARRIS	SAN JACINTO	4			•														•		•																										20	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Memorial Hills Utility District	HARRIS	SAN JACINTO	Emergency	•				•											•																					•								0				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	North Park Utility District	HARRIS	SAN JACINTO	1			•																																										5	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	North Park Utility District	HARRIS	SAN JACINTO	2			•														•	•	•																											10	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	North Park Utility District	HARRIS	SAN JACINTO	3			•														•		•																											15	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	North Park Utility District	HARRIS	SAN JACINTO	4			•														•		•																											20	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	North Park Utility District	HARRIS	SAN JACINTO	Emergency	•				•												•																						•								0		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 10	HARRIS	SAN JACINTO	1			•																																											5	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 10	HARRIS	SAN JACINTO	2			•														•	•	•																											10	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 10	HARRIS	SAN JACINTO	3			•														•		•																												15	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 10	HARRIS	SAN JACINTO	4			•														•		•																												20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 10	HARRIS	SAN JACINTO	Emergency	•				•												•																															0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 19	HARRIS	SAN JACINTO	1																																															5	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 19	HARRIS	SAN JACINTO	2																	•	•	•																													10	%
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Harris County MUD No. 19	HARRIS	SAN JACINTO	3																	•	•	•																													15	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type												Reduction Type					Reduction																				
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit															
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	2			•																																										25	%								
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	3			•																																												35	%						
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	Emergency																		•																													0							
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Reid Road MUD No. 1	HARRIS	SAN JACINTO	1			•																																												5	%						
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Reid Road MUD No. 1	HARRIS	SAN JACINTO	2			•																																												10	%						
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Reid Road MUD No. 1	HARRIS	SAN JACINTO	3			•																																													15	%					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Reid Road MUD No. 1	HARRIS	SAN JACINTO	4			•																																													20	%					
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Reid Road MUD No. 1	HARRIS	SAN JACINTO	Emergency	•				•											•																																		0				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Spring Creek Forest Public Utility District	HARRIS	SAN JACINTO	1			•																																														5	%				
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Spring Creek Forest Public Utility District	HARRIS	SAN JACINTO	2			•																																															10	%			
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Spring Creek Forest Public Utility District	HARRIS	SAN JACINTO	3			•																																																15	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Spring Creek Forest Public Utility District	HARRIS	SAN JACINTO	4			•																																																	20	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Spring Creek Forest Public Utility District	HARRIS	SAN JACINTO	Emergency	•				•											•																																					0	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	1			•																																																15	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	2			•																																																25	%		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Northwest Park MUD	HARRIS	SAN JACINTO	3			•																																																	35	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Tattor Road Municipal District	HARRIS	SAN JACINTO	1			•																																																	5	%	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Tattor Road Municipal District	HARRIS	SAN JACINTO	2			•																																																		10	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type										Reduction Type					Reduction								
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit	
RICHMOND	City of Richmond	FORT BEND	BRAZOS	3			•										•				•	•									•										10	%		
RICHMOND	City of Richmond	FORT BEND	BRAZOS	4			•										•				•	•					•	•			•											15	%	
SEQUOIA IMPROVEMENT DISTRICT	Sequoia Improvement District	HARRIS	SAN JACINTO	1												•				•	•	•							•												5	%		
SEQUOIA IMPROVEMENT DISTRICT	Sequoia Improvement District	HARRIS	SAN JACINTO	2												•				•	•	•							•												10	%		
SEQUOIA IMPROVEMENT DISTRICT	Sequoia Improvement District	HARRIS	SAN JACINTO	3												•				•	•	•						•													15	%		
SEQUOIA IMPROVEMENT DISTRICT	Sequoia Improvement District	HARRIS	SAN JACINTO	4			•														•	•	•						•												20	%		
SEQUOIA IMPROVEMENT DISTRICT	Sequoia Improvement District	HARRIS	SAN JACINTO	Emergency	•				•											•																		•				0		
SIENNA PLANTATION	Sienna Plantation Management District	FORT BEND	SAN JACINTO-BRAZOS	1																	•								•													10	%	
SIENNA PLANTATION	Sienna Plantation Management District	FORT BEND	SAN JACINTO-BRAZOS	2																	•	•	•						•													10	%	
SIENNA PLANTATION	Sienna Plantation Management District	FORT BEND	SAN JACINTO-BRAZOS	3																	•	•	•						•													15	%	
SIENNA PLANTATION	Sienna Plantation Management District	FORT BEND	SAN JACINTO-BRAZOS	4																	•	•	•					•	•													20	%	
SIENNA PLANTATION	Sienna Plantation Management District	FORT BEND	SAN JACINTO-BRAZOS	Emergency																		•																•				0		
SIENNA PLANTATION	Sienna Plantation MUD No. 10	FORT BEND	BRAZOS	1																		•							•													10	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 10	FORT BEND	BRAZOS	2																		•	•	•					•													10	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 10	FORT BEND	BRAZOS	3																		•	•	•					•													15	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 10	FORT BEND	BRAZOS	4																		•	•	•					•	•												20	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 10	FORT BEND	BRAZOS	Emergency																			•															•				0		
SIENNA PLANTATION	Sienna Plantation MUD No. 2	FORT BEND	SAN JACINTO-BRAZOS	1																			•							•													10	%
SIENNA PLANTATION	Sienna Plantation MUD No. 2	FORT BEND	SAN JACINTO-BRAZOS	2																			•	•	•					•												10	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 2	FORT BEND	SAN JACINTO-BRAZOS	3																			•	•	•					•												15	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 2	FORT BEND	SAN JACINTO-BRAZOS	4																			•	•	•					•	•											20	%	
SIENNA PLANTATION	Sienna Plantation MUD No. 2	FORT BEND	SAN JACINTO-BRAZOS	Emergency																				•														•				0		
SIENNA PLANTATION	Sienna Plantation MUD No. 3	FORT BEND	SAN JACINTO-BRAZOS	1																				•						•													10	%
SIENNA PLANTATION	Sienna Plantation MUD No. 3	FORT BEND	SAN JACINTO-BRAZOS	2																				•	•	•					•												10	%
SIENNA PLANTATION	Sienna Plantation MUD No. 3	FORT BEND	SAN JACINTO-BRAZOS	3																				•	•	•					•												15	%
SIENNA PLANTATION	Sienna Plantation MUD No. 3	FORT BEND	SAN JACINTO-BRAZOS	4																				•	•	•					•	•											20	%
SIENNA PLANTATION	Sienna Plantation MUD No. 3	FORT BEND	SAN JACINTO-BRAZOS	Emergency																					•													•				0		
SOUTH HOUSTON	City of South Houston	HARRIS	SAN JACINTO	1			•															•	•	•					•													10	%	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type										Reduction Type					Reduction											
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit		
SOUTH HOUSTON	City of South Houston	HARRIS	SAN JACINTO	2			•													•		•	•	•																	10	%			
SOUTH HOUSTON	City of South Houston	HARRIS	SAN JACINTO	3	•		•		•							•							•	•	•					•												10	%		
SOUTHERN MONTGOMERY COUNTY MUD	Southern Montgomery County MUD	MONTGOMERY	SAN JACINTO	1			•		•											•			•	•																		5	%		
SOUTHERN MONTGOMERY COUNTY MUD	Southern Montgomery County MUD	MONTGOMERY	SAN JACINTO	2			•		•												•			•	•																	10	%		
SOUTHERN MONTGOMERY COUNTY MUD	Southern Montgomery County MUD	MONTGOMERY	SAN JACINTO	3			•		•													•		•	•																	20	%		
SOUTHERN MONTGOMERY COUNTY MUD	Southern Montgomery County MUD	MONTGOMERY	SAN JACINTO	4			•		•												•			•	•																	30	%		
SOUTHERN MONTGOMERY COUNTY MUD	Southern Montgomery County MUD	MONTGOMERY	SAN JACINTO	Emergency				•	•												•																			•		0			
SOUTHWEST HARRIS COUNTY MUD 1	Southwest Harris County MUD No. 1	HARRIS	SAN JACINTO	1			•															•																					5	%	
SOUTHWEST HARRIS COUNTY MUD 1	Southwest Harris County MUD No. 1	HARRIS	SAN JACINTO	2			•														•			•	•																		10	%	
SOUTHWEST HARRIS COUNTY MUD 1	Southwest Harris County MUD No. 1	HARRIS	SAN JACINTO	3			•															•		•	•																		15	%	
SOUTHWEST HARRIS COUNTY MUD 1	Southwest Harris County MUD No. 1	HARRIS	SAN JACINTO	Emergency					•													•																		•		0			
SPRING CREEK UD	Spring Creek Utility District	HARRIS	SAN JACINTO	1			•		•													•																					5	%	
SPRING CREEK UD	Spring Creek Utility District	HARRIS	SAN JACINTO	2			•		•														•	•																			10	%	
SPRING CREEK UD	Spring Creek Utility District	HARRIS	SAN JACINTO	3			•		•														•	•	•																		20	%	
SPRING CREEK UD	Spring Creek Utility District	HARRIS	SAN JACINTO	4			•		•														•		•	•																	30	%	
SPRING CREEK UD	Spring Creek Utility District	HARRIS	SAN JACINTO	Emergency	•			•	•																																•		0		
SUGAR LAND	City of Sugar Land	FORT BEND	BRAZOS	1		•																		•																•		0			
SUGAR LAND	City of Sugar Land	FORT BEND	BRAZOS	2			•																	•	•																		5	%	
SUGAR LAND	City of Sugar Land	FORT BEND	BRAZOS	3			•																	•	•	•																	10	%	
SUGAR LAND	City of Sugar Land	FORT BEND	BRAZOS	4			•		•															•	•	•				•													15	%	
THE WOODLANDS	Montgomery County MUD No. 6 7 36 39 40 46 47 60 67	MONTGOMERY	SAN JACINTO	1			•		•																•																			5	%
THE WOODLANDS	Montgomery County MUD No. 6 7 36 39 40 46 47 60 67	MONTGOMERY	SAN JACINTO	2			•		•															•																				10	%
THE WOODLANDS	Montgomery County MUD No. 6 7 36 39 40 46 47 60 67	MONTGOMERY	SAN JACINTO	3			•		•															•	•																			20	%
THE WOODLANDS	Montgomery County MUD No. 6 7 36 39 40 46 47 60 67	MONTGOMERY	SAN JACINTO	4			•		•															•	•																			30	%
THE WOODLANDS	Montgomery County MUD No. 6 7 36 39 40 46 47 60 67	MONTGOMERY	SAN JACINTO	5	•			•	•																•															•		0			
THE WOODLANDS	The Woodlands MUDs	MONTGOMERY	SAN JACINTO	1			•		•																•																			5	%
THE WOODLANDS	The Woodlands MUDs	MONTGOMERY	SAN JACINTO	2			•		•																•																			10	%
THE WOODLANDS	The Woodlands MUDs	MONTGOMERY	SAN JACINTO	3			•		•																•	•																		20	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type														Reduction Type					Reduction										
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit							
THE WOODLANDS	The Woodlands MUDs	MONTGOMERY	SAN JACINTO	4			•		•													•																					30	%						
THE WOODLANDS	The Woodlands MUDs	MONTGOMERY	SAN JACINTO	5	•			•	•																																				0					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Chelford One MUD	HARRIS	SAN JACINTO	1			•																																						10	%				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Chelford One MUD	HARRIS	SAN JACINTO	2			•																																							15	%			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Chelford One MUD	HARRIS	SAN JACINTO	3			•																																								20	%		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Chelford One MUD	HARRIS	SAN JACINTO	Emergency					•																																					0				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Clay Road MUD	HARRIS	SAN JACINTO	1			•																																								10	%		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Clay Road MUD	HARRIS	SAN JACINTO	2			•																																								15	%		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Clay Road MUD	HARRIS	SAN JACINTO	3			•																																									20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Clay Road MUD	HARRIS	SAN JACINTO	4																																											0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Clay Road MUD	HARRIS	SAN JACINTO	Emergency					•																																						0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 105	HARRIS	SAN JACINTO	1			•																																									10	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 105	HARRIS	SAN JACINTO	2			•																																									15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 105	HARRIS	SAN JACINTO	3			•																																									20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 105	HARRIS	SAN JACINTO	Emergency	•				•																																						0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 120	HARRIS	SAN JACINTO	1			•																																										10	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 120	HARRIS	SAN JACINTO	2			•																																									15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 120	HARRIS	SAN JACINTO	3			•																																										20	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 120	HARRIS	SAN JACINTO	Emergency					•																																							0		

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																Response Type												Reduction Type					Reduction												
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 147	HARRIS	SAN JACINTO	1			•												•			•									•											10	%							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 147	HARRIS	SAN JACINTO	2			•															•	•																				15	%						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 147	HARRIS	SAN JACINTO	3			•																•	•					•		•													20	%					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 147	HARRIS	SAN JACINTO	Emergency				•															•																						0					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 156	HARRIS	SAN JACINTO	1																				•																					10	%				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 156	HARRIS	SAN JACINTO	2																				•																					15	%				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 156	HARRIS	SAN JACINTO	3																				•																						20	%			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 156	HARRIS	SAN JACINTO	Emergency				•																																							0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 157	FORT BEND	BRAZOS	1			•																	•																							5	%		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 157	FORT BEND	BRAZOS	2			•																																								10	%		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 157	FORT BEND	BRAZOS	3			•																																									15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 157	FORT BEND	BRAZOS	Emergency				•																																								0		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	1			•	•																	•	•																						5	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	2			•	•																	•	•	•																					10	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	3					•																•	•																						15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	4					•																•	•	•																					20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	5		•			•																•	•																							25	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 162	HARRIS	SAN JACINTO	6																						•																							0	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																	Response Type																	Reduction Type						Reduction												
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit														
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 495	HARRIS	SAN JACINTO	2			•										•				•	•																								15	%										
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 495	HARRIS	SAN JACINTO	3			•										•	•				•	•					•	•																			20	%								
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 495	HARRIS	SAN JACINTO	Emergency				•											•																													0									
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 500	HARRIS	SAN JACINTO	1			•															•							•																				10	%							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 500	HARRIS	SAN JACINTO	2			•											•				•	•																										15	%							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 500	HARRIS	SAN JACINTO	3			•											•	•				•	•					•	•																				20	%						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 500	HARRIS	SAN JACINTO	Emergency				•												•																														0							
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 501	HARRIS	SAN JACINTO	1			•															•							•																						10	%					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 501	HARRIS	SAN JACINTO	2			•											•				•	•																												15	%					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 501	HARRIS	SAN JACINTO	3			•											•	•				•	•					•	•																					20	%					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 501	HARRIS	SAN JACINTO	Emergency				•												•																															0						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 64	FORT BEND	BRAZOS	1			•													•		•							•																						5	%					
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 64	FORT BEND	BRAZOS	2			•															•	•																													10	%				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 64	FORT BEND	BRAZOS	3			•																•	•						•																							15	%			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 64	FORT BEND	BRAZOS	Emergency				•												•																															0						
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 71	HARRIS	SAN JACINTO	1																			•							•																							10	%			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 71	HARRIS	SAN JACINTO	2																			•																														15	%			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 71	HARRIS	SAN JACINTO	3																				•																																20	%

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type														Reduction Type					Reduction		
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 71	HARRIS	SAN JACINTO	Emergency				•																														•	0	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 81	HARRIS	SAN JACINTO	1			•												•			•							•										10	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 81	HARRIS	SAN JACINTO	2			•											•			•	•																15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 81	HARRIS	SAN JACINTO	3			•											•	•			•	•				•	•										20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Harris County MUD No. 81	HARRIS	SAN JACINTO	Emergency				•											•																		•	0		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Horsepen Bayou MUD	HARRIS	SAN JACINTO	1			•												•			•						•										10	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Horsepen Bayou MUD	HARRIS	SAN JACINTO	2			•											•			•	•																15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Horsepen Bayou MUD	HARRIS	SAN JACINTO	3			•											•	•			•	•				•	•										20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Horsepen Bayou MUD	HARRIS	SAN JACINTO	Emergency				•											•																		•	0		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Interstate MUD	HARRIS	SAN JACINTO	1			•												•			•						•										10	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Interstate MUD	HARRIS	SAN JACINTO	2			•											•			•	•																15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Interstate MUD	HARRIS	SAN JACINTO	3			•											•	•			•	•				•	•										20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Interstate MUD	HARRIS	SAN JACINTO	Emergency				•											•																		•	0		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Mission Bend MUD No. 1	HARRIS	SAN JACINTO	1			•												•			•						•										10	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Mission Bend MUD No. 1	HARRIS	SAN JACINTO	2			•											•			•	•																15	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Mission Bend MUD No. 1	HARRIS	SAN JACINTO	3			•											•	•			•	•				•	•										20	%	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Mission Bend MUD No. 1	HARRIS	SAN JACINTO	Emergency				•											•																		•	0		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Mission Bend MUD No. 2	HARRIS	SAN JACINTO	1			•												•			•						•										10	%	

WUG Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type														Reduction Type						Reduction							
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 4	HARRIS	SAN JACINTO	Emergency	•			•										•																						•		0				
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 5	HARRIS	SAN JACINTO	1			•												•			•																			•		0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 5	HARRIS	SAN JACINTO	2			•														•	•																			•		0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 5	HARRIS	SAN JACINTO	3			•															•	•																		•		0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 5	HARRIS	SAN JACINTO	Emergency				•											•																						•		0			
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 7	HARRIS	SAN JACINTO	1																•																							•		10	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 7	HARRIS	SAN JACINTO	2																	•	•																					•		15	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 7	HARRIS	SAN JACINTO	3																	•	•																					•		20	%
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	West Harris County MUD No. 7	HARRIS	SAN JACINTO	Emergency	•			•																																		•		0		
WEST UNIVERSITY PLACE	City of West University Place	HARRIS	SAN JACINTO	1																																							•		0	
WEST UNIVERSITY PLACE	City of West University Place	HARRIS	SAN JACINTO	2			•															•	•																				•		60	%
WEST UNIVERSITY PLACE	City of West University Place	HARRIS	SAN JACINTO	3	•		•	•														•	•	•	•	•																•		65	%	
WEST UNIVERSITY PLACE	City of West University Place	HARRIS	SAN JACINTO	4	•		•	•														•	•	•	•	•															•		70	%		

Table 7-A2 – Current Preparations for Other Entities

WWP Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type														Response Type														Reduction Type					Reduction							
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit		
BRAZOS RIVER AUTHORITY	Brazos River Authority		BRAZOS	1			•			•	•									•	•	•																		5	%				
BRAZOS RIVER AUTHORITY	Brazos River Authority		BRAZOS	2			•			•	•									•	•	•																			10	%			
BRAZOS RIVER AUTHORITY	Brazos River Authority		BRAZOS	3			•				•										•	•	•			•															20	%			
BRAZOS RIVER AUTHORITY	Brazos River Authority		BRAZOS	4				•			•										•	•																				0			
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	1			•					•										•	•																			120	%		
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	2			•					•										•	•																			100	%		
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	3			•					•										•	•																			90	%		
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	4								•										•																				85	%		
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	5								•										•																				80	%		
BRAZOSPORT WATER AUTHORITY	Brazosport Water Authority	BRAZORIA	BRAZOS	Emergency	•				•													•																				0			
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	Chambers-Liberty Counties Navigation District	CHAMBERS	TRINITY	1								•	•										•																				14	ac-ft	
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	Chambers-Liberty Counties Navigation District	CHAMBERS	TRINITY	2								•	•										•																					14	ac-ft
CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	Chambers-Liberty Counties Navigation District	CHAMBERS	TRINITY	3								•	•										•																					0	
GULF COAST WATER AUTHORITY	Gulf Coast Water Authority	GALVESTON	SAN JACINTO-BRAZOS	1			•															•	•																				95	%	
GULF COAST WATER AUTHORITY	Gulf Coast Water Authority	GALVESTON	SAN JACINTO-BRAZOS	2			•						•										•	•																				90	%
GULF COAST WATER AUTHORITY	Gulf Coast Water Authority	GALVESTON	SAN JACINTO-BRAZOS	3			•						•										•	•																				85	%
GULF COAST WATER AUTHORITY	Gulf Coast Water Authority	GALVESTON	SAN JACINTO-BRAZOS	4			•						•										•	•																				80	%
GULF COAST WATER AUTHORITY	Gulf Coast Water Authority	GALVESTON	SAN JACINTO-BRAZOS	Emergency	•				•														•	•																				0	
LOWER NECHES VALLEY AUTHORITY	Lower Neches Valley Authority	LIBERTY	NECHES	1								•											•																					10	%
LOWER NECHES VALLEY AUTHORITY	Lower Neches Valley Authority	LIBERTY	NECHES	2								•											•	•																				20	%
LOWER NECHES VALLEY AUTHORITY	Lower Neches Valley Authority	LIBERTY	NECHES	3								•											•	•																				30	%
LOWER NECHES VALLEY AUTHORITY	Lower Neches Valley Authority	LIBERTY	NECHES	4	•				•														•																					0	
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority GRP	MONTGOMERY	SAN JACINTO	1					•														•																					5	%

WWP Name	DCP Entity Name	Primary County	Primary Basin	Stage	Trigger Type																		Response Type														Reduction Type						Reduction												
					Contamination	Customer Awareness	Demand/Capacity	Emergency Condition	Failures and Damages	Groundwater Level	Production Rate	Reservoir Level	Stream Flow Rate	Supply Based	System Pressure	Well Run Time	Wholesale Provider	Other	Assessment and ID	Continue Previous	Emergency Rate	Invoke All/Any Measures	Outdoor Watering Schedule	Leak Detection and Repair	Mandatory Reduction	Stakeholder Notification	Prohibited Use	Public Information	System Control	Terminate Contracts	No Outdoor Watering	Voluntary Reduction	Water Allocation	Other	Percent Demand	Percent Demand Remaining	Percent Limit	Unit Reduction	Max Production	Other	N/A	Value	Unit												
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority GRP	MONTGOMERY	SAN JACINTO	2				•													•	•																						10	%										
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority GRP	MONTGOMERY	SAN JACINTO	3				•													•	•																								20	%								
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority GRP	MONTGOMERY	SAN JACINTO	4				•													•	•																									30	%							
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority GRP	MONTGOMERY	SAN JACINTO	Emergency	•			•	•												•	•																									•		0						
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Highlands Division	MONTGOMERY	SAN JACINTO	1			•						•	•								•																										5	%						
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Highlands Division	MONTGOMERY	SAN JACINTO	2			•						•	•								•	•																										10	%					
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Highlands Division	MONTGOMERY	SAN JACINTO	3			•						•									•	•																										20	%					
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Highlands Division	MONTGOMERY	SAN JACINTO	4			•						•									•	•																											30	%				
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Highlands Division	MONTGOMERY	SAN JACINTO	Emergency	•			•	•													•	•																										•		0				
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Lake Conroe Division	MONTGOMERY	SAN JACINTO	1			•						•										•																											5	%				
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Lake Conroe Division	MONTGOMERY	SAN JACINTO	2			•						•									•	•																												10	%			
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Lake Conroe Division	MONTGOMERY	SAN JACINTO	3			•						•									•	•																													20	%		
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Lake Conroe Division	MONTGOMERY	SAN JACINTO	4			•						•									•	•																												0				
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Lake Conroe Division	MONTGOMERY	SAN JACINTO	Emergency	•			•	•													•	•																													•		0	
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Woodlands Division	MONTGOMERY	SAN JACINTO	1			•		•														•																												0				
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Woodlands Division	MONTGOMERY	SAN JACINTO	2			•		•													•	•																													0			
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Woodlands Division	MONTGOMERY	SAN JACINTO	3			•		•													•	•																													0			
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Woodlands Division	MONTGOMERY	SAN JACINTO	4			•		•													•	•																														0		
SAN JACINTO RIVER AUTHORITY	San Jacinto River Authority Woodlands Division	MONTGOMERY	SAN JACINTO	Emergency	•			•	•													•	•																													•		0	
TRINITY RIVER AUTHORITY	Trinity River Authority of Texas	WALKER	TRINITY	1									•										•																											0					
TRINITY RIVER AUTHORITY	Trinity River Authority of Texas	WALKER	TRINITY	2									•									•	•																											•		0			
TRINITY RIVER AUTHORITY	Trinity River Authority of Texas	WALKER	TRINITY	3									•									•	•																											•		0			
TRINITY RIVER AUTHORITY	Trinity River Authority of Texas	WALKER	TRINITY	Emergency	•			•														•	•																											•		0			

APPENDIX 7-B

ENTITIES WITH EXISTING AND POTENTIAL INTERCONNECTS

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Table 7-B1 – List of Entities with Existing and Potential Emergency Interconnects in Region H

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
ANAHUAC	CITY OF ANAHUAC	TBCD WEST TREATMENT PLANT		
BACLIFF MUD	BACLIFF MUD	BAYVIEW MUD	yes	E
BACLIFF MUD	BACLIFF MUD	GULF COAST WATER AUTHORITY TX CITY		
BACLIFF MUD	BACLIFF MUD	SAN LEON MUD	yes	E
BAKER ROAD MUD	BAKER ROAD MUD	GREEN TRAILS MUD		
BAYTOWN	CITY OF BAYTOWN	BAYTOWN AREA WATER AUTHORITY		
BAYVIEW MUD	BAYVIEW MUD	BACLIFF MUD	yes	E
BLUE BELL MANOR UTILITY	BLUE BELL MANOR SUBDIVISION	MAREK ROAD WATER SYSTEM		E
BLUE BELL MANOR UTILITY	QUAILWOOD WATER SYSTEM	HARRIS COUNTY MUD 304		
BLUE RIDGE WEST MUD	BLUE RIDGE WEST MUD	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST	yes	E
BOLIVAR PENINSULA SUD	BOLIVAR PENINSULA SUD	LOWER NECHES VALLEY AUTHORITY		
BRAZORIA	CITY OF BRAZORIA	BRAZOSPORT WATER AUTHORITY		
BRAZORIA COUNTY MUD 25	BRAZORIA COUNTY MUD 25	BRAZORIA COUNTY MUD 6		E
BRAZORIA COUNTY MUD 25	BRAZORIA COUNTY MUD 25	CITY OF PEARLAND		E
BRAZORIA COUNTY MUD 3	BRAZORIA COUNTY MUD 3	BRAZORIA COUNTY MUD 2		
BRAZORIA COUNTY MUD 3	BRAZORIA COUNTY MUD 3	BRAZORIA COUNTY MUD 2		E
BRAZORIA COUNTY MUD 4	BRAZORIA COUNTY MUD 3	CITY OF PEARLAND		E
BRAZORIA COUNTY MUD 6	BRAZORIA COUNTY MUD 6	BRAZORIA COUNTY MUD 2		
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	FALLBROOK UTILITY DISTRICT	CITY OF HOUSTON		E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	FALLBROOK UTILITY DISTRICT	HARRIS COUNTY MUD 11	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	FALLBROOK UTILITY DISTRICT	HARRIS COUNTY MUD 321	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 150	HARRIS COUNTY MUD 180	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 150	HARRIS COUNTY UD 15	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	CENTRAL HARRIS COUNTY REGIONAL WATER AUT		
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	HARRIS COUNTY MUD 189	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	HARRIS COUNTY MUD 205	yes	
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	HARRIS COUNTY MUD 215	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	HARRIS COUNTY MUD 399	yes	
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	n/a		
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 200 CRANBROOK	RANKIN ROAD WEST MUD		
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 205	HARRIS COUNTY MUD 200 CRANBROOK	yes	
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 215	HARRIS COUNTY MUD		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 215	HARRIS COUNTY MUD 200 CRANBROOK	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 217	HARRIS COUNTY MUD 304	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 217	HARRIS COUNTY MUD 5	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 304	HARRIS COUNTY MUD 217	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 304	RANKIN ROAD WEST MUD	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 33	HARRIS COUNTY MUD 11	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 33	HARRIS COUNTY MUD 5	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 33	HARRIS COUNTY UD 14	yes	E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 33	HARRIS COUNTY UD 15		E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 399	HARRIS COUNTY MUD 200 CRANBROOK	yes	
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY UD 16	HARRIS COUNTY MUD 44		E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	RANKIN ROAD WEST MUD	HARRIS COUNTY MUD 200 CRANBROOK		E
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	RANKIN ROAD WEST MUD	HARRIS COUNTY MUD 304	yes	E
CHAMBERS COUNTY MUD 1	CHAMBERS COUNTY MUD 1	CITY OF BAYTOWN		
CHIMNEY HILL MUD	CHIMNEY HILL MUD	CAMFIELD MUD		E
CHIMNEY HILL MUD	CHIMNEY HILL MUD	SPENCER ROAD PUD	yes	E
CLEAR LAKE CITY WATER AUTHORITY	CLEAR LAKE CITY WATER AUTHORITY	CITY OF HOUSTON		
CLEAR LAKE CITY WATER AUTHORITY	CLEAR LAKE CITY WATER AUTHORITY	CITY OF PASADENA		
CLUTE	CITY OF CLUTE	BRAZOSPORT WATER AUTHORITY		
CLUTE	CITY OF CLUTE	CITY OF LAKE JACKSON	yes	E
CLUTE	CITY OF CLUTE	CITY OF RICHWOOD	yes	E
CONCORD-ROBBINS WSC	CONCORD-ROBBINS WSC	CITY OF MARQUEZ	yes	E
COUNTRY TERRACE WATER	COUNTRY TERRACE SUBDIVISION	BAYTOWN AREA WATER AUTHORITY		
COUNTY-OTHER, AUSTIN	SETTLERS ESTATES SEC II	SETTLERS MEADOWS WATER SYSTEM	yes	E
COUNTY-OTHER, AUSTIN	SETTLERS MEADOWS WATER SYSTEM	SETTLERS ESTATES SEC II	yes	E
COUNTY-OTHER, BRAZORIA	BRAZORIA COUNTY MUD 39	BRAZORIA COUNTY MUD 25		E
COUNTY-OTHER, BRAZORIA	CENTENNIAL PLACE	WINDSONG SUBDIVISION	yes	E
COUNTY-OTHER, BRAZORIA	SOUTH MEADOWS WEST	SOUTH MEADOWS EAST		E
COUNTY-OTHER, BRAZORIA	TREASURE ISLAND MUD	CITY OF GALVESTON		
COUNTY-OTHER, BRAZORIA	WINDSONG SUBDIVISION	CENTENNIAL PLACE	yes	E
COUNTY-OTHER, CHAMBERS	CHAMBERS COUNTY IMPROVEMENT DISTRICT 1	CITY OF BAYTOWN		
COUNTY-OTHER, FORT BEND	FORT BEND COUNTY MUD 145 RIO VISTA	CITY OF RICHMOND		
COUNTY-OTHER, FORT BEND	FORT BEND COUNTY MUD 19	CITY OF RICHMOND		
COUNTY-OTHER, FORT BEND	FORT BEND COUNTY MUD 66	CITY OF ROSENBERG		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
COUNTY-OTHER, FORT BEND	TURNER WATER SERVICE	FORT BEND COUNTY FWSD 1		
COUNTY-OTHER, GALVESTON	TIFFANY WATER	CITY OF GALVESTON		
COUNTY-OTHER, HARRIS	CAMFIELD MUD	CHIMNEY HILL MUD		
COUNTY-OTHER, HARRIS	CAMFIELD MUD	n/a		
COUNTY-OTHER, HARRIS	CEDAR BAYOU PARK	BAYTOWN AREA WATER AUTHORITY		
COUNTY-OTHER, HARRIS	CHAMPIONS MUD	CY CHAMP PUD		E
COUNTY-OTHER, HARRIS	CHAMPIONS MUD	CYPRESS FOREST PUD		E
COUNTY-OTHER, HARRIS	FAIRVIEW ACRES MOBILE HOME SUBDIVISION	GLENWOOD MOBILE HOME SUBDIVISION		E
COUNTY-OTHER, HARRIS	GREENS PARKWAY MUD	NORTH BELT UTILITY DISTRICT		
COUNTY-OTHER, HARRIS	HARRIS COUNTY FWSD 1B	BAYTOWN AREA WATER AUTHORITY		
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 170	HARRIS COUNTY FWSD 61		E
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 275	CYPRESSWOOD UTILITY DISTRICT		E
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 275	LOUETTA ROAD UTILITY DISTRICT		E
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 346	HARRIS COUNTY MUD 345		
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 461	SUNBELT FWSD HIGH MEADOWS SUBDIVISION		
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 536	HARRIS COUNTY MUD 449	yes	E
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 63	HARRIS COUNTY MUD 62		E
COUNTY-OTHER, HARRIS	HARRIS COUNTY MUD 63	WEST HARRIS COUNTY MUD 5		E
COUNTY-OTHER, HARRIS	HOOKS AIRPORT BEACON	HOOKS AIRPORT SOUTH END	yes	E
COUNTY-OTHER, HARRIS	HOOKS AIRPORT BEACON	HOOKS AIRPORT WEST SIDE	yes	E
COUNTY-OTHER, HARRIS	HOOKS AIRPORT SOUTH END	HOOKS AIRPORT BEACON	yes	E
COUNTY-OTHER, HARRIS	HOOKS AIRPORT WEST SIDE	HOOKS AIRPORT BEACON	yes	E
COUNTY-OTHER, HARRIS	NASA JOHNSON SPACE CENTER	CITY OF NASSAU BAY		E
COUNTY-OTHER, HARRIS	NORTHWEST PINES MOBILE HOME COMMUNITY	HARRIS COUNTY MUD 16		E
COUNTY-OTHER, HARRIS	RAMBLEWOOD UTILITY & WSC	CITY OF HUMBLE		
COUNTY-OTHER, HARRIS	SOUTH TAYLOR LAKE VILLAGE WSC	CLEAR LAKE CITY WATER AUTHORITY		
COUNTY-OTHER, HARRIS	SUGARBERRY PLACE	COTTAGE GARDENS		E
COUNTY-OTHER, HARRIS	SUNSET MOBILE HOME PARK 1	TALLOWS MOBILE HOME PARK	yes	E
COUNTY-OTHER, HARRIS	SWEA GARDENS ESTATES	CITY OF HOUSTON		E
COUNTY-OTHER, HARRIS	TALLOWS MOBILE HOME PARK	SUNSET MOBILE HOME PARK 1	yes	E
COUNTY-OTHER, HARRIS	WEST HARRIS COUNTY MUD 21	REID ROAD MUD 2		
COUNTY-OTHER, LEON	CITY OF MARQUEZ	CONCORD-ROBBINS WSC	yes	E
COUNTY-OTHER, LEON	RODELL WATER SUPPLY	CITY OF BUFFALO		
COUNTY-OTHER, LIBERTY	AMES MINGLEWOOD WSC	CITY OF LIBERTY	yes	E
COUNTY-OTHER, LIBERTY	HUNTERS COVE SEC 1	HUNTERS COVE SUB SOUTH		E
COUNTY-OTHER, LIBERTY	RAYWOOD WSC	CITY OF DEVERS	yes	E
COUNTY-OTHER, MONTGOMERY	CLOVER CREEK MUD	INDIGO LAKES WATER SYSTEM	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
COUNTY-OTHER, MONTGOMERY	GRAND OAKS MUD	CITY OF MAGNOLIA	yes	
COUNTY-OTHER, MONTGOMERY	LAKE LORRAINE WS	MONTGOMERY COUNTY UD 4		
COUNTY-OTHER, MONTGOMERY	MONTGOMERY COUNTY MUD 16 WHITE OAK PLANT	CITY OF SPLENDORA		E
COUNTY-OTHER, MONTGOMERY	MONTGOMERY COUNTY MUD 42	CITY OF CONROE		
COUNTY-OTHER, MONTGOMERY	OLD TAMINA WSC	CHATEAU WOODS MUD		
COUNTY-OTHER, MONTGOMERY	PATTON VILLAGE EAST WATER SYSTEM	PATTON VILLAGE WEST WATER SYSTEM		E
COUNTY-OTHER, MONTGOMERY	PIONEER TRAILS SUBDIVISION	n/a		
COUNTY-OTHER, MONTGOMERY	PIONEER TRAILS SUBDIVISION	WESTERN HILLS CRYSTAL SPRINGS WATER		
COUNTY-OTHER, MONTGOMERY	ROMAN FOREST PUD 3	ROMAN FOREST CONSOLIDATED MUD		
COUNTY-OTHER, MONTGOMERY	ROMAN FOREST PUD 4	ROMAN FOREST CONSOLIDATED MUD		
COUNTY-OTHER, MONTGOMERY	SWEETGUM FOREST	GREENFIELD FOREST		
COUNTY-OTHER, MONTGOMERY	TURTLE CREEK	WALNUT SPRINGS		E
COUNTY-OTHER, POLK	PINWAH PINES ESTATES	LAKE LIVINGSTON PINESHADOWS EAST		
COUNTY-OTHER, TRINITY	CAMP MANAGEMENT INC	WHISPERING PINES GOLF CLUB	yes	E
COUNTY-OTHER, TRINITY	HARBOR POINT	TRINITY RURAL WSC 3		
COUNTY-OTHER, TRINITY	TRINITY PINES CONFERENCE CENTER	TRINITY RURAL WSC 1		E
CUT & SHOOT	TOWN OF CUT AND SHOOT	CITY OF CONROE		E
DAISETTA	CITY OF DAISETTA	LIBERTY COUNTY FWSD 1 HULL	yes	E
DEVERS	CITY OF DEVERS	RAYWOOD WSC	yes	E
DOBBIN PLANTERSVILLE WSC 1	DOBBIN PLANTERSVILLE WSC 1	CROWN RANCH SUBDIVISION	yes	E
FIRST COLONY MUD 9	FIRST COLONY MUD 9	CITY OF SUGAR LAND	yes	E
FIRST COLONY MUD 9	FIRST COLONY MUD 9	CITY OF SUGARLAND		E
FIRST COLONY MUD 9	FIRST COLONY MUD 9	FORT BEND COUNTY MUD 42 WAT PLAT	yes	E
FLO COMMUNITY WSC	FLO COMMUNITY WSC	SOUTHEAST WSC SYSTEM 1		E
FLO COMMUNITY WSC	FOREST GLEN	SOUTHEAST WSC SYSTEM 1		E
FOREST HILLS MUD	FOREST HILLS MUD	HARRIS COUNTY MUD 11	yes	E
FORT BEND COUNTY FWSD 2	FORT BEND COUNTY FWSD 2	KINGSBRIDGE MUD		
FORT BEND COUNTY MUD 115	FORT BEND COUNTY MUD 115	CITY OF MISSOURI CITY		E
FORT BEND COUNTY MUD 115	FORT BEND COUNTY MUD 115 RIVERSTONE	FORT BEND COUNTY MUD 129	yes	
FORT BEND COUNTY MUD 115	FORT BEND COUNTY MUD 115 RIVERSTONE	FORT BEND COUNTY MUD 46	yes	E
FORT BEND COUNTY MUD 116	FORT BEND COUNTY MUD 116	FORT BEND COUNTY MUD 121	yes	E
FORT BEND COUNTY MUD 116	FORT BEND COUNTY MUD 116 CANYON GATE	CITY OF SUGAR LAND - GREATWOOD		E
FORT BEND COUNTY MUD 121	FORT BEND COUNTY MUD 121	CITY OF RICHMOND		
FORT BEND COUNTY MUD 121	FORT BEND COUNTY MUD 121	FORT BEND COUNTY MUD 116	yes	E
FORT BEND COUNTY MUD 128	FORT BEND COUNTY MUD 128	CITY OF SUGAR LAND		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
FORT BEND COUNTY MUD 128	FORT BEND COUNTY MUD 128	FORT BEND COUNTY MUD 129		E
FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 115		E
FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 115 RIVERSTONE	yes	
FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 129	FORT BEND COUNTY MUD 149		
FORT BEND COUNTY MUD 140	FORT BEND COUNTY MUD 140 RIVERS EDGE	CITY OF RICHMOND		
FORT BEND COUNTY MUD 152	FORT BEND COUNTY MUD 152	CITY OF ROSENBERG		
FORT BEND COUNTY MUD 155	FORT BEND COUNTY MUD 155	CITY OF ROSENBERG		
FORT BEND COUNTY MUD 158	FORT BEND COUNTY MUD 158	CITY OF ROSENBERG		
FORT BEND COUNTY MUD 187	FORT BEND COUNTY MUD 187	CITY OF RICHMOND		
FORT BEND COUNTY MUD 24	FORT BEND COUNTY MUD 24	FORT BEND COUNTY MUD 23		
FORT BEND COUNTY MUD 26	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST	BLUE RIDGE WEST MUD	yes	E
FORT BEND COUNTY MUD 26	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST	MEADOWCREEK MUD	yes	E
FORT BEND COUNTY MUD 26	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST	THUNDERBIRD UTILITY DISTRICT SYSTEM 2		E
FORT BEND COUNTY MUD 42	FORT BEND COUNTY MUD 42 WAT PLAT	FIRST COLONY MUD 9	yes	E
FORT BEND COUNTY MUD 42	FORT BEND COUNTY MUD 42 WAT PLAT	QUAIL VALLEY UTILITY DISTRICT	yes	E
FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 115 RIVERSTONE	yes	E
FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 129		E
FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 46	PALMER PLANTATION MUD 1		E
FORT BEND COUNTY MUD 46	FORT BEND COUNTY MUD 46	PALMER PLANTATION MUD 2		E
FORT BEND COUNTY MUD 47	FORT BEND COUNTY MUD 47	CITY OF MISSOURI CITY MUSTANG BAYOU WATE		
FORT BEND COUNTY MUD 47	FORT BEND COUNTY MUD 47	n/a		
FORT BEND COUNTY MUD 48	FORT BEND COUNTY MUD 48	CITY OF MISSOURI CITY MUSTANG BAYOU WATE		
FORT BEND COUNTY MUD 48	FORT BEND COUNTY MUD 48	n/a		
FORT BEND COUNTY MUD 49	FORT BEND COUNTY MUD 49	PALMER PLANTATION MUD 1	yes	
FORT BEND COUNTY MUD 49	FORT BEND COUNTY MUD 49	PALMER PLANTATION MUD 2	yes	
FORT BEND COUNTY WCID 2	5TH STREET WATER SYSTEM	FORT BEND COUNTY WCID 2		
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	5TH STREET WATER SYSTEM		E
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	BLUE RIDGE WEST MUD		E
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	CITY OF MISSOURI CITY MUSTANG BAYOU		E
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	CITY OF SUGAR LAND	yes	E
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	HARRIS COUNTY MUD 122		E
FORT BEND COUNTY WCID 2	FORT BEND COUNTY WCID 2	QUAIL VALLEY UTILITY DISTRICT	yes	E
FORT BEND COUNTY WCID 3	FORT BEND COUNTY WCID 3	PECAN GROVE MUD	yes	E
FREEPORT	CITY OF FREEPORT	BRAZOSPORT WATER AUTHORITY		
G & W WSC	G & W WSC SADDLE CREEK FOREST SUBDIVISIO	G & W WSC		E
G & W WSC	GB BIOSCIENCES LLC	G & W WSC		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
GALVESTON	CITY OF GALVESTON	GULF COAST WATER AUTHORITY TX CITY		
GLENDALE WSC	GLENDALE WSC	TRA TRINITY COUNTY REGIONAL		
GREEN TRAILS MUD	GREEN TRAILS MUD	LONGHORN TOWN UTILITY DISTRICT	yes	E
GREEN TRAILS MUD	GREEN TRAILS MUD	MASON CREEK UTILITY DISTRICT	yes	E
GREENWOOD UD	GREENWOOD UTILITY DISTRICT	PARKWAY UTILITY DISTRICT		E
GROVETON	CITY OF GROVETON	TRA TRINITY COUNTY REGIONAL		
GULF UTILITY	MONTGOMERY COUNTY MUD 94	HARRIS COUNTY WCID 92	yes	E
GULF UTILITY	MONTGOMERY COUNTY MUD 94	MONTGOMERY COUNTY MUD 119 SPRING TRAILS	yes	E
HARRIS COUNTY FWSD 1-A	HARRIS COUNTY FWSD 1A	BAYTOWN AREA WATER AUTHORITY		
HARRIS COUNTY FWSD 27	HARRIS COUNTY FWSD 27	BAYTOWN AREA WATER AUTHORITY		
HARRIS COUNTY MUD 106	HARRIS COUNTY MUD 106	HARRIS COUNTY MUD 278	yes	E
HARRIS COUNTY MUD 106	HARRIS COUNTY MUD 106	HARRIS COUNTY MUD 290	yes	
HARRIS COUNTY MUD 106	HARRIS COUNTY MUD 106	n/a		
HARRIS COUNTY MUD 11	HARRIS COUNTY MUD 11	FALLBROOK UTILITY DISTRICT	yes	E
HARRIS COUNTY MUD 11	HARRIS COUNTY MUD 11	FOREST HILLS MUD	yes	E
HARRIS COUNTY MUD 11	HARRIS COUNTY MUD 11	HARRIS COUNTY MUD 33	yes	E
HARRIS COUNTY MUD 119	HARRIS COUNTY MUD 119	CITY OF HOUSTON		E
HARRIS COUNTY MUD 119	HARRIS COUNTY MUD 119	HARRIS COUNTY MUD 118	yes	E
HARRIS COUNTY MUD 122	HARRIS COUNTY MUD 122	CITY OF HOUSTON		E
HARRIS COUNTY MUD 122	HARRIS COUNTY MUD 122	FORT BEND COUNTY WCID 2		
HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 109	yes	E
HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 151	yes	E
HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 152	yes	E
HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 132	HARRIS COUNTY MUD 153		E
HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 109		E
HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 132	yes	E
HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 151	HARRIS COUNTY MUD 153		E
HARRIS COUNTY MUD 152	HARRIS COUNTY MUD 152	HARRIS COUNTY MUD 132	yes	E
HARRIS COUNTY MUD 152	HARRIS COUNTY MUD 152	HARRIS COUNTY MUD 153	yes	E
HARRIS COUNTY MUD 153	HARRIS COUNTY MUD 153	HARRIS COUNTY MUD 152	yes	E
HARRIS COUNTY MUD 154	HARRIS COUNTY MUD 154	HARRIS COUNTY MUD 221	yes	E
HARRIS COUNTY MUD 154	HARRIS COUNTY MUD 154	HARRIS COUNTY MUD 233		E
HARRIS COUNTY MUD 154	HARRIS COUNTY MUD 154	NORTH PARK PUD		E
HARRIS COUNTY MUD 180	HARRIS COUNTY MUD 180	HARRIS COUNTY MUD 150	yes	E
HARRIS COUNTY MUD 180	HARRIS COUNTY MUD 180	HARRIS COUNTY MUD 202	yes	E
HARRIS COUNTY MUD 180	HARRIS COUNTY MUD 180	HARRIS COUNTY UD 1		E
HARRIS COUNTY MUD 189	HARRIS COUNTY MUD 189	HARRIS COUNTY MUD 200 CRANBROOK	yes	E
HARRIS COUNTY MUD 189	HARRIS COUNTY MUD 189	NORTH FOREST MUD	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
HARRIS COUNTY MUD 216	HARRIS COUNTY MUD 216	LONGHORN TOWN UTILITY DISTRICT	yes	E
HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 154	yes	E
HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 216		E
HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 221	HARRIS COUNTY MUD 36	yes	E
HARRIS COUNTY MUD 278	HARRIS COUNTY MUD 278	CITY OF HOUSTON		E
HARRIS COUNTY MUD 278	HARRIS COUNTY MUD 278	HARRIS COUNTY MUD 106	yes	E
HARRIS COUNTY MUD 278	HARRIS COUNTY MUD 278	TRAIL OF THE LAKES MUD	yes	E
HARRIS COUNTY MUD 290	HARRIS COUNTY MUD 290	HARRIS COUNTY MUD 106	yes	
HARRIS COUNTY MUD 321	HARRIS COUNTY MUD 321	FALLBROOK UTILITY DISTRICT	yes	E
HARRIS COUNTY MUD 342	HARRIS COUNTY MUD 342	HARRIS COUNTY MUD 344		
HARRIS COUNTY MUD 345	HARRIS COUNTY MUD 345	HARRIS COUNTY MUD 216		
HARRIS COUNTY MUD 345	HARRIS COUNTY MUD 345	LONGHORN TOWN UTILITY DISTRICT	yes	E
HARRIS COUNTY MUD 36	HARRIS COUNTY MUD 36	HARRIS COUNTY MUD 221	yes	E
HARRIS COUNTY MUD 36	HARRIS COUNTY MUD 36	HARRIS COUNTY UD 16		E
HARRIS COUNTY MUD 361	HARRIS COUNTY MUD 361	HARRIS COUNTY MUD 344		
HARRIS COUNTY MUD 386	HARRIS MONTGOMERY COUNTIES MUD 386 MAY V	SJRA THE WOODLANDS		
HARRIS COUNTY MUD 400	HARRIS COUNTY MUD 400 - WEST	CITY OF HOUSTON		E
HARRIS COUNTY MUD 400	HARRIS COUNTY MUD 400 - WEST	HARRIS COUNTY WCID 96		E
HARRIS COUNTY MUD 46	HARRIS COUNTY MUD 46	HARRIS COUNTY MUD 106		E
HARRIS COUNTY MUD 46	HARRIS COUNTY MUD 46	HARRIS COUNTY MUD 109	yes	E
HARRIS COUNTY MUD 49	HARRIS COUNTY MUD 49	CITY OF HOUSTON		
HARRIS COUNTY MUD 49	HARRIS COUNTY MUD 49	HARRIS COUNTY MUD 400 - WEST		
HARRIS COUNTY MUD 49	HARRIS COUNTY MUD 49	HARRIS COUNTY WCID 96		E
HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 5	CITY OF HOUSTON		
HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 150		E
HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 217	yes	E
HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 33	yes	E
HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 64		
HARRIS COUNTY MUD 58	HARRIS COUNTY MUD 58	PONDEROSA FOREST UTILITY DISTRICT	yes	E
HARRIS COUNTY MUD 6	HARRIS COUNTY MUD 6 CARRIAGE LANE	ROLLING FORK PUD		E
HARRIS COUNTY UD 14	HARRIS COUNTY UD 14	HARRIS COUNTY MUD 33	yes	E
HARRIS COUNTY UD 14	HARRIS COUNTY UD 14	NORTHWEST HARRIS COUNTY MUD 24		E
HARRIS COUNTY UD 15	HARRIS COUNTY UD 15	HARRIS COUNTY MUD 150	yes	E
HARRIS COUNTY WCID 1	HARRIS COUNTY WCID 1	BAYTOWN AREA WATER AUTHORITY		
HARRIS COUNTY WCID 133	HARRIS COUNTY WCID 133	NORTHWEST PARK MUD	yes	E
HARRIS COUNTY WCID 156	HARRIS COUNTY WCID 156	CLEAR LAKE CITY WATER AUTHORITY		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
HARRIS COUNTY WCID 50	HARRIS COUNTY WCID 50 EL LAGO	CITY OF SEABROOK		
HARRIS COUNTY WCID 89	HARRIS COUNTY WCID 89	CITY OF HOUSTON		E
HARRIS COUNTY WCID 96	HARRIS COUNTY WCID 96	CITY OF HOUSTON		E
HARRIS COUNTY WCID-FONDREN ROAD	HARRIS COUNTY WCID FONDREN ROAD	HARRIS COUNTY MUD 1		E
HILLCREST VILLAGE	CITY OF HILLCREST VILLAGE	CITY OF ALVIN		E
HITCHCOCK	CITY OF HITCHCOCK	CITY OF GALVESTON		
HMW SUD	SHADY ACRES	WALNUT SPRINGS		
HOUSTON	CITY OF HOUSTON BELLEAU WOODS	CITY OF HUMBLE		
HUNTSVILLE	CITY OF HUNTSVILLE	n/a		
HUNTSVILLE	CITY OF HUNTSVILLE	TRA HUNTSVILLE REGIONAL WATER SUPPLY		
IRRIGATION, TRINITY	WHISPERING PINES GOLF CLUB	CAMP MANAGEMENT INC	yes	E
JAMAICA BEACH	CITY OF JAMAICA BEACH	CITY OF GALVESTON		
JERSEY VILLAGE	CITY OF JERSEY VILLAGE	HARRIS COUNTY MUD 168		E
JERSEY VILLAGE	CITY OF JERSEY VILLAGE	WEST HARRIS COUNTY MUD 1		E
KATY	CITY OF KATY	FORT BEND COUNTY MUD 37	yes	E
KINGS MANOR MUD	KINGS MANOR MUD	CITY OF HOUSTON UD 5 - KINGWOOD		E
KIRKMONT MUD	KIRKMONT MUD	SAGEMEADOW UTILITY DISTRICT	yes	
LA MARQUE	CITY OF LA MARQUE	GULF COAST WATER AUTHORITY TX CITY		
LAKE JACKSON	CITY OF LAKE JACKSON	CITY OF CLUTE	yes	E
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON EAGLES NEST WATER	LAKE LIVINGSTON WILD COUNTRY LAKE ESTATE		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON ESTATES 4 & 5	LAKE LIVINGSTON PINESHADOWS EAST		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON FOREST HILLS WATER	LAKE LIVINGSTON PINESHADOWS EAST		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON GREEN ACRES	LAKE LIVINGSTON NATASHA HEIGHTS WATER		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON INDIAN HILLS 2 WATER	LAKE LIVINGSTON PINESHADOWS EAST		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON NUGENTS COVE	LAKE LIVINGSTON PINESHADOWS EAST		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON PINE SHADOWS WATER	LAKE LIVINGSTON PINESHADOWS EAST		
LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE	LAKE LIVINGSTON POINT LOOKOUT ESTATES	LAKE LIVINGSTON NORTHWOODS		
LAKE MUD	LAKE MUD	BAYTOWN AREA WATER AUTHORITY		
LEAGUE CITY	CITY OF LEAGUE CITY	GALVESTON COUNTY WCID 1		E
LIBERTY	CITY OF LIBERTY	AMES MINGLEWOOD WSC	yes	E
LIBERTY COUNTY FWSD 1 HULL	LIBERTY COUNTY FWSD 1 HULL	CITY OF DAISSETTA	yes	E
LIVINGSTON	CITY OF LIVINGSTON	TRA LIVINGSTON REGIONAL WATER SUPPLY		
LONGHORN TOWN UD	LONGHORN TOWN UTILITY DISTRICT	GREEN TRAILS MUD	yes	E
LONGHORN TOWN UD	LONGHORN TOWN UTILITY DISTRICT	HARRIS COUNTY MUD 216	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
LONGHORN TOWN UD	LONGHORN TOWN UTILITY DISTRICT	HARRIS COUNTY MUD 345	yes	E
LUCE BAYOU PUD	LUCE BAYOU PUD	FAIRWAY CROSSING		E
MAGNOLIA	CITY OF MAGNOLIA	GRAND OAKS MUD	yes	
MASON CREEK UD	MASON CREEK UTILITY DISTRICT	GREEN TRAILS MUD	yes	E
MASON CREEK UD	MASON CREEK UTILITY DISTRICT	HARRIS COUNTY MUD 81	yes	E
MASON CREEK UD	MASON CREEK UTILITY DISTRICT	INTERSTATE MUD		E
MEADOWCREEK MUD	MEADOWCREEK MUD	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST	yes	E
MEADOWCREEK MUD	MEADOWCREEK MUD	QUAIL VALLEY UTILITY DISTRICT	yes	E
MEADOWS PLACE	CITY OF MEADOWS PLACE	FORT BEND COUNTY WCID 2		E
MERCY WSC	MERCY WSC	ONE FIVE O WSC		E
MISSOURI CITY	CITY OF MISSOURI CITY	FORT BEND COUNTY MUD 48		E
MISSOURI CITY	CITY OF MISSOURI CITY MUSTANG BAYOU WATE	FORT BEND COUNTY MUD 23		E
MISSOURI CITY	CITY OF MISSOURI CITY MUSTANG BAYOU WATE	SIENNA PLANTATION MUD 1		E
MONTGOMERY COUNTY MUD 112	MONTGOMERY COUNTY MUD 112	CITY OF CONROE		E
MONTGOMERY COUNTY MUD 115	MONTGOMERY COUNTY MUD 115	MONTGOMERY COUNTY MUD 99		
MONTGOMERY COUNTY MUD 119	MONTGOMERY COUNTY MUD 119 SPRING TRAILS	MONTGOMERY COUNTY MUD 94	yes	E
MONTGOMERY COUNTY MUD 19	MONTGOMERY COUNTY MUD 19	SOUTHERN MONTGOMERY COUNTY MUD	yes	E
MONTGOMERY COUNTY MUD 56	MONTGOMERY COUNTY MUD 56	PORTER SUD	yes	E
MONTGOMERY COUNTY MUD 8	MONTGOMERY COUNTY MUD 8	MONTGOMERY COUNTY MUD 9	yes	
MONTGOMERY COUNTY MUD 83	MONTGOMERY COUNTY MUD 83	CITY OF HOUSTON UD 5 - KINGWOOD		E
MONTGOMERY COUNTY MUD 84	MONTGOMERY COUNTY MUD 84	MONTGOMERY COUNTY MUD 83		
MONTGOMERY COUNTY MUD 88	MONTGOMERY COUNTY MUD 88	MONTGOMERY COUNTY MUD 89		
MONTGOMERY COUNTY MUD 89	MONTGOMERY COUNTY MUD 89	MONTGOMERY COUNTY MUD 88		E
MONTGOMERY COUNTY MUD 89	MONTGOMERY COUNTY MUD 89	SPRING CREEK UTILITY DISTRICT	yes	E
MONTGOMERY COUNTY MUD 9	MONTGOMERY COUNTY MUD 9	MONTGOMERY COUNTY MUD 8	yes	
MONTGOMERY COUNTY MUD 95	MONTGOMERY COUNTY MUD 95	MONTGOMERY COUNTY MUD 15		
MONTGOMERY COUNTY MUD 98	MONTGOMERY COUNTY MUD 98	CITY OF HOUSTON UD 5 - KINGWOOD		
MONTGOMERY COUNTY MUD 99	MONTGOMERY COUNTY MUD 99	RAYFORD ROAD MUD	yes	E
MONTGOMERY COUNTY MUD 99	MONTGOMERY COUNTY MUD 99	WHITE OAK WATER SUPPLY CORPORATION		E
MONTGOMERY COUNTY UD 3	MONTGOMERY COUNTY UD 3	MONTGOMERY COUNTY UD 4	yes	
MONTGOMERY COUNTY UD 4	MONTGOMERY COUNTY UD 4	MONTGOMERY COUNTY UD 3	yes	
MOUNT HOUSTON ROAD MUD	MOUNT HOUSTON ROAD MUD	CITY OF HOUSTON		E
MSEC ENTERPRISES	CROWN RANCH SUBDIVISION	DOBBIN PLANTERSVILLE WSC 1	yes	E
MSEC ENTERPRISES	MONTGOMERY TRACE WATER SYSTEM	SJRA GRP SW TREATMENT PLANT		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NASSAU BAY	CITY OF NASSAU BAY	CLEAR LAKE CITY WATER AUTHORITY		
NORTH BELT UD	NORTH BELT UTILITY DISTRICT	GREENS PARKWAY MUD		E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 47	HARRIS COUNTY WCID 21	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 47	HARRIS COUNTY WCID 36	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 47	HARRIS COUNTY WCID 84	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 47	NORTH CHANNEL WATER AUTHORITY		
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 51	HARRIS COUNTY MUD 53	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 51	HARRIS COUNTY WCID 36	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY FWSD 6	HARRIS COUNTY WCID 21		E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 285	HARRIS COUNTY FWSD 51		
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 285	NORTH CHANNEL WATER AUTHORITY		
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 53	HARRIS COUNTY FWSD 47		E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 53	HARRIS COUNTY FWSD 51	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 53	HARRIS COUNTY MUD 285		E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY MUD 53	HARRIS COUNTY WCID 84		E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 21	HARRIS COUNTY FWSD 47	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 21	HARRIS COUNTY WCID 84	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 36	HARRIS COUNTY FWSD 47	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 36	HARRIS COUNTY FWSD 51	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 84	HARRIS COUNTY FWSD 47	yes	E
NORTH CHANNEL WATER AUTHORITY	HARRIS COUNTY WCID 84	HARRIS COUNTY WCID 21	yes	E
NORTH CHANNEL WATER AUTHORITY	PINE TRAILS UTILITY	NORTH CHANNEL WATER AUTHORITY		
NORTH CHANNEL WATER AUTHORITY	ROYALWOOD MUD	HARRIS COUNTY MUD 285		E
NORTH FOREST MUD	NORTH FOREST MUD	CNP UTILITY DISTRICT	yes	E
NORTH FOREST MUD	NORTH FOREST MUD	HARRIS COUNTY MUD 189	yes	E
NORTH FORT BEND WATER AUTHORITY	BIG OAKS MUD	FORT BEND COUNTY MUD 30		E
NORTH FORT BEND WATER AUTHORITY	CINCO MUD 6	CINCO MUD 1		
NORTH FORT BEND WATER AUTHORITY	CINCO SOUTHWEST MUD 2	CINCO SOUTHWEST MUD 1		
NORTH FORT BEND WATER AUTHORITY	CINCO SOUTHWEST MUD 3 DAYCARE	CINCO SOUTHWEST MUD 1		
NORTH FORT BEND WATER AUTHORITY	CINCO SOUTHWEST MUD 4	CINCO SOUTHWEST MUD 1		
NORTH FORT BEND WATER AUTHORITY	CORNERSTONES MUD	MEMORIAL MUD	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 119	FORT BEND COUNTY MUD 2	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 122	FORT BEND COUNTY MUD 123	yes	
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 122	FORT BEND COUNTY MUD 50	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 122	GRAND LAKES MUD 2		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 122	GRAND MISSION MUD 1	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 122	NORTH FORT BEND WATER AUTHORITY		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 123	FORT BEND COUNTY MUD 122	yes	
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 124	CINCO MUD 1		E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 133	FORT BEND COUNTY MUD 50	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 134C	FORT BEND COUNTY MUD 134A		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 143 WATER VIEW ESTA	FORT BEND COUNTY MUD 118		E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 143 WATER VIEW ESTA	GRAND MISSION MUD 1		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 156	FORT BEND COUNTY MUD 57		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 165	GRAND MISSION MUD 1		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 182	FORT BEND COUNTY MUD 151		E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 194	FORT BEND COUNTY MUD 146		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 2	FORT BEND COUNTY MUD 119	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 2	KINGSBRIDGE MUD	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 30	MISSION BEND MUD 1	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 34	FORT BEND COUNTY MUD 50	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 34	GRAND LAKES MUD 4		E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 35	FORT BEND COUNTY MUD 34		
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 37	CITY OF KATY	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 37	HARRIS-FORT BEND COUNTIES MUD1	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 41	FORT BEND COUNTY MUD 25		E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 50	FORT BEND COUNTY MUD 122	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 50	FORT BEND COUNTY MUD 133	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 50	FORT BEND COUNTY MUD 34	yes	E
NORTH FORT BEND WATER AUTHORITY	FORT BEND COUNTY MUD 57	FORT BEND COUNTY MUD 58		E
NORTH FORT BEND WATER AUTHORITY	GRAND LAKES MUD 1	GRAND LAKES MUD 4		
NORTH FORT BEND WATER AUTHORITY	GRAND LAKES MUD 2	GRAND LAKES MUD 4		
NORTH FORT BEND WATER AUTHORITY	GRAND LAKES MUD 4	CINCO MUD 1		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH FORT BEND WATER AUTHORITY	GRAND LAKES MUD 4	FORT BEND COUNTY MUD 35		E
NORTH FORT BEND WATER AUTHORITY	GRAND MISSION MUD 1	FORT BEND COUNTY MUD 122	yes	E
NORTH FORT BEND WATER AUTHORITY	GRAND MISSION MUD 2	GRAND MISSION MUD 1		
NORTH FORT BEND WATER AUTHORITY	HARRIS	HARRIS FORT BEND COUNTIES MUD 5		
NORTH FORT BEND WATER AUTHORITY	HARRIS FORT BEND COUNTIES MUD 5	FORT BEND COUNTY MUD 37		E
NORTH FORT BEND WATER AUTHORITY	HARRIS FORT BEND COUNTIES MUD 5	HARRIS-FORT BEND COUNTIES MUD1		
NORTH FORT BEND WATER AUTHORITY	HARRIS-FORT BEND COUNTIES MUD1	FORT BEND COUNTY MUD 37	yes	E
NORTH FORT BEND WATER AUTHORITY	KINGSBRIDGE MUD	FORT BEND COUNTY MUD 2	yes	E
NORTH FORT BEND WATER AUTHORITY	KINGSBRIDGE MUD	MISSION BEND MUD 1		E
NORTH FORT BEND WATER AUTHORITY	KINGSBRIDGE MUD	RENN ROAD MUD	yes	E
NORTH FORT BEND WATER AUTHORITY	NORTH MISSION GLEN MUD	FORT BEND COUNTY MUD 30		E
NORTH FORT BEND WATER AUTHORITY	NORTH MISSION GLEN MUD	MISSION BEND MUD 1		E
NORTH GREEN MUD	NORTH GREEN MUD	CITY OF HOUSTON		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	ALBURY MANOR UTILITY COMPANY	HARRIS COUNTY MUD 401	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BAMMEL FOREST UTILITY	PONDEROSA FOREST UTILITY DISTRICT		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BAMMEL OAKS ESTATES 1	NORTHWEST HARRIS COUNTY MUD 24		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BAMMEL UTILITY DISTRICT	HARRIS COUNTY MUD 16	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BAMMEL UTILITY DISTRICT	HARRIS COUNTY MUD 44	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BAMMEL UTILITY DISTRICT	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BILMA PUD	HARRIS COUNTY MUD 36		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BILMA PUD	SPRING CREEK FOREST PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BILMA PUD	TERRANOVA WEST MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BRIDGESTONE MUD	NORTHWEST HARRIS COUNTY MUD 30	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	BRIDGESTONE MUD	NORTHWEST HARRIS COUNTY MUD 32	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CHAMPIONS MUD	HARRIS COUNTY WCID 116		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CHARTERWOOD MUD	HARRIS COUNTY MUD 468	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CHARTERWOOD MUD	HARRIS COUNTY WCID 119	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CHARTERWOOD MUD	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CNP UTILITY DISTRICT	NORTH FOREST MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CNP UTILITY DISTRICT	WESTADOR MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CY CHAMP PUD	CITY OF HOUSTON WILLOW CHASE		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CY CHAMP PUD	HARRIS COUNTY MUD 191	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS CREEK RANCH	HARRIS COUNTY MUD 371		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS CREEK UTILITY DISTRICT	HARRIS COUNTY MUD 230	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS CREEK UTILITY DISTRICT	NORTHWEST HARRIS COUNTY MUD 9	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS FOREST PUD	CY CHAMP PUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS FOREST PUD	HARRIS COUNTY FWSD 52		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS FOREST PUD	HARRIS COUNTY WCID 114	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS FOREST PUD	LOUETTA NORTH PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS FOREST PUD	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESS HILL MUD 1	HARRIS COUNTY MUD 391	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESSWOOD UTILITY DISTRICT	HARRIS COUNTY WCID 132	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESSWOOD UTILITY DISTRICT	KLEIN PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	CYPRESSWOOD UTILITY DISTRICT	NORTH HARRIS COUNTY REGIONAL WATER AUTHO		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	DOWDELL PUD	HARRIS COUNTY MUD 401	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	EMERALD FOREST UTILITY DISTRICT	HARRIS COUNTY FWSD 61		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	EMERALD FOREST UTILITY DISTRICT	MILLS ROAD MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	EMERALD FOREST UTILITY DISTRICT	n/a		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	EMERALD FOREST UTILITY DISTRICT	NORTH HARRIS COUNTY REGIONAL WATER AUTHO		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	EMERALD FOREST UTILITY DISTRICT	REID ROAD MUD 1	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	ENCANTO REAL UTILITY DISTRICT	NORTHAMPTON MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	ENCHANTED VALLEY ESTATES WSC	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	FAULKEY GULLY MUD	GRANT ROAD PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	FAULKEY GULLY MUD	HARRIS COUNTY MUD 18 HEATHERWOOD HUNTERS	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	FAULKEY GULLY MUD	MALCOMSON ROAD UTILITY DISTRICT		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	FAULKEY GULLY MUD	NORTHWEST HARRIS COUNTY MUD 5	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	FOUNTAINHEAD MUD	NORTHWEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GRANT ROAD PUD	FAULKEY GULLY MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GRANT ROAD PUD	LAKE FOREST UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	GRANT ROAD PUD	NORTHWEST HARRIS COUNTY MUD 5	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 1	NORTHWEST HARRIS COUNTY MUD 19	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 104	HARRIS COUNTY WCID 110	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 109	HARRIS COUNTY MUD 132	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 109	HARRIS COUNTY MUD 46	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 118	CITY OF HOUSTON		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 118	HARRIS COUNTY MUD 119	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 16	BAMMEL UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 16	CITY OF HOUSTON		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 16	HARRIS COUNTY MUD 44		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 16	NORTHWEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 16	NORTHWEST HARRIS COUNTY MUD 22		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 168	HARRIS COUNTY MUD 170		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 168	NORTHWEST HARRIS COUNTY MUD 29	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 18 HEATHERWOOD HUNTERS	FAULKLEY GULLY MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 18 HEATHERWOOD HUNTERS	LAKE FOREST UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 191	CITY OF HOUSTON		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 191	CY CHAMP PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 191	PRESTONWOOD FOREST UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 202	HARRIS COUNTY MUD 180	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 202	NORTHWEST HARRIS COUNTY MUD 6	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 211	HARRIS COUNTY MUD 233		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 211	HARRIS COUNTY MUD 44		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 211	n/a		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 220	CITY OF HOUSTON		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 220	HARRIS COUNTY MUD 23		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 222	HARRIS COUNTY FWSD 61		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 222	NORTHWEST HARRIS COUNTY MUD 29	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 230	CYPRESS CREEK UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 233	HARRIS COUNTY MUD 44		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 233	NORTHWEST HARRIS COUNTY MUD 20		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 24	CYPRESS KLEIN UTILITY DISTRICT WIMBLETON		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 24	SPRING CREEK FOREST PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 248	HARRIS COUNTY FWSD 61		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 249	HARRIS COUNTY WCID 110	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 25 BROOK HOLLOW WEST S	CITY OF JERSEY VILLAGE		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 25 BROOK HOLLOW WEST S	WEST HARRIS COUNTY MUD 1	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 26	HUNTERS GLEN MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 261	CITY OF HOUSTON		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 261	ROLLING FORK PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 261	WINDFERN FOREST UTILITY DISTRICT		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 280	HARRIS COUNTY MUD 281	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 280	NORTHWEST HARRIS COUNTY MUD 15	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 281	HARRIS COUNTY MUD 280	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 281	HARRIS COUNTY MUD 282	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 281	n/a		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 282	HARRIS COUNTY MUD 281	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 282	NORTHWEST HARRIS COUNTY MUD 15		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 286	HARRIS COUNTY MUD 468	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 286	MALCOMSON ROAD UTILITY DISTRICT		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 322 FAIRFIELD VILLAGE	HARRIS COUNTY MUD 358		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 354	HARRIS COUNTY MUD 358		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 360	HARRIS COUNTY MUD 364		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 360	NORTHWEST HARRIS COUNTY MUD 5	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 364	HARRIS COUNTY MUD 360		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 364	HARRIS COUNTY MUD 365	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 365	HARRIS COUNTY MUD 364	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 365	NORTHWEST HARRIS COUNTY MUD 10		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 367	HARRIS COUNTY MUD 383	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 367	HARRIS COUNTY WCID 119		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 367	NORTH HARRIS COUNTY REGIONAL WATER AUTHO		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 368	HARRIS COUNTY MUD 281		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 368	NORTHWEST HARRIS COUNTY MUD 15	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 383	HARRIS COUNTY MUD 119		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 383	HARRIS COUNTY MUD 367	yes	

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 389	NORTHWEST HARRIS COUNTY MUD 10		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 391	CYPRESS HILL MUD 1	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 396	HARRIS COUNTY MUD 358		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 397	HARRIS COUNTY MUD 358		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 401	ALBURY MANOR UTILITY COMPANY	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 401	DOWDELL PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 43	HARRIS COUNTY MUD 82	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 43	HARRIS COUNTY WCID 136	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 44	BAMMEL UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 468	CHARTERWOOD MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 468	HARRIS COUNTY MUD 286	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 48	HARRIS COUNTY WCID 109		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 48	HARRIS COUNTY WCID 116		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 48	HEATHERLOCH MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 69	HARRIS COUNTY FWSD 61		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 82	HARRIS COUNTY MUD 43	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 82	POSTWOOD MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 82	TIMBER LANE UTILITY DISTRICT		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 86	HARRIS COUNTY WCID 91	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 109	FOUNTAINHEAD MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 110	HARRIS COUNTY MUD 104	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 110	HARRIS COUNTY MUD 249	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 110	HARRIS COUNTY WCID 99	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 113 ENCHANTED VILLAGE	HARRIS COUNTY MUD 364		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 114	CYPRESS FOREST PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 114	KLEINWOOD MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 116	CHAMPIONS MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 116	HARRIS COUNTY MUD 48		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 116	HEATHERLOCH MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 119	CHARTERWOOD MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 119	LOUETTA NORTH PUD	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 132	CYPRESSWOOD UTILITY DISTRICT	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 132	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 136	HARRIS COUNTY MUD 43	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 91	HARRIS COUNTY MUD 86	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 91	PONDEROSA FOREST UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 92	MONTGOMERY COUNTY MUD 94	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY WCID 99	HARRIS COUNTY WCID 110	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS MONTGOMERY COUNTIES MUD 386	HARRIS COUNTY MUD 387		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HEATHERLOCH MUD	BAMMEL UTILITY DISTRICT		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HEATHERLOCH MUD	HARRIS COUNTY MUD 48	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HEATHERLOCH MUD	HARRIS COUNTY WCID 116	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	HUNTERS GLEN MUD	HARRIS COUNTY MUD 26	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	INVERNESS FOREST IMPROVEMENT DISTRICT	TIMBER LANE UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEIN PUD	CYPRESSWOOD UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEIN PUD	HARRIS COUNTY MUD 36		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEINWOOD MUD	CYPRESS KLEIN UTILITY DISTRICT WIMBLETON	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEINWOOD MUD	HARRIS COUNTY MUD 24		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEINWOOD MUD	HARRIS COUNTY WCID 114		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	KLEINWOOD MUD	NORTH HARRIS COUNTY REGIONAL WATER AUTHO		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LAKE FOREST UTILITY DISTRICT	GRANT ROAD PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LAKE FOREST UTILITY DISTRICT	HARRIS COUNTY MUD 18 HEATHERWOOD HUNTERS	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LAKE FOREST UTILITY DISTRICT	MALCOMSON ROAD UTILITY DISTRICT		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LOUETTA NORTH PUD	CYPRESS FOREST PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LOUETTA NORTH PUD	HARRIS COUNTY WCID 119	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	LOUETTA ROAD UTILITY DISTRICT	TERRANOVA WEST MUD	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	MEADOWHILL REGIONAL MUD	SHASLA PUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	MEADOWHILL REGIONAL MUD	SPRING WEST MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	MEMORIAL HILLS UTILITY DISTRICT	WOODCREEK MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	MILLS ROAD MUD	NORTHWEST HARRIS COUNTY MUD 9	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTH PARK PUD	WEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHAMPTON MUD	OAKMONT PUD	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHGATE CROSSING MUD 1	NORTHGATE CROSSING MUD 2	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHGATE CROSSING MUD 2	NORTHGATE CROSSING MUD 1	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 15	HARRIS COUNTY MUD 280	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 15	HARRIS COUNTY MUD 281		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 15	HARRIS COUNTY MUD 281		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 15	HARRIS COUNTY MUD 368	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 19	HARRIS COUNTY MUD 1	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 20	HARRIS COUNTY MUD 211		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 20	HARRIS COUNTY MUD 44		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 23	NORTHWEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 24	HARRIS COUNTY UD 1		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 28	MEADOWHILL REGIONAL MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 28	MEADOWHILL REGIONAL MUD		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 28	NORTHWEST HARRIS COUNTY MUD 36		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 29	HARRIS COUNTY MUD 168	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 29	HARRIS COUNTY MUD 222	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 29	HARRIS COUNTY MUD 61		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 30	BRIDGESTONE MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 30	NORTHWEST HARRIS COUNTY MUD 32	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 32	BRIDGESTONE MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 32	HARRIS COUNTY MUD 530		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 32	NORTHWEST HARRIS COUNTY MUD 30	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 36	HARRIS COUNTY MUD 104		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 36	KLEIN PUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 36	NORTHWEST HARRIS COUNTY MUD 28		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 5	FAULKLEY GULLY MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 5	GRANT ROAD PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 360	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 6	HARRIS COUNTY MUD 202	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 9	CYPRESS CREEK UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 9	MILLS ROAD MUD	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST PARK MUD	HARRIS COUNTY WCID 133	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST PARK MUD	WEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	OAKMONT PUD	NORTHAMPTON MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PITCAIRN WSC	FAULKEY GULLY MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PONDEROSA FOREST UTILITY DISTRICT	BAMMEL FOREST UD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PONDEROSA FOREST UTILITY DISTRICT	HARRIS COUNTY MUD 58	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PONDEROSA FOREST UTILITY DISTRICT	HARRIS COUNTY MUD 86		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PONDEROSA FOREST UTILITY DISTRICT	HARRIS COUNTY WCID 91	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PONDEROSA FOREST UTILITY DISTRICT	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	POSTWOOD MUD	TATTOR ROAD MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	PRESTONWOOD FOREST UTILITY DISTRICT	HARRIS COUNTY MUD 191	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	REID ROAD MUD 1	EMERALD FOREST UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	REID ROAD MUD 1	REID ROAD MUD 2	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	REID ROAD MUD 1	WHITE OAK BEND MUD		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	REID ROAD MUD 2	REID ROAD MUD 1	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	REID ROAD MUD 2	WEST HARRIS COUNTY MUD 21		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	RICHEY ROAD MUD	WOODCREEK MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	SPRING CREEK FOREST PUD	BILMA PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	SPRING CREEK FOREST PUD	HARRIS COUNTY MUD 24	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	SPRING WEST MUD	MEADOWHILL REGIONAL MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TATTOR ROAD MUD	POSTWOOD MUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TERRANOVA WEST MUD	LOUETTA ROAD UTILITY DISTRICT	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TERRANOVA WEST MUD	NORTH HARRIS COUNTY REGIONAL WATER AUTHO		
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TIMBER LANE UTILITY DISTRICT	HARRIS COUNTY WCID 136		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TIMBER LANE UTILITY DISTRICT	INVERNESS FOREST IMPROVEMENT DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TIMBERLAKE IMPROVEMENT DISTRICT	HARRIS COUNTY FWSD 61		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 1	HARRIS COUNTY MUD 25 BROOK HOLLOW WEST S	yes	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 10	WEST HARRIS COUNTY MUD 11	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 10	WEST HARRIS COUNTY MUD 9	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 11	WEST HARRIS COUNTY MUD 10	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 9	HARRIS COUNTY MUD 168		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 9	WEST HARRIS COUNTY MUD 10	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTADOR MUD	CNP UTILITY DISTRICT	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WHITE OAK BEND MUD	REID ROAD MUD 2		E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WINDFERN FOREST UTILITY DISTRICT	ROLLING FORK PUD	yes	E
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	WINDFERN FOREST UTILITY DISTRICT	WEST HARRIS COUNTY MUD 1		E
NORTHWEST HARRIS COUNTY MUD 16	NORTHWEST HARRIS COUNTY MUD 16	BARKER CYPRESS MUD		E
NORTHWEST HARRIS COUNTY MUD 16	NORTHWEST HARRIS COUNTY MUD 16	HARRIS COUNTY MUD 149		E
NORTHWEST HARRIS COUNTY MUD 16	NORTHWEST HARRIS COUNTY MUD 16	LANGHAM CREEK MUD		E
OAK RIDGE NORTH	CITY OF OAK RIDGE NORTH	SOUTHERN MONTGOMERY COUNTY MUD	yes	E
PALMER PLANTATION MUD 1	PALMER PLANTATION MUD	FORT BEND COUNTY MUD 46		E
PALMER PLANTATION MUD 1	PALMER PLANTATION MUD 1	FORT BEND COUNTY MUD 49	yes	
PALMER PLANTATION MUD 1	PALMER PLANTATION MUD 1	PALMER PLANTATION MUD 2	yes	
PALMER PLANTATION MUD 1	PALMER PLANTATION MUD 1	QUAIL VALLEY UTILITY DISTRICT	yes	E
PALMER PLANTATION MUD 1	PALMER PLANTATION MUD 1	THUNDERBIRD UTILITY DISTRICT 1	yes	E
PALMER PLANTATION MUD 2	PALMER PLANTATION MUD 2	FORT BEND COUNTY MUD 49	yes	
PALMER PLANTATION MUD 2	PALMER PLANTATION MUD 2	PALMER PLANTATION MUD 1	yes	
PALMER PLANTATION MUD 2	PALMER PLANTATION MUD 2	QUAIL VALLEY UTILITY DISTRICT	yes	E
PALMER PLANTATION MUD 2	PALMER PLANTATION MUD 2	THUNDERBIRD UTILITY DISTRICT 1	yes	E
PARKWAY MUD	PARKWAY UTILITY DISTRICT	CITY OF HOUSTON		
PARKWAY MUD	PARKWAY UTILITY DISTRICT	GREENWOOD UTILITY DISTRICT		
PASADENA	CITY OF PASADENA	CITY OF HOUSTON		E
PASADENA	CITY OF PASADENA EL CARY ESTATES	CLEAR LAKE CITY WATER AUTHORITY		
PEARLAND	CITY OF PEARLAND	CITY OF HOUSTON		
PEARLAND	CITY OF PEARLAND	CLEAR BROOK CITY MUD		
PEARLAND	CITY OF PEARLAND MUD 1	BRAZORIA COUNTY MUD 2		
PECAN GROVE MUD 1	PECAN GROVE MUD	FORT BEND COUNTY WCID 3	yes	E
PLANTATION MUD	PLANTATION MUD	CITY OF SUGAR LAND - GREATWOOD	yes	E
PORTER SUD	PORTER SUD	MONTGOMERY COUNTY MUD 56	yes	E
PRAIRIE VIEW	CITY OF PRAIRIE VIEW	PRAIRIE VIEW A&M UNIVERSITY	yes	E
PRAIRIE VIEW A&M UNIVERSITY	PRAIRIE VIEW A&M UNIVERSITY	CITY OF PRAIRIE VIEW	yes	E
QUADVEST	CREEKSIDE VILLAGE	BENDERS LANDING WATER PLANT 1 & 2		E
QUADVEST	INDIGO LAKES WATER SYSTEM	CLOVER CREEK MUD	yes	E
QUADVEST	LAKE WINDCREST WATER SYSTEM	MOSTYN MANOR	yes	E
QUADVEST	MOSTYN MANOR	LAKE WINDCREST WATER SYSTEM	yes	E
QUADVEST	SENDERA RANCH	RED OAK RANCH WATER SYSTEM		E

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QUADVEST	SHAW ACRES	NORTHWEST HARRIS COUNTY MUD 5		
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	FORT BEND COUNTY MUD 42 WAT PLAT	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	FORT BEND COUNTY WCID 2	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	MEADOWCREEK MUD	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	PALMER PLANTATION MUD 1	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	PALMER PLANTATION MUD 2	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	THUNDERBIRD UTILITY DISTRICT 1	yes	E
QUAIL VALLEY UD	QUAIL VALLEY UTILITY DISTRICT	THUNDERBIRD UTILITY DISTRICT SYSTEM 2	yes	E
RAYFORD ROAD MUD	RAYFORD ROAD MUD	MONTGOMERY COUNTY MUD 115		E
RAYFORD ROAD MUD	RAYFORD ROAD MUD	MONTGOMERY COUNTY MUD 99	yes	E
RAYFORD ROAD MUD	RAYFORD ROAD MUD	SPRING CREEK UTILITY DISTRICT	yes	E
RICHWOOD	CITY OF RICHWOOD	CITY OF CLUTE	yes	E
RIVER PLANTATION MUD	RIVER PLANTATION MUD	EAST PLANTATION UTILITY DISTRICT		E
RIVERSIDE WSC	RIVERSIDE SUD	TRA TRINITY COUNTY REGIONAL		
RIVERSIDE WSC	RIVERSIDE SUD	WALKER COUNTY SUD D		
ROLLING FORK PUD	ROLLING FORK PUD	CITY OF HOUSTON		
ROLLING FORK PUD	ROLLING FORK PUD	HARRIS COUNTY MUD 261	yes	E
ROLLING FORK PUD	ROLLING FORK PUD	HARRIS COUNTY MUD 6 CARRIAGE LANE		
ROLLING FORK PUD	ROLLING FORK PUD	WINDFERN FOREST UTILITY DISTRICT	yes	E
ROMAN FOREST CONSOLIDATED MUD	ROMAN FOREST CONSOLIDATED MUD	CITY OF WOOD BRANCH VILLAGE	yes	E
ROSENBERG	CITY OF ROSENBERG	CITY OF RICHMOND		E
ROSENBERG	CITY OF ROSENBERG	FORT BEND COUNTY MUD 5		E
SAGEMEADOW UD	SAGEMEADOW UTILITY DISTRICT	CITY OF HOUSTON		
SAGEMEADOW UD	SAGEMEADOW UTILITY DISTRICT	KIRKMONT MUD	yes	
SAN LEON MUD	SAN LEON MUD	BACLIFF MUD	yes	E
SEABROOK	CITY OF SEABROOK	CITY OF PASADENA		
SEQUOIA IMPROVEMENT DISTRICT	SEQUOIA IMPROVEMENT DISTRICT	CITY OF HOUSTON		E
SHENANDOAH	CITY OF SHENANDOAH	SJRA THE WOODLANDS (THE WOODLANDS CRU)		E
SIENNA PLANTATION	SIENNA PLANTATION MANAGEMENT DISTRICT	SIENNA PLANTATION MUD 1		
SIENNA PLANTATION	SIENNA PLANTATION MUD 1	CITY OF MISSOURI CITY MUSTANG BAYOU WATE		
SIENNA PLANTATION	SIENNA PLANTATION MUD 10	SIENNA PLANTATION MUD 1		
SIENNA PLANTATION	SIENNA PLANTATION MUD 12	SIENNA PLANTATION MUD 1		
SIENNA PLANTATION	SIENNA PLANTATION MUD 2	SIENNA PLANTATION MUD 1		
SIENNA PLANTATION	SIENNA PLANTATION MUD 3	SIENNA PLANTATION MUD 1		
SIENNA PLANTATION	SIENNA PLANTATION MUD 4	SIENNA PLANTATION MUD 1		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
SIENNA PLANTATION	SIENNA PLANTATION THE WOODS	SIENNA PLANTATION MUD 1		
SOUTH CLEVELAND WSC	SOUTH CLEVELAND WSC	CITY OF CLEVELAND		E
SOUTHEAST WSC	SOUTHEAST WSC SYSTEM 4	CONCORD-ROBBINS WSC		E
SOUTHERN MONTGOMERY COUNTY MUD	SOUTHERN MONTGOMERY COUNTY MUD	CITY OF OAK RIDGE NORTH	yes	E
SOUTHERN MONTGOMERY COUNTY MUD	SOUTHERN MONTGOMERY COUNTY MUD	MONTGOMERY COUNTY MUD 19	yes	E
SOUTHERN MONTGOMERY COUNTY MUD	SOUTHERN MONTGOMERY COUNTY MUD	n/a		
SOUTHERN MONTGOMERY COUNTY MUD	SOUTHERN MONTGOMERY COUNTY MUD	RAYFORD ROAD MUD		E
SOUTHERN MONTGOMERY COUNTY MUD	SOUTHERN MONTGOMERY COUNTY MUD	SJRA GRP SW TREATMENT PLANT		
SOUTHWEST HARRIS COUNTY MUD 1	SOUTHWEST HARRIS COUNTY MUD 1	HARRIS COUNTY WCID FONDREN ROAD		
SPRING CREEK UD	SPRING CREEK UTILITY DISTRICT	MONTGOMERY COUNTY MUD 89	yes	E
SPRING CREEK UD	SPRING CREEK UTILITY DISTRICT	RAYFORD ROAD MUD	yes	E
SPRING MEADOWS MUD	SPRING MEADOWS MUD	CITY OF BAYTOWN		
SPRING VALLEY	CITY OF SPRING VALLEY VILLAGE	CITY OF HOUSTON		E
SUGAR LAND	CITY OF SUGAR LAND	FIRST COLONY MUD 9	yes	E
SUGAR LAND	CITY OF SUGAR LAND	FORT BEND COUNTY MUD 128		E
SUGAR LAND	CITY OF SUGAR LAND	FORT BEND COUNTY WCID 2	yes	E
SUGAR LAND	CITY OF SUGAR LAND - GREATWOOD	FORT BEND COUNTY MUD 108		E
SUGAR LAND	CITY OF SUGAR LAND - GREATWOOD	FORT BEND COUNTY MUD 109		E
SUGAR LAND	CITY OF SUGAR LAND - GREATWOOD	FORT BEND COUNTY MUD 116		E
SUGAR LAND	CITY OF SUGAR LAND - GREATWOOD	FORT BEND COUNTY MUD 117		E
SUGAR LAND	CITY OF SUGAR LAND - GREATWOOD	PLANTATION MUD	yes	E
SUNBELT FWSD	SUNBELT FWSD HEATHER GLEN SUBDIVISION	CITY OF HOUSTON		E
SUNBELT FWSD	SUNBELT FWSD NORTHLINE TERRACE	CITY OF HOUSTON		E
THE WOODLANDS	MONTGOMERY COUNTY MUD 36	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 39	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 46	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 47	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 6	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 60	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 67	SJRA THE WOODLANDS		
THE WOODLANDS	MONTGOMERY COUNTY MUD 7	SJRA THE WOODLANDS		
THE WOODLANDS	THE WOODLANDS METRO CENTER MUD	SJRA THE WOODLANDS		
THE WOODLANDS	THE WOODLANDS MUD 1	SJRA THE WOODLANDS		

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT 1	FORT BEND COUNTY MUD 46		E
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT 1	FORT BEND MUD 26		E
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT 1	PALMER PLANTATION MUD 1	yes	E
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT 1	PALMER PLANTATION MUD 2	yes	E
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT 1	QUAIL VALLEY UTILITY DISTRICT	yes	E
THUNDERBIRD UD	THUNDERBIRD UTILITY DISTRICT SYSTEM 2	QUAIL VALLEY UTILITY DISTRICT	yes	E
TRAIL OF THE LAKES MUD	TRAIL OF THE LAKES MUD	HARRIS COUNTY MUD 278	yes	E
TRINITY	CITY OF TRINITY	TRA TRINITY COUNTY REGIONAL		
TRINITY RURAL WSC	TRINITY RURAL WSC 1	CITY OF TRINITY		E
TRINITY RURAL WSC	TRINITY RURAL WSC 1	TRA TRINITY COUNTY REGIONAL		E
TRINITY RURAL WSC	TRINITY RURAL WSC 2	CITY OF TRINITY		E
TRINITY RURAL WSC	TRINITY RURAL WSC 2	TRINITY RURAL WSC 1		
TRINITY RURAL WSC	TRINITY RURAL WSC 3	TRA TRINITY COUNTY REGIONAL		
VALLEY RANCH MUD 1	VALLEY RANCH MUD 1	PORTER SUD		
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD A	WALKER COUNTY SUD D	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD B CRABBS PRAIRIE	WALKER COUNTY SUD C	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD B CRABBS PRAIRIE	WALKER COUNTY SUD E	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD C	WALKER COUNTY SUD B CRABBS PRAIRIE	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD C	WALKER COUNTY SUD F		E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD D	WALKER COUNTY SUD A	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD E	WALKER COUNTY SUD B CRABBS PRAIRIE	yes	E
WALKER COUNTY RURAL SUD	WALKER COUNTY SUD F	WALKER COUNTY SUD C		
WEBSTER	CITY OF WEBSTER	CLEAR LAKE CITY WATER AUTHORITY		E
WEST HARRIS COUNTY MUD 6	WEST HARRIS COUNTY MUD 6	CITY OF HOUSTON		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	ADDICKS UTILITY DISTRICT	HARRIS COUNTY MUD 238		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BARKER CYPRESS MUD	HARRIS COUNTY MUD 183		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BARKER CYPRESS MUD	JACKRABBIT ROAD PUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BARKER CYPRESS MUD	LANGHAM CREEK MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BEECHNUT MUD	BISSONNET MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BISSONNET MUD	BEECHNUT MUD		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BISSONNET MUD	CITY OF HOUSTON		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	BRITTMOORE UTILITY	CITY OF HOUSTON		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CASTLEWOOD MUD	WESTON MUD EAST		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD CITY MUD	CHELFORD ONE MUD	yes	

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD CITY MUD	FORT BEND COUNTY MUD 30		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD CITY MUD	MISSION BEND MUD 1		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD CITY MUD	MISSION BEND MUD 2	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD ONE MUD	CHELFORD CITY MUD	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD ONE MUD	FORT BEND COUNTY MUD 30		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD ONE MUD	HARRIS COUNTY MUD 120		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD ONE MUD	MISSION BEND MUD 1		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CHELFORD ONE MUD	MISSION BEND MUD 2	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CIMARRON MUD	CINCO MUD 1		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CIMARRON MUD	HARRIS COUNTY MUD 81	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CLAY ROAD MUD	HARRIS COUNTY MUD 284		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CLAY ROAD MUD	MAYDE CREEK MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CLAY ROAD MUD	RICEWOOD MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	CLAY ROAD MUD	ROLLING CREEK UTILITY DISTRICT	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	FRY ROAD MUD	WESTLAKE MUD 1	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	FRY ROAD MUD	WESTON MUD EAST		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 102	HARRIS COUNTY MUD 185	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 102	HARRIS COUNTY MUD 250	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 102	HORSEPEN BAYOU MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 105	HARRIS COUNTY MUD 157	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 105	HARRIS COUNTY MUD 165		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 105	HARRIS COUNTY MUD 167	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 120	CHELFORD CITY MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 120	CITY OF HOUSTON		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 120	HARRIS COUNTY MUD 147	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 120	MISSION BEND MUD 2		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 127	HARRIS COUNTY MUD 167		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 127	HARRIS COUNTY MUD 239		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 130	CHIMNEY HILL MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 130	HARRIS COUNTY MUD 179	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 136	BARKER CYPRESS MUD		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 136	HARRIS COUNTY MUD 183		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 136	JACKRABBIT ROAD PUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 144	HARRIS COUNTY MUD 264	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 144	HARRIS COUNTY MUD 70	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 147	HARRIS COUNTY MUD 120	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 147	WEST HARRIS COUNTY MUD 4		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 149	LANGHAM CREEK MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 155	HARRIS COUNTY MUD 163		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 155	HARRIS COUNTY MUD 172	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 156	HARRIS COUNTY MUD 155		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 156	n/a		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 157	HARRIS COUNTY MUD 105	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 157	HARRIS COUNTY MUD 165		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 157	HARRIS COUNTY MUD 239	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 162	HARRIS COUNTY MUD 163	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 162	HARRIS COUNTY MUD 179	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 162	HARRIS COUNTY MUD 186	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 162	HARRIS COUNTY MUD 188	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 162	HARRIS COUNTY MUD 208	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 163	HARRIS COUNTY MUD 162	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 163	HARRIS COUNTY MUD 186		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 163	HARRIS COUNTY MUD 208		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 163	WEST HARRIS COUNTY MUD 14		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 166	JACKRABBIT ROAD PUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 167	HARRIS COUNTY MUD 105	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 167	HARRIS COUNTY MUD 239	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 167	HARRIS COUNTY MUD 284	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 167	NORTHWEST HARRIS COUNTY MUD 12	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 172	HARRIS COUNTY MUD 155	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 172	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 173	HARRIS COUNTY MUD 155		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 173	HARRIS COUNTY MUD 264	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 179	HARRIS COUNTY MUD 130	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 179	HARRIS COUNTY MUD 162	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 183	BARKER CYPRESS MUD		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 183	HARRIS COUNTY MUD 136		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 183	LANGHAM CREEK UTILITY DISTRICT		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 183	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 185	HARRIS COUNTY MUD 102	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 186	HARRIS COUNTY MUD 149		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 186	HARRIS COUNTY MUD 162	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 186	HARRIS COUNTY MUD 208	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 186	HARRIS COUNTY MUD 257		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 188	HARRIS COUNTY MUD 162	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 188	HARRIS COUNTY MUD 61		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 196	REMINGTON MUD 1		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 208	HARRIS COUNTY MUD 162	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 208	HARRIS COUNTY MUD 186	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 238	MAYDE CREEK MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 239	HARRIS COUNTY MUD 127		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 239	HARRIS COUNTY MUD 157	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 239	HARRIS COUNTY MUD 167	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 239	LANGHAM CREEK UTILITY DISTRICT		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 250	HARRIS COUNTY MUD 102	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 250	SPENCER ROAD PUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 255	HORSEPEN BAYOU MUD		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 257	HARRIS COUNTY MUD 149		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 264	HARRIS COUNTY MUD 144	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 264	HARRIS COUNTY MUD 173	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 264	HARRIS COUNTY MUD 208		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 264	LANGHAM CREEK MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 284	CLAY ROAD MUD		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 284	HARRIS COUNTY MUD 167	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 341	BRITTMOORE UTILITY		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 370	HARRIS COUNTY MUD 341		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 374 CYPRESS CREEK LAKE	HARRIS COUNTY MUD 371		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 374 CYPRESS CREEK LAKE	HARRIS COUNTY MUD 433	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 419	HARRIS COUNTY MUD 418		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 432	HARRIS COUNTY MUD 65		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 433	HARRIS COUNTY MUD 371		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 433	HARRIS COUNTY MUD 374 CYPRESS CREEK LAKE	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 433	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 449	HARRIS COUNTY MUD 536	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 500	REMINGTON MUD 1		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 501	HARRIS COUNTY MUD 172		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 501	HARRIS COUNTY MUD 500		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 61	HARRIS COUNTY MUD 71	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 61	WEST HARRIS COUNTY MUD 2 CHASE	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 62	HARRIS COUNTY MUD 61		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 64	HARRIS COUNTY MUD 65	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 65	HARRIS COUNTY MUD 64	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 70	HARRIS COUNTY MUD 144	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 70	HARRIS COUNTY MUD 264		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 70	LANGHAM CREEK MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 71	HARRIS COUNTY MUD 61	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 71	WEST HARRIS COUNTY MUD 2 CHASE		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 81	CIMARRON MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 81	MASON CREEK UTILITY DISTRICT	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HARRIS COUNTY MUD 81	MEMORIAL MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	HORSEPEN BAYOU MUD	HARRIS COUNTY MUD 102	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	JACKRABBIT ROAD PUD	BARKER CYPRESS MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	JACKRABBIT ROAD PUD	HARRIS COUNTY MUD 136	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	JACKRABBIT ROAD PUD	HARRIS COUNTY MUD 276		E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	JACKRABBIT ROAD PUD	HARRIS COUNTY UTILITY DISTRICT 6		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	LANGHAM CREEK UTILITY DISTRICT	BARKER CYPRESS MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	LANGHAM CREEK UTILITY DISTRICT	HARRIS COUNTY MUD 136		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	LANGHAM CREEK UTILITY DISTRICT	HARRIS COUNTY MUD 149		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	LANGHAM CREEK UTILITY DISTRICT	JACKRABBIT ROAD PUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MAYDE CREEK MUD	CLAY ROAD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MAYDE CREEK MUD	HARRIS COUNTY MUD 238	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MAYDE CREEK MUD	RICEWOOD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MEMORIAL MUD	CORNERSTONES MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MEMORIAL MUD	HARRIS COUNTY MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MEMORIAL MUD	NOTTINGHAM COUNTRY MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 1	CHELFORD CITY MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 1	FORT BEND COUNTY MUD 30	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 1	MISSION BEND MUD 2		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 2	CHELFORD CITY MUD	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 2	CHELFORD ONE MUD	yes	
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 2	HARRIS COUNTY MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MISSION BEND MUD 2	MISSION BEND MUD 1		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MORTON ROAD MUD	RICEWOOD MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	MORTON ROAD MUD	WESTLAKE MUD 1	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	NORTHWEST HARRIS COUNTY MUD 12	HARRIS COUNTY MUD 167	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	NOTTINGHAM COUNTRY MUD	HARRIS COUNTY MUD 81		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	NOTTINGHAM COUNTRY MUD	MEMORIAL MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	REMINGTON MUD 1	HARRIS COUNTY MUD 196		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	REMINGTON MUD 1	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	RENN ROAD MUD	FORT BEND COUNTY MUD 2		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	RENN ROAD MUD	KINGSBRIDGE MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	RICEWOOD MUD	MAYDE CREEK MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	RICEWOOD MUD	WEST HARRIS COUNTY MUD 17	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	ROLLING CREEK UTILITY DISTRICT	CLAY ROAD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	SPENCER ROAD PUD	CHIMNEY HILL MUD	yes	E

WUG	Public Water System	Connection With	Two Way?	Emergency ¹
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	SPENCER ROAD PUD	HARRIS COUNTY MUD 250	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 14	n/a		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 14	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 15	HARRIS COUNTY MUD 163		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 15	n/a		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 15	WEST HARRIS COUNTY MUD 14		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 15	WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 17	RICEWOOD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 17	WEST HARRIS COUNTY MUD 7	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 2 CHASE	HARRIS COUNTY MUD 61	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 2 CHASE	HARRIS COUNTY MUD 64		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 4	HARRIS COUNTY MUD 147		
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 5	HARRIS COUNTY MUD 64		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST HARRIS COUNTY MUD 7	WEST HARRIS COUNTY MUD 17	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST MEMORIAL MUD	CIMARRON MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST MEMORIAL MUD	INTERSTATE MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WEST PARK MUD	WESTLAKE MUD 1		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTLAKE MUD 1	FRY ROAD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTLAKE MUD 1	MORTON ROAD MUD	yes	E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTLAKE MUD 1	RICEWOOD MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTON MUD	CASTLEWOOD MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTON MUD	FRY ROAD MUD		E
WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	WESTON MUD	WEST HARRIS COUNTY MUD 7		E
WESTWOOD SHORES MUD	WESTWOOD SHORES MUD	TRA TRINITY COUNTY REGIONAL		
WESTWOOD SHORES MUD	WESTWOOD SHORES MUD	TRINITY RURAL WSC 1		
WILLIS	CITY OF WILLIS	CITY OF CONROE		E
WOOD BRANCH VILLAGE	CITY OF WOOD BRANCH VILLAGE	ROMAN FOREST CONSOLIDATED MUD	yes	E
WOODCREEK MUD	WOODCREEK MUD	MEMORIAL HILLS UTILITY DISTRICT	yes	E
WOODCREEK MUD	WOODCREEK MUD	RICHEY ROAD MUD	yes	E

1. "E" denotes emergency-only connections between entities.

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APPENDIX 7-C

POTENTIAL EMERGENCY RESPONSES

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Table 7-C1 – Potential Emergency Responses

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements	
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²
ANAHUAC	2,390	281	SURFACE WATER	yes	•			•			•	Transportation	TBCD WEST TREATMENT PLANT
AUSTIN COUNTY WSC	1,698	248	GROUNDWATER	yes		•				•		Well, Pipeline, Transportation	
BACLIFF MUD	7,310	539	BLEND		•	•			•			Well, Transportation	GULF COAST WATER AUTHORITY TX CITY
BAKER ROAD MUD	1,108	278	GROUNDWATER	yes		•				•		Well, Transportation	GREEN TRAILS MUD
BAYBROOK MUD 1	870	249	BLEND		•	•				•		Well, Pipeline, Transportation	
BAYVIEW MUD	1,727	146	BLEND		•	•					•	Well, Transportation	BACLIFF MUD
BELLVILLE	4,062	1,126	GROUNDWATER	yes		•					•	Well, Pipeline, Transportation	BELLVILLE
BLUE BELL MANOR UTILITY	2,778	623	GROUNDWATER	yes							•	Well, Transportation	HARRIS COUNTY MUD 304
BLUE RIDGE WEST MUD	9,077	1,229	BLEND		•	•					•	Well, Transportation	FORT BEND COUNTY MUD 26 QUAIL GREEN WEST
BOLIVAR PENINSULA SUD	2,943	198	SURFACE WATER	yes	•						•	Transportation	LOWER NECHES VALLEY AUTHORITY
BRAZORIA	3,121	318	SURFACE WATER	yes	•						•	Transportation	BRAZOSPORT WATER AUTHORITY
BRAZORIA COUNTY MUD 2	4,051	1,666	GROUNDWATER	yes		•					•	Well, Pipeline, Transportation	
BRAZORIA COUNTY MUD 21	4,371	646	GROUNDWATER	yes		•					•	Well, Pipeline, Transportation	
BRAZORIA COUNTY MUD 25	4,255	417	GROUNDWATER	yes							•	Well, Transportation	BRAZORIA COUNTY MUD 6

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
BRAZORIA COUNTY MUD 29	4,439	456	GROUNDWATER	yes									Well, Pipeline, Transportation	BRAZORIA COUNTY MUD 29
BRAZORIA COUNTY MUD 3	4,231	655	BLEND										Well, Transportation	BRAZORIA COUNTY MUD 2
BRAZORIA COUNTY MUD 31	1,553	409	GROUNDWATER	yes									Well, Pipeline, Transportation	BRAZORIA COUNTY MUD 31
BRAZORIA COUNTY MUD 6	5,881	1,268	GROUNDWATER	yes									Well, Transportation	BRAZORIA COUNTY MUD 2
BROOKSHIRE MWD	5,279	602	GROUNDWATER	yes									Well, Pipeline, Transportation	
BUFFALO	1,970	386	GROUNDWATER	yes									Well, Pipeline, Transportation	
BUNKER HILL VILLAGE	3,890	1,662	BLEND										Well, Pipeline, Transportation	
CAPE ROYALE UD	1,038	270	GROUNDWATER	yes									Well, Pipeline, Transportation	
CENTERVILLE	1,089	203	GROUNDWATER	yes									Well, Pipeline, Transportation	
CHAMBERS COUNTY MUD 1	3,197	260	SURFACE WATER	yes									Transportation	CITY OF BAYTOWN
CHATEAU WOODS MUD	2,370	268	GROUNDWATER	yes									Well, Pipeline, Transportation	
CHIMNEY HILL MUD	5,366	568	BLEND										Well, Transportation	SPENCER ROAD PUD
CONCORD-ROBBINS WSC	4,569	342	GROUNDWATER										Well, Transportation	CITY OF MARQUEZ
CORINTHIAN POINT MUD 2	860	250	BLEND										Well, Pipeline, Transportation	
COUNTRY TERRACE WATER	1,612	156	BLEND										Well, Transportation	BAYTOWN AREA WATER AUTHORITY
COUNTY-OTHER, AUSTIN	17,336	2,054	GROUNDWATER										Well, Transportation	SETTLERS MEADOWS WATER SYSTEM

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
COUNTY-OTHER, BRAZORIA	100,247	15,250	MULTIPLE		•	•	•	•	•	•		•	Well, Transportation	CITY OF GALVESTON
COUNTY-OTHER, CHAMBERS	13,729	1,561	MULTIPLE		•	•						•	Well, Transportation	CITY OF BAYTOWN
COUNTY-OTHER, FORT BEND	107,087	15,014	MULTIPLE		•	•						•	Well, Transportation	CITY OF RICHMOND
COUNTY-OTHER, GALVESTON	9,434	1,172	MULTIPLE		•	•						•	Well, Transportation	CITY OF GALVESTON
COUNTY-OTHER, HARRIS	119,216	16,532	MULTIPLE		•	•						•	Well, Transportation	n/a
COUNTY-OTHER, LEON	2,254	256	GROUNDWATER									•	Well, Transportation	CITY OF BUFFALO
COUNTY-OTHER, LIBERTY	38,297	4,661	GROUNDWATER									•	Well, Transportation	CITY OF LIBERTY
COUNTY-OTHER, MADISON	7,191	1,310	GROUNDWATER									•	Well, Transportation	
COUNTY-OTHER, MONTGOMERY	182,763	22,319	MULTIPLE									•	Well, Transportation	CITY OF MAGNOLIA
COUNTY-OTHER, POLK	14,811	1,540	MULTIPLE		•	•						•	Well, Transportation	LAKE LIVINGSTON PINESHADOWS EAST
COUNTY-OTHER, SAN JACINTO	12,723	1,454	GROUNDWATER									•	Well, Transportation	
COUNTY-OTHER, TRINITY	497	36	MULTIPLE		•	•						•	Well, Transportation	TRINITY RURAL WSC 3
COUNTY-OTHER, WALKER	13,818	2,897	MULTIPLE		•	•						•	Well, Transportation	
COUNTY-OTHER, WALLER	22,886	2,799	GROUNDWATER									•	Well, Transportation	
CROSBY MUD	2,969	356	BLEND		•	•						•	Well, Pipeline, Transportation	

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
CUT & SHOOT	4,145	366	GROUNDWATER	yes									Well, Transportation	CITY OF CONROE
DAISETTA	1,103	128	GROUNDWATER	yes									Well, Transportation	LIBERTY COUNTY FWSD 1 HULL
DANBURY	1,722	176	GROUNDWATER	yes									Well, Transportation	
DEVERS	773	172	GROUNDWATER	yes									Well, Transportation	RAYWOOD WSC
DOBBIN PLANTERSVILLE WSC	8,335	779	GROUNDWATER	yes									Well, Pipeline, Transportation	
DODGE OAKHURST WSC	1,673	194	GROUNDWATER	yes									Well, Pipeline, Transportation	
DOMESTIC WATER	1,807	171	GROUNDWATER	yes									Well, Pipeline, Transportation	
DOUGLAS UTILITY	2,565	234	GROUNDWATER	yes									Well, Pipeline, Transportation	
EAST PLANTATION UD	1,354	266	GROUNDWATER	yes									Well, Pipeline, Transportation	CONROE
EL DORADO UD	4,377	405	GROUNDWATER	yes									Well, Pipeline, Transportation	HOUSTON
FAR HILLS UD	1,344	350	GROUNDWATER	yes									Well, Pipeline, Transportation	FAR HILLS UD
FLO COMMUNITY WSC	2,625	392	GROUNDWATER	yes									Well, Transportation	SOUTHEAST WSC SYSTEM 1
FOREST HILLS MUD	3,274	359	BLEND										Well, Transportation	HARRIS COUNTY MUD 11
FORT BEND COUNTY FWSD 1	1,184	82	GROUNDWATER	yes									Well, Pipeline, Transportation	
FORT BEND COUNTY FWSD 2	2,515	226	GROUNDWATER	yes									Well, Transportation	KINGSBRIDGE MUD

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
FORT BEND COUNTY MUD 115	1,890	898	BLEND										Well, Transportation	FORT BEND COUNTY MUD 129
FORT BEND COUNTY MUD 116	3,965	917	BLEND										Well, Transportation	FORT BEND COUNTY MUD 121
FORT BEND COUNTY MUD 121	3,762	464	BLEND										Well, Transportation	CITY OF RICHMOND
FORT BEND COUNTY MUD 128	4,302	973	BLEND										Well, Transportation	CITY OF SUGAR LAND
FORT BEND COUNTY MUD 129	4,671	1,157	BLEND										Well, Transportation	FORT BEND COUNTY MUD 115 RIVERSTONE
FORT BEND COUNTY MUD 140	3,000	503	BLEND										Well, Transportation	CITY OF RICHMOND
FORT BEND COUNTY MUD 149	1,969	199	BLEND										Well, Pipeline, Transportation	SIENNA PLANTATION
FORT BEND COUNTY MUD 152	769	152	GROUNDWATER	yes									Well, Transportation	CITY OF ROSENBERG
FORT BEND COUNTY MUD 155	2,366	369	GROUNDWATER	yes									Well, Transportation	CITY OF ROSENBERG
FORT BEND COUNTY MUD 158	1,242	233	GROUNDWATER	yes									Well, Transportation	CITY OF ROSENBERG
FORT BEND COUNTY MUD 162	2,740	266	GROUNDWATER	yes									Well, Pipeline, Transportation	ROSENBERG
FORT BEND COUNTY MUD 187	3,632	434	BLEND										Well, Transportation	CITY OF RICHMOND
FORT BEND COUNTY MUD 24	1,447	146	GROUNDWATER	yes									Well, Transportation	FORT BEND COUNTY MUD 23
FORT BEND COUNTY MUD 26	5,276	616	GROUNDWATER	yes									Well, Transportation	MEADOWCREEK MUD
FORT BEND COUNTY MUD 42	4,530	865	GROUNDWATER	yes									Well, Transportation	FIRST COLONY MUD 9

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
FORT BEND COUNTY MUD 46	2,207	572	BLEND										Well, Transportation	FORT BEND COUNTY MUD 129
FORT BEND COUNTY MUD 47	1,417	158	BLEND										Well, Transportation	n/a
FORT BEND COUNTY MUD 48	3,493	434	BLEND										Well, Transportation	n/a
FORT BEND COUNTY MUD 49	1,354	208	BLEND										Well, Transportation	PALMER PLANTATION MUD 1
FORT BEND COUNTY MUD 5	3,333	262	GROUNDWATER	yes									Well, Pipeline, Transportation	ROSENBERG
FORT BEND COUNTY MUD 81	2,509	1,504	GROUNDWATER	yes									Well, Pipeline, Transportation	
FORT BEND COUNTY WCID 3	912	537	BLEND										Well, Transportation	PECAN GROVE MUD
FULSHEAR	16,311	1,856	GROUNDWATER	yes									Well, Pipeline, Transportation	NORTH FORT BEND WATER AUTHORITY
G & W WSC	3,878	449	GROUNDWATER	yes									Well, Transportation	G & W WSC
GALVESTON COUNTY FWSD 6	1,800	361	SURFACE WATER										Pipeline, Transportation	HITCHCOCK
GALVESTON COUNTY MUD 12	2,273	270	BLEND										Well, Pipeline, Transportation	HITCHCOCK
GALVESTON COUNTY WCID 12	8,229	1,873	BLEND										Well, Pipeline, Transportation	LEAGUE CITY
GALVESTON COUNTY WCID 8	5,718	605	BLEND										Well, Pipeline, Transportation	
GLENDALE WSC	835	117	BLEND										Well, Transportation	TRA TRINITY COUNTY REGIONAL
GREEN TRAILS MUD	2,070	630	GROUNDWATER	yes									Well, Transportation	LONGHORN TOWN UTILITY DISTRICT

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
GREENWOOD UD	4,630	351	BLEND		•	•	•		•			•	Well, Transportation	PARKWAY UTILITY DISTRICT
GROVETON	629	122	BLEND		•	•			•			•	Well, Transportation	TRA TRINITY COUNTY REGIONAL
GULF UTILITY	4,695	806	GROUNDWATER	yes					•			•	Well, Transportation	HARRIS COUNTY WCID 92
HARDIN WSC	4,976	497	GROUNDWATER	yes						•		•	Well, Pipeline, Transportation	HARDIN WSC
HARRIS COUNTY FWSD 1-A	1,639	146	BLEND		•	•			•			•	Well, Transportation	BAYTOWN AREA WATER AUTHORITY
HARRIS COUNTY FWSD 27	2,251	240	BLEND		•	•			•			•	Well, Transportation	BAYTOWN AREA WATER AUTHORITY
HARRIS COUNTY FWSD 58	1,868	386	GROUNDWATER	yes						•		•	Well, Pipeline, Transportation	
HARRIS COUNTY MUD 106	5,110	1,428	GROUNDWATER	yes								•	Well, Transportation	HARRIS COUNTY MUD 290
HARRIS COUNTY MUD 11	3,206	332	BLEND		•	•			•			•	Well, Transportation	HARRIS COUNTY MUD 33
HARRIS COUNTY MUD 119	7,484	636	BLEND		•	•			•			•	Well, Transportation	HARRIS COUNTY MUD 118
HARRIS COUNTY MUD 122	1,400	143	BLEND		•	•			•			•	Well, Transportation	FORT BEND COUNTY WCID 2
HARRIS COUNTY MUD 132	5,944	1,065	GROUNDWATER	yes					•			•	Well, Transportation	HARRIS COUNTY MUD 153
HARRIS COUNTY MUD 148	4,548	338	BLEND		•	•				•		•	Well, Pipeline, Transportation	HOUSTON
HARRIS COUNTY MUD 151	6,472	1,093	GROUNDWATER	yes								•	Well, Transportation	HARRIS COUNTY MUD 153
HARRIS COUNTY MUD 152	8,031	1,090	GROUNDWATER	yes								•	Well, Transportation	HARRIS COUNTY MUD 153

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
HARRIS COUNTY MUD 158	6,376	681	BLEND		•	•	•				•	•	Well, Pipeline, Transportation	
HARRIS COUNTY MUD 180	6,092	541	GROUNDWATER	yes			•			•			Well, Transportation	HARRIS COUNTY UD 1
HARRIS COUNTY MUD 189	3,982	357	GROUNDWATER	yes			•						Well, Transportation	HARRIS COUNTY MUD 200 CRANBROOK
HARRIS COUNTY MUD 216	1,074	154	GROUNDWATER	yes			•			•			Well, Transportation	LONGHORN TOWN UTILITY DISTRICT
HARRIS COUNTY MUD 221	4,559	450	GROUNDWATER	yes			•			•			Well, Transportation	HARRIS COUNTY MUD 216
HARRIS COUNTY MUD 23	4,891	377	BLEND		•	•	•				•		Well, Pipeline, Transportation	HOUSTON
HARRIS COUNTY MUD 278	12,191	1,213	BLEND		•	•	•						Well, Transportation	CITY OF HOUSTON
HARRIS COUNTY MUD 290	5,770	710	GROUNDWATER	yes			•			•			Well, Transportation	HARRIS COUNTY MUD 106
HARRIS COUNTY MUD 321	1,500	309	BLEND				•			•			Well, Transportation	FALLBROOK UTILITY DISTRICT
HARRIS COUNTY MUD 342	3,874	681	BLEND		•	•	•						Well, Transportation	HARRIS COUNTY MUD 344
HARRIS COUNTY MUD 344	3,826	958	BLEND		•	•	•			•			Well, Pipeline, Transportation	HARRIS COUNTY MUD 344
HARRIS COUNTY MUD 345	3,981	900	GROUNDWATER	yes			•						Well, Transportation	HARRIS COUNTY MUD 216
HARRIS COUNTY MUD 36	1,581	374	GROUNDWATER	yes			•						Well, Transportation	HARRIS COUNTY MUD 221
HARRIS COUNTY MUD 361	3,218	435	GROUNDWATER	yes			•			•			Well, Transportation	HARRIS COUNTY MUD 344
HARRIS COUNTY MUD 372	4,155	1,257	BLEND		•	•	•				•		Well, Pipeline, Transportation	HOUSTON

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
HARRIS COUNTY MUD 400	7,646	1,246	GROUNDWATER	yes									Well, Transportation	HARRIS COUNTY WCID 96
HARRIS COUNTY MUD 412	2,606	538	BLEND										Well, Pipeline, Transportation	HARRIS COUNTY MUD 290
HARRIS COUNTY MUD 420	1,563	138	BLEND										Well, Pipeline, Transportation	
HARRIS COUNTY MUD 46	3,743	618	GROUNDWATER	yes									Well, Transportation	HARRIS COUNTY MUD 106
HARRIS COUNTY MUD 49	6,952	677	BLEND										Well, Transportation	HARRIS COUNTY MUD 400 - WEST
HARRIS COUNTY MUD 5	6,281	507	BLEND										Well, Transportation	HARRIS COUNTY MUD 64
HARRIS COUNTY MUD 50	3,165	396	BLEND										Well, Pipeline, Transportation	CROSBY MUD
HARRIS COUNTY MUD 58	2,224	249	GROUNDWATER	yes									Well, Transportation	PONDEROSA FOREST UTILITY DISTRICT
HARRIS COUNTY MUD 6	4,345	492	BLEND										Well, Transportation	ROLLING FORK PUD
HARRIS COUNTY MUD 8	4,617	487	BLEND										Well, Pipeline, Transportation	HOUSTON
HARRIS COUNTY MUD 96	6,783	582	BLEND										Well, Pipeline, Transportation	HOUSTON
HARRIS COUNTY UD 14	3,228	217	GROUNDWATER	yes									Well, Transportation	HARRIS COUNTY MUD 33
HARRIS COUNTY UD 15	3,603	521	GROUNDWATER	yes									Well, Transportation	HARRIS COUNTY MUD 150
HARRIS COUNTY WCID 1	7,352	741	BLEND										Well, Transportation	BAYTOWN AREA WATER AUTHORITY
HARRIS COUNTY WCID 133	5,455	674	GROUNDWATER	yes									Well, Transportation	NORTHWEST PARK MUD

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
HARRIS COUNTY WCID 156	1,336	302	BLEND		•	•	•		•			•	Well, Transportation	CLEAR LAKE CITY WATER AUTHORITY
HARRIS COUNTY WCID 50	2,941	373	BLEND		•	•			•			•	Well, Transportation	CITY OF SEABROOK
HARRIS COUNTY WCID 70	1,536	238	GROUNDWATER	yes							•		Well, Pipeline, Transportation	NEWPORT MUD
HARRIS COUNTY WCID 74	5,500	609	GROUNDWATER	yes							•		Well, Pipeline, Transportation	HOUSTON
HARRIS COUNTY WCID 89	6,116	514	BLEND		•	•			•			•	Well, Transportation	CITY OF HOUSTON
HARRIS COUNTY WCID 96	8,957	1,656	BLEND		•	•			•			•	Well, Transportation	CITY OF HOUSTON
HARRIS COUNTY WCID-FONDREN ROAD	3,703	350	BLEND		•	•			•			•	Well, Transportation	HARRIS COUNTY MUD ¹
HARRIS-MONTGOMERY COUNTIES MUD 386	3,083	425	BLEND		•	•					•	•	Well, Pipeline, Transportation	
HEMPSTEAD	6,726	1,303	GROUNDWATER	yes								•	Well, Pipeline, Transportation	G & W WSC
HILLCREST VILLAGE	743	120	GROUNDWATER	yes								•	Well, Transportation	CITY OF ALVIN
HILLTOP LAKES WSC	1,298	249	GROUNDWATER									•	Well, Pipeline, Transportation	HILLTOP LAKES WSC
HILSHIRE VILLAGE	749	196	BLEND		•	•					•	•	Well, Pipeline, Transportation	
HITCHCOCK	8,451	931	BLEND		•	•						•	Well, Transportation	CITY OF GALVESTON
JAMAICA BEACH	987	259	SURFACE WATER	yes	•	•			•			•	Transportation	CITY OF GALVESTON
JEWETT	1,691	274	GROUNDWATER	yes								•	Well, Pipeline, Transportation	CONCORD-ROBBINS WSC
JOHNSTON WATER UTILITY	1,860	741	GROUNDWATER	yes								•	Well, Pipeline, Transportation	JOHNSTON WATER UTILITY

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
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KENDLETON	573	183	GROUNDWATER	yes									Well, Transportation	
KINGS MANOR MUD	4,098	480	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON UD 5 - KINGWOOD
KIRKMONT MUD	2,241	364	BLEND										Well, Transportation	SAGEMEADOW UTILITY DISTRICT
LAKE BONANZA WSC	2,165	216	GROUNDWATER	yes									Well, Pipeline, Transportation	
LAKE CONROE HILLS MUD	1,958	229	GROUNDWATER	yes									Well, Pipeline, Transportation	POINT AQUARIUS MUD
LAKE MUD	3,795	330	BLEND										Well, Transportation	BAYTOWN AREA WATER AUTHORITY
LAZY RIVER IMPROVEMENT DISTRICT	922	218	GROUNDWATER	yes									Well, Pipeline, Transportation	RIVER PLANTATION MUD
LEGGETT WSC	2,023	334	GROUNDWATER	yes									Well, Pipeline, Transportation	
LIBERTY COUNTY FWSD 1 HULL	706	106	GROUNDWATER	yes									Well, Transportation	CITY OF DAISSETTA
LIVINGSTON	6,183	2,594	SURFACE WATER	yes									Transportation	TRA LIVINGSTON REGIONAL WATER SUPPLY
LONGHORN TOWN UD	1,574	354	GROUNDWATER	yes									Well, Transportation	GREEN TRAILS MUD
LUCE BAYOU PUD	781	141	GROUNDWATER	yes									Well, Transportation	FAIRWAY CROSSING
MADISON COUNTY WSC	1,108	164	GROUNDWATER										Well, Pipeline, Transportation	
MADISONVILLE	4,915	900	GROUNDWATER	yes									Well, Pipeline, Transportation	MADISONVILLE
MAGNOLIA	4,821	1,077	GROUNDWATER	yes									Well, Transportation	GRAND OAKS MUD

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
MANVEL	913	130	GROUNDWATER	yes									Well, Pipeline, Transportation	MANVEL
MEADOWCREEK MUD	2,882	394	GROUNDWATER	yes									Well, Transportation	QUAIL VALLEY UTILITY DISTRICT
MEADOWS PLACE	4,707	779	BLEND										Well, Transportation	FORT BEND COUNTY WCID 2
MEMORIAL POINT UD	1,123	182	BLEND										Well, Pipeline, Transportation	LAKE LIVINGSTON WSC
MERCY WSC	1,947	189	GROUNDWATER	yes									Well, Transportation	ONE FIVE O WSC
MISSOURI CITY	2,741	428	BLEND										Well, Transportation	FORT BEND COUNTY MUD 48
MONT BELVIEU	6,194	2,699	GROUNDWATER	yes									Well, Pipeline, Transportation	MONT BELVIEU
MONTGOMERY	2,676	631	GROUNDWATER	yes									Well, Pipeline, Transportation	DOBBIN PLANTERSVILLE WSC
MONTGOMERY COUNTY MUD 112	1,150	285	GROUNDWATER	yes									Well, Transportation	CITY OF CONROE
MONTGOMERY COUNTY MUD 115	1,188	206	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 99
MONTGOMERY COUNTY MUD 119	2,886	786	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 94
MONTGOMERY COUNTY MUD 15	3,792	497	GROUNDWATER	yes									Well, Pipeline, Transportation	SHENANDOAH
MONTGOMERY COUNTY MUD 18	6,350	1,745	GROUNDWATER	yes									Well, Pipeline, Transportation	MONTGOMERY COUNTY MUD 18
MONTGOMERY COUNTY MUD 19	3,142	411	GROUNDWATER	yes									Well, Transportation	SOUTHERN MONTGOMERY COUNTY MUD
MONTGOMERY COUNTY MUD 56	1,447	156	GROUNDWATER	yes									Well, Transportation	PORTER SUD

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
MONTGOMERY COUNTY MUD 8	2,963	445	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 9
MONTGOMERY COUNTY MUD 83	2,078	391	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON UD 5 - KINGWOOD
MONTGOMERY COUNTY MUD 84	1,909	420	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 83
MONTGOMERY COUNTY MUD 88	459	84	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 89
MONTGOMERY COUNTY MUD 89	5,594	440	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 88
MONTGOMERY COUNTY MUD 9	5,912	925	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 8
MONTGOMERY COUNTY MUD 95	1,557	130	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY MUD 15
MONTGOMERY COUNTY MUD 98	1,395	157	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON UD 5 - KINGWOOD
MONTGOMERY COUNTY MUD 99	834	183	BLEND										Well, Transportation	RAYFORD ROAD MUD
MONTGOMERY COUNTY UD 2	1,921	237	GROUNDWATER	yes									Well, Pipeline, Transportation	POINT AQUARIUS MUD
MONTGOMERY COUNTY UD 3	3,695	540	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY UD 4
MONTGOMERY COUNTY UD 4	3,069	509	GROUNDWATER	yes									Well, Transportation	MONTGOMERY COUNTY UD 3
MONTGOMERY COUNTY WCID 1	3,410	290	BLEND										Well, Pipeline, Transportation	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY
MORGANS POINT	441	157	BLEND										Well, Pipeline, Transportation	LA PORTE
MOSCOW WSC	143	21	GROUNDWATER	yes									Well, Pipeline, Transportation	MOSCOW WSC

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
MOUNT HOUSTON ROAD MUD	6,340	626	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON
MSEC ENTERPRISES	19,382	4,431	BLEND										Well, Transportation	SJRA GRP SW TREATMENT PLANT
NASSAU BAY	3,977	1,035	BLEND										Well, Transportation	CLEAR LAKE CITY WATER AUTHORITY
NEEDVILLE	2,847	301	GROUNDWATER	yes									Well, Transportation	
NEW WAVERLY	1,140	190	GROUNDWATER	yes									Well, Transportation	
NORMANGEE	744	120	GROUNDWATER	yes									Well, Pipeline, Transportation	SOUTHEAST WSC
NORTH BELT UD	2,705	515	GROUNDWATER	yes									Well, Transportation	GREENS PARKWAY MUD
NORTH FOREST MUD	1,500	199	GROUNDWATER	yes									Well, Transportation	HARRIS COUNTY MUD 189
NORTH GREEN MUD	4,239	495	BLEND										Well, Transportation	CITY OF HOUSTON
NORTH ZULCH MUD	1,456	197	GROUNDWATER	yes									Well, Pipeline, Transportation	NORTH ZULCH MUD
NORTHWEST HARRIS COUNTY MUD 16	3,566	494	GROUNDWATER	yes									Well, Transportation	BARKER CYPRESS MUD
OAK HOLLOW UTILITY	1,769	206	GROUNDWATER	yes									Well, Pipeline, Transportation	G & W WSC
OAK RIDGE NORTH	3,150	564	BLEND										Well, Transportation	SOUTHERN MONTGOMERY COUNTY MUD
ONALASKA WSC	3,550	364	GROUNDWATER	yes									Well, Pipeline, Transportation	ONALASKA WSC
ONE FIVE O WSC	2,750	296	GROUNDWATER	yes									Well, Pipeline, Transportation	ONE FIVE O WSC

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
OYSTER CREEK	1,170	258	BLEND		•	•	•				•	•	Well, Pipeline, Transportation	FREEPORT
P B & S C WSC	1,871	251	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	P B & S C WSC
PALMER PLANTATION MUD 1	2,179	517	GROUNDWATER	yes			•			•			Well, Transportation	FORT BEND COUNTY MUD 49
PALMER PLANTATION MUD 2	2,956	377	GROUNDWATER	yes			•			•			Well, Transportation	FORT BEND COUNTY MUD 49
PANORAMA VILLAGE	2,457	562	BLEND		•	•	•	•			•	•	Well, Pipeline, Transportation	CONROE
PARKWAY MUD	5,970	520	BLEND		•	•	•			•			Well, Transportation	GREENWOOD UTILITY DISTRICT
PATTISON WSC	1,702	263	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	PATTISON WSC
PENNINGTON WSC	1,272	120	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	PENNINGTON WSC
PHELPS SUD	2,013	219	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	PHELPS SUD
PINE VILLAGE PUD	2,286	231	BLEND			•	•				•	•	Well, Pipeline, Transportation	HOUSTON
PINEHURST DECKER PRAIRIE WSC	1,221	83	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	JOHNSTON WATER UTILITY
PINEWOOD COMMUNITY	1,201	113	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY
PLANTATION MUD	4,084	430	BLEND		•	•	•				•	•	Well, Transportation	CITY OF SUGAR LAND - GREATWOOD
POINT AQUARIUS MUD	2,046	418	GROUNDWATER	yes			•				•	•	Well, Pipeline, Transportation	POINT AQUARIUS MUD
PRAIRIE VIEW	3,400	806	GROUNDWATER	yes			•				•	•	Well, Transportation	PRAIRIE VIEW A&M UNIVERSITY

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
PRAIRIE VIEW A&M UNIVERSITY	3,209	216	GROUNDWATER	yes									Well, Transportation	CITY OF PRAIRIE VIEW
PROVIDENCE WSC	2,126	157	GROUNDWATER	yes									Well, Pipeline, Transportation	PROVIDENCE WSC
RANCH UTILITIES	1,498	145	GROUNDWATER	yes									Well, Pipeline, Transportation	
RICHWOOD	3,785	391	BLEND										Well, Transportation	CITY OF CLUTE
RIVER PLANTATION MUD	2,674	648	BLEND										Well, Transportation	EAST PLANTATION UTILITY DISTRICT
RIVERSIDE WSC	5,325	358	BLEND										Well, Transportation	TRA TRINITY COUNTY REGIONAL
ROLLING FORK PUD	2,625	458	BLEND										Well, Transportation	HARRIS COUNTY MUD 6 CARRIAGE LANE
ROMAN FOREST CONSOLIDATED MUD	1,691	241	GROUNDWATER	yes									Well, Transportation	CITY OF WOOD BRANCH VILLAGE
ROYAL VALLEY UTILITIES	2,046	641	GROUNDWATER	yes									Well, Pipeline, Transportation	NORTH FORT BEND WATER AUTHORITY
SAGEMEADOW UD	6,264	716	BLEND										Well, Transportation	CITY OF HOUSTON
SAN JACINTO SUD	2,740	250	BLEND										Well, Pipeline, Transportation	SAN JACINTO SUD
SAN LEON MUD	5,627	378	BLEND										Well, Transportation	BACLIFF MUD
SEALY	6,754	1,380	GROUNDWATER	yes									Well, Pipeline, Transportation	SEALY
SEDONA LAKES MUD 1	1,148	174	GROUNDWATER	yes									Well, Pipeline, Transportation	BRAZORIA COUNTY MUD 29
SEQUOIA IMPROVEMENT DISTRICT	1,026	163	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
SHENANDOAH	2,997	1,308	GROUNDWATER	yes									Well, Transportation	SJRA THE WOODLANDS (THE WOODLANDS CRU)
SHEPHERD	2,597	313	GROUNDWATER	yes									Well, Pipeline, Transportation	SHEPHERD
SHOREACRES	1,466	325	BLEND										Well, Pipeline, Transportation	PASADENA
SODA WSC	1,942	174	GROUNDWATER	yes									Well, Pipeline, Transportation	SODA WSC
SOUTH CLEVELAND WSC	2,524	215	GROUNDWATER	yes									Well, Transportation	CITY OF CLEVELAND
SOUTHEAST WSC	2,054	267	GROUNDWATER	yes									Well, Transportation	CONCORD-ROBBINS WSC
SOUTHERN WATER	4,366	460	GROUNDWATER	yes									Well, Pipeline, Transportation	HOUSTON
SOUTHSIDE PLACE	2,251	341	BLEND										Well, Pipeline, Transportation	HOUSTON
SOUTHWEST HARRIS COUNTY MUD 1	1,934	142	BLEND										Well, Transportation	HARRIS COUNTY WCID FONDREN ROAD
SPLENDORA	7,641	752	GROUNDWATER	yes									Well, Pipeline, Transportation	SPLENDORA
SPRING MEADOWS MIUD	3,823	308	BLEND										Well, Transportation	CITY OF BAYTOWN
SPRING VALLEY	3,870	1,047	BLEND										Well, Transportation	CITY OF HOUSTON
STANLEY LAKE MUD	3,002	660	GROUNDWATER	yes									Well, Pipeline, Transportation	MONTGOMERY
SUBURBAN UTILITY	3,470	340	GROUNDWATER	yes									Well, Pipeline, Transportation	HOUSTON
SURFSIDE BEACH	723	202	GROUNDWATER	yes									Well, Pipeline, Transportation	SURFSIDE BEACH

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
SWEENEY	3,601	524	GROUNDWATER	yes									Well, Transportation	
T & W WATER SERVICE	7,645	1,911	GROUNDWATER	yes									Well, Pipeline, Transportation	PORTER SUD
TARKINGTON SUD	3,988	424	GROUNDWATER	yes									Well, Pipeline, Transportation	TARKINGTON SUD
TDCJ JESTER UNITS	3,675	1,343	GROUNDWATER	yes									Well, Pipeline, Transportation	NORTH FORT BEND WATER AUTHORITY
TDCJ RAMSEY AREA	1,863	1,573	BLEND										Well, Pipeline, Transportation	QUADVEST
TEMPE WSC 1	2,293	206	GROUNDWATER	yes									Well, Pipeline, Transportation	TEMPE WSC 1
THE COMMONS WATER SUPPLY	3,346	403	GROUNDWATER	yes									Well, Pipeline, Transportation	HOUSTON
THUNDERBIRD UD	6,681	1,215	GROUNDWATER	yes									Well, Transportation	FORT BEND MUD 26
TRAIL OF THE LAKES MUD	9,058	1,043	BLEND										Well, Transportation	HARRIS COUNTY MUD 278
TRINITY	3,807	420	SURFACE WATER	yes									Transportation	TRA TRINITY COUNTY REGIONAL
TRINITY RURAL WSC	4,234	501	BLEND										Well, Transportation	TRINITY RURAL WSC 1
VALLEY RANCH MUD 1	1,938	211	GROUNDWATER	yes									Well, Transportation	PORTER SUD
VARNER CREEK UD	1,509	210	GROUNDWATER	yes									Well, Pipeline, Transportation	
WALKER COUNTY RURAL SUD	7,643	1,012	GROUNDWATER										Well, Transportation	WALKER COUNTY SUD
WALLER	2,518	440	GROUNDWATER	yes									Well, Pipeline, Transportation	NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY

WUG Name	2020 Pop.	2020 Demand (ac ft/yr)	Primary Source of Supply ¹	Entity Relies on Single Source of Supply?	Potential Emergency Water Supply Source(s)							Implementation Requirements		
					Release from Upstream Reservoir	Curtailment of Junior Water Rights	Local Groundwater	Brackish Groundwater	Existing Interconnect	New Interconnect	Trucked In Water	Type of Infrastructure	Entities Providing Supply ²	
WALLIS	1,329	160	GROUNDWATER	yes									Well, Transportation	
WATERWOOD MUD 1	436	123	BLEND										Well, Pipeline, Transportation	WATERWOOD MUD 1
WEST COLUMBIA	3,947	440	GROUNDWATER	yes									Well, Pipeline, Transportation	WEST COLUMBIA
WEST END WSC	1,835	382	GROUNDWATER	yes									Well, Transportation	
WEST HARDIN WSC	312	21	GROUNDWATER	yes									Well, Pipeline, Transportation	HARDIN WSC
WEST HARRIS COUNTY MUD 6	2,719	366	GROUNDWATER	yes									Well, Transportation	CITY OF HOUSTON
WESTWOOD NORTH WSC	2,581	460	GROUNDWATER	yes									Well, Pipeline, Transportation	THE WOODLANDS
WESTWOOD SHORES MUD	1,112	145	SURFACE WATER	yes									Transportation	TRA TRINITY COUNTY REGIONAL
WHITE OAK UTILITIES	1,328	128	GROUNDWATER	yes									Well, Pipeline, Transportation	G & W WSC
WHITE OAK WSC	1,023	92	GROUNDWATER	yes									Well, Pipeline, Transportation	WHITE OAK WSC
WILLIS	7,227	904	GROUNDWATER	yes									Well, Transportation	CITY OF CONROE
WOOD BRANCH VILLAGE	1,177	90	GROUNDWATER	yes									Well, Transportation	ROMAN FOREST CONSOLIDATED MUD
WOODCREEK MUD	3,191	392	GROUNDWATER	yes									Well, Transportation	MEMORIAL HILLS UTILITY DISTRICT
WOODCREEK WATER OF LIBERTY	2,888	283	GROUNDWATER	yes									Well, Pipeline, Transportation	MONT BELVIEU

1. Individual public water systems that use multiple source types (surface water, groundwater, and/or reuse) are indicated as using a blend. County-Other WUGs which include individual entities using more than one source type are indicated as using Multiple sources and may still refer to individual utilities that each use only one source type.

2. Italicized entities represent nearby utilities that could potentially provide supply via a new interconnect, but which are not currently connected.

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APPENDIX 7-D

MODEL DROUGHT CONTINGENCY PLANS

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APPENDIX 7-D1

**MODEL DROUGHT CONTINGENCY PLAN FOR
WHOLESALE PUBLIC WATER PROVIDERS**

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Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and/or to protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the _____ (*name of your water supplier*) adopts the following Drought Contingency Plan (the Plan).

Section II: Public Involvement

Opportunity for the public and wholesale water customers to provide input into the preparation of the Plan was provided by _____ (*name of your water supplier*) by means of _____ (*describe methods used to inform the public and wholesale customers about the preparation of the plan and opportunities for input; for example, scheduling and proving public notice of a public meeting to accept input on the Plan*).

Section III: Wholesale Water Customer Education

The _____ (*name of your water supplier*) will periodically provide wholesale water customers with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of _____ (*example: describe methods to be used to provide customers with information about the Plan; for example, providing a copy of the Plan or periodically including information about the Plan with invoices for water sales*).

Section IV: Coordination with Regional Water Planning Groups

The water service area of the _____ (*name of your water supplier*) is located within the _____ (*name of regional water planning area or areas*) and the _____ (*name of your water supplier*) has provided a copy of the Plan to the _____ (*name of your regional water planning group or groups*).

Section V: Authorization

The _____ (*designated official; for example, the general manager or executive director*), or his/her designee, is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The _____ or his/her designee, shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

The provisions of this Plan shall apply to all customers utilizing water provided by the _____ (*name of your water supplier*). The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Definitions

For the purposes of this Plan, the following definitions shall apply:

- **Conservation:** those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.
- **Customer:** any person, company, or organization using water supplied by _____ (name of your water supplier).
- **Domestic water use:** water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.
- **Non-essential water use:** water uses that are not essential nor required for the protection of public, health, safety, and welfare, including:
 - (a) irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
 - (b) use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
 - (c) use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
 - (d) use of water to wash down buildings or structures for purposes other than immediate fire protection;
 - (e) flushing gutters or permitting water to run or accumulate in any gutter or street;
 - (f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
 - (g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
 - (h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
 - (i) use of water from hydrants for construction purposes or any other purposes other than firefighting.

Section VIII: Criteria for Initiation and Termination of Drought Response Stages

The _____ (*designated official*), or his/her designee, shall monitor water supply and/or demand conditions on a (*example: weekly, monthly*) basis and shall determine when conditions warrant initiation or termination of each stage of the Plan. Customer notification of the initiation or termination of drought response stages will be made by mail or telephone. The news media will also be informed.

The triggering criteria described below are based on:

_____.
(*provide a brief description of the rationale for the triggering criteria; for example, triggering criteria are based on a statistical analysis of the vulnerability of the water source under drought of record conditions or based on known capacity limits*).

Utilization of alternative water sources and/or alternative delivery mechanisms:

Alternative water source(s) for _____ (name of utility) is/are: _____.

(Examples: Other well(s), Inter-connection with other system, Temporary use of a non-municipal water supply, Purchased water, Use of reclaimed water for non-potable purposes, etc.).

Stage 1 Triggers -- MILD Water Shortage Conditions

Requirements for initiation – The _____ (name of your water supplier) will recognize that a mild water shortage condition exists when _____ (describe triggering criteria, see examples below).

Below are examples of the types of triggering criteria that might be used in a wholesale water supplier's drought contingency plan. The wholesale water supplier may devise other triggering criteria and an appropriate number of stages tailored to its system; however, the plan must contain a minimum of three drought stages. One or a combination of such criteria may be defined for each drought response stage:

Example 1: Water in storage in the _____ (name of reservoir) is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 2: When the combined storage in the _____ (name of reservoirs) is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 3: Flows as measured by the U.S. Geological Survey gage on the _____ (name of river) near _____, Texas reaches _____ cubic feet per second (cfs).

Example 4: When total daily water demand equals or exceeds _____ million gallons for _____ consecutive days or _____ million gallons on a single day.

Example 5: When total daily water demand equals or exceeds _____ percent of the safe operating capacity of _____ million gallons per day for _____ consecutive days or _____ percent on a single day.

Requirements for termination - Stage 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (example: 30) consecutive days. The _____ (name of water supplier) will notify its wholesale customers and the media of the termination of Stage 1.

Stage 2 Triggers -- MODERATE Water Shortage Conditions

Requirements for initiation – The _____ (name of your water supplier) will recognize that a moderate water shortage condition exists when _____ (describe triggering criteria).

Requirements for termination - Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (example: 30) consecutive days. Upon termination of Stage 2, Stage 1, or the applicable drought response stage based on the triggering

criteria, becomes operative. The _____ (*name of your water supplier*) will notify its wholesale customers and the media of the termination of Stage 2.

Stage 3 Triggers -- SEVERE Water Shortage Conditions

Requirements for initiation – The _____ (*name of your water supplier*) will recognize that a severe water shortage condition exists when _____ (*describe triggering criteria; see examples in Stage 1*).

Requirements for termination - Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (*example: 30*) consecutive days. Upon termination of Stage 3, Stage 2, or the applicable drought response stage based on the triggering criteria, becomes operative. The _____ (*name of your water supplier*) will notify its wholesale customers and the media of the termination of Stage 3.

Stage 4 Triggers -- CRITICAL Water Shortage Conditions

Requirements for initiation - The _____ (*name of your water supplier*) will recognize that an emergency water shortage condition exists when _____ (*describe triggering criteria; see examples below*).

Example 1. ***Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; or***

Example 2. ***Natural or man-made contamination of the water supply source(s).***

Requirements for termination - Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (*example: 30*) consecutive days. The _____ (*name of your water supplier*) will notify its wholesale customers and the media of the termination of Stage 4.

Section IX: Drought Response Stages

The _____ (*designated official*), or his/her designee, shall monitor water supply and/or demand conditions and, in accordance with the triggering criteria set forth in Section VIII, shall determine that mild, moderate, severe, or critical water shortage conditions exist or that an emergency condition exists and shall implement the following actions:

Stage 1 Response -- MILD Water Shortage Conditions

Target: Achieve a voluntary _____ percent reduction in _____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

*Describe additional measures, if any, to be implemented directly by _____ (*designated official*), or his/her designee(s), to manage limited water supplies and/or reduce water*

demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for nonpotable purposes.

Water Use Restrictions for Reducing Demand:

(a) The _____ (*designated official*), or his/her designee(s), will contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate voluntary measures to reduce water use (*example: implement Stage 1 or appropriate stage of the customer’s drought contingency plan*).

(b) The _____ (*designated official*), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 2 Response -- MODERATE Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (designated official), or his/her designee(s), to manage limited water supplies and/or reduce water demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

(a) The _____ (*designated official*), or his/her designee(s), will request wholesale water customers to initiate mandatory measures to reduce non-essential water use (*example: implement Stage 2 or appropriate stage of the customer’s drought contingency plan*).

(b) The _____ (*designated official*), or his/her designee(s), will initiate weekly contact with wholesale water customers to discuss water supply and/or demand conditions and the possibility of pro rata curtailment of water diversions and/or deliveries.

(c) The _____ (*designated official*), or his/her designee(s), will further prepare for the implementation of pro rata curtailment of water diversions and/or deliveries by preparing a monthly water usage allocation baseline for each wholesale customer.

(d) The _____ (*designated official*), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 3 Response -- SEVERE Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (example: total water use, daily water demand, etc.).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (designated official), or his/her designee(s), to manage limited water supplies and/or reduce water demand. Examples include modifying reservoir operations procedures, interconnection with another water system, and use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

(a) The _____ (designated official), or his/her designee(s), will contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate additional mandatory measures to reduce non-essential water use (example: implement Stage 3 or appropriate stage of the customer's drought contingency plan).

(b) The _____ (designated official), or his/her designee(s), will initiate pro rata curtailment of water diversions and/or deliveries for each wholesale customer.

(c) The _____ (designated official), or his/her designee(s), will provide a weekly report to news media with information regarding current water supply and/or demand conditions, projected water supply and demand conditions if drought conditions persist, and consumer information on water conservation measures and practices.

Stage 4 Response -- EMERGENCY Water Shortage Conditions

Whenever emergency water shortage conditions exist as defined in Section VIII of the Plan, the _____ (designated official) shall:

1. Assess the severity of the problem and identify the actions needed and time required to solve the problem.
2. Inform the utility director or other responsible official of each wholesale water customer by telephone or in person and suggest actions, as appropriate, to alleviate problems (example: notification of the public to reduce water use until service is restored).
3. If appropriate, notify city, county, and/or state emergency response officials for assistance.
4. Undertake necessary actions, including repairs and/or clean-up as needed.
5. Prepare a post-event assessment report on the incident and critique of emergency response procedures and actions.

Section X: Pro Rata Curtailment

In the event that the triggering criteria specified in Section VIII of the Plan for Stage 3 – Severe Water Shortage Conditions have been met, the _____ (*designated official*) is hereby authorized to initiate allocation of water supplies on a pro rata basis in accordance with Texas Water Code, §11.039.

Section XI: Contract Provisions

The _____ (*name of your water supplier*) will include a provision in every wholesale water contract entered into or renewed after adoption of the plan, including contract extensions, that in case of a shortage of water resulting from drought, the water to be distributed shall be divided in accordance with Texas Water Code, §11.039.

Section XII: Enforcement

During any period when pro rata allocation of available water supplies is in effect, wholesale customers shall pay the following surcharges on excess water diversions and/or deliveries:

Example of surcharge:

_____ times the normal water charge per acre-foot for water diversions and/or deliveries in excess of the monthly allocation from _____ percent through _____ percent above the monthly allocation.

Mandatory water use restrictions or pro rata allocation of available water supplies may be imposed during drought stages and emergency water management actions. These water use restrictions will be enforced by warnings and penalties as follows:

- On the first violation, customers will be notified by written notice that they have violated the mandatory water use restriction.
- If the first violation has not been corrected after ten (10) days from the written notice, _____ (*name of your water supplier*) may assess a fine up to \$_____ per violation.
- _____ (*name of your water supplier*) may install a flow restricting device in the line to limit the amount of water which will pass through the meter in a 24-hour period. The utility may charge the customer for the actual cost of installing and removing the flow restricting device, not to exceed fifty dollars (\$50.00);
- _____ (*name of your water supplier*) maintains the right, at any violation or action level, to disconnect irrigation systems and/or suspend water services to a customer for public safety issues with reconnection fees and possible citations.

Subsequent violations of the plan shall result in increased fines or upon the occurrence of _____ violations, after notice, the discontinuation of services. Services discontinued under this provision shall be restored only upon payment of a reconnection fee and any other costs incurred by the utility in discontinuing service.

Section XIII: Variances

The _____ (*designated official*), or his/her designee, may, in writing, grant a temporary variance to the pro rata water allocation policies provided by this Plan if it is determined that failure to grant such

variance would cause an emergency condition adversely affecting the public health, welfare, or safety and if one or more of the following conditions are met:

- (a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- (b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Plan shall file a petition for variance with the _____ (*designated official*) within 5 days after pro rata allocation has been invoked. All petitions for variances shall be reviewed by the _____ (*governing body*), and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Detailed statement with supporting data and information as to how the pro rata allocation of water under the policies and procedures established in the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (c) Description of the relief requested.
- (d) Period of time for which the variance is sought.
- (e) Alternative measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- (f) Other pertinent information.

Variances granted by the _____ (*governing body*) shall be subject to the following conditions, unless waived or modified by the _____ (*governing body*) or its designee:

- (a) Variances granted shall include a timetable for compliance.
- (b) Variances granted shall expire when the Plan is no longer in effect, unless the petitioner has failed to meet specified requirements.

No variance shall be retroactive or otherwise justify any violation of this Plan occurring prior to the issuance of the variance.

Section XIV: Severability and Amendment

It is hereby declared to be the intention of the _____ (*governing body of your water supplier*) that the sections, paragraphs, sentences, clauses, and phrases of this Plan are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the _____ (*governing body of your water supplier*) without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

The _____ (*name of your water supplier*) reserves the right to review, change, amend, or alter any provision of this plan at any time. The _____ (*name of your water supplier*) shall review and update this Plan, as appropriate, at least every five years in consideration of new or updated information.

APPENDIX 7-D2

**MODEL DROUGHT CONTINGENCY PLAN FOR
RETAIL PUBLIC WATER PROVIDERS**

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Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the _____ (*name of your water supplier*) hereby adopts the following regulations and restrictions on the delivery and consumption of water.

Water uses regulated or prohibited under this Drought Contingency Plan (the Plan) are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Section X of this Plan.

Section II: Public Involvement

Opportunity for the public to provide input into the preparation of the Plan was provided by the _____ (*name of your water supplier*) by means of _____ (*describe methods used to inform the public about the preparation of the plan and provide opportunities for input; for example, scheduling and providing public notice of a public meeting to accept input on the Plan*).

Section III: Public Education

The _____ (*name of your water supplier*) will periodically provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of _____ (*describe methods to be used to provide information to the public about the Plan; for example, public events, press releases or utility bill inserts*).

Section IV: Coordination with Regional Water Planning Groups

The service area of the _____ (*name of your water supplier*) is located within the _____ (*name of regional water planning area or areas*) and _____ (*name of your water supplier*) has provided a copy of this Plan to the _____ (*name of your regional water planning group or groups*).

Section V: Authorization

The _____ (*designated official; for example, the mayor, city manager, utility director, general manager, etc.*), or his/her designee is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The _____ (*designated official*) or his/her designee shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

The provisions of this Plan shall apply to all persons, customers, and property utilizing water provided by the _____ (*name of your water supplier*). The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Definitions

For the purposes of this Plan, the following definitions shall apply:

Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Commercial and institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office buildings.

Conservation: those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water or increase the recycling and reuse of water so that a supply is conserved and made available for future or alternative uses.

Customer: any person, company, or organization using water supplied by _____ (*name of your water supplier*).

Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, or 8 and locations without addresses.

Industrial water use: the use of water in processes designed to convert materials of lower value into forms having greater usability and value.

Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and rights-of-way and medians.

Non-essential water use: water uses that are not essential nor required for the protection of public, health, safety, and welfare, including:

- (a) irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
- (b) use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
- (c) use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- (d) use of water to wash down buildings or structures for purposes other than immediate fire protection;
- (e) flushing gutters or permitting water to run or accumulate in any gutter or street;
- (f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
- (g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;

- (h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
- (i) use of water from hydrants for construction purposes or any other purposes other than firefighting.

Odd numbered address: street addresses, box numbers, or rural postal route numbers ending in 1, 3, 5, 7, or 9.

Section VIII: Criteria for Initiation and Termination of Drought Response Stages

The _____ (*designated official*) or his/her designee shall monitor water supply and/or demand conditions on a _____ (*example: daily, weekly, monthly*) basis and shall determine when conditions warrant initiation or termination of each stage of the Plan, that is, when the specified “triggers” are reached.

The triggering criteria described below are based on:

_____.

(Provide a brief description of the rationale for the triggering criteria; for example, triggering criteria / trigger levels based on a statistical analysis of the vulnerability of the water source under drought of record conditions, or based on known system capacity limits).

Utilization of alternative water sources and/or alternative delivery mechanisms:

Alternative water source(s) for _____ (*name of utility*) is/are: _____.

(Examples: Other well(s), Inter-connection with other system, Temporary use of a non-municipal water supply, Purchased water, Use of reclaimed water for non-potable purposes, etc.).

Stage 1 Triggers -- MILD Water Shortage Conditions

Requirements for initiation

Customers shall be requested to voluntarily conserve water and adhere to the prescribed restrictions on certain water uses, defined in Section VII Definitions, when _____.

(Describe triggering criteria / trigger levels; see examples below).

Following are examples of the types of triggering criteria that might be used in one or more successive stages of a drought contingency plan. The public water supplier may devise other triggering criteria and an appropriate number of stages tailored to its system. One or a combination of the criteria selected by the public water supplier must be defined for each drought response stage, but usually not all will apply.

Example 1: Annually, beginning on May 1 through September 3

Example 2: When the water supply available to the _____ (name of your water supplier) is equal to or less than _____ (acre-feet, percentage of storage, etc.).

- Example 3: When, pursuant to requirements specified in the _____ (name of your water supplier) wholesale water purchase contract with _____ (name of your wholesale water supplier), notification is received requesting initiation of Stage 1 of the Drought Contingency Plan.*
- Example 4: When flows in the _____ (name of stream or river) are equal to or less than _____ cubic feet per second.*
- Example 5: When the static water level in the _____ (name of your water supplier) well(s) is equal to or less than _____ feet above/below mean sea level.*
- Example 6: When the specific capacity of the _____ (name of your water supplier) well(s) is equal to or less than _____ percent of the well's original specific capacity.*
- Example 7: When total daily water demand equals or exceeds _____ million gallons for _____ consecutive days of _____ million gallons on a single day (example: based on the safe operating capacity of water supply facilities).*
- Example 8: Continually falling treated water reservoir levels which do not refill above _____ percent overnight (example: based on an evaluation of minimum treated water storage required to avoid system outage).*

Requirements for termination

Stage 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (example: 3) consecutive days.

Stage 2 Triggers – MODERATE Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when _____ (describe triggering criteria; see examples in Stage 1).

Requirements for termination

Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (example: 3) consecutive days. Upon termination of Stage 2, Stage 1, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 3 Triggers – SEVERE Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 3 of this Plan when _____ (describe triggering criteria; see examples in Stage 1).

Requirements for termination

Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (example: 3) consecutive days. Upon termination of Stage 3, Stage 2, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 4 Triggers – CRITICAL Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 4 of this Plan when _____ (*describe triggering criteria; see examples in Stage 1*).

Requirements for termination

Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (*example: 3*) consecutive days. Upon termination of Stage 4, Stage 3, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 5 Triggers – EMERGENCY Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when _____ (*designated official*), or his/her designee, determines that a water supply emergency exists based on:

1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; **OR**
2. Natural or man-made contamination of the water supply source(s).

Requirements for termination

Stage 5 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (*example: 3*) consecutive days.

Stage 6 Triggers – WATER ALLOCATION

Requirements for initiation

Customers shall be required to comply with the water allocation plan prescribed in Section IX of this Plan and comply with the requirements and restrictions for Stage 5 of this Plan when _____ (*describe triggering criteria, see examples in Stage 1*).

Requirements for termination - Water allocation may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of _____ (*example: 3*) consecutive days.

Note: The inclusion of WATER ALLOCATION as part of a drought contingency plan may not be required in all cases. For example, for a given water supplier, an analysis of water supply availability under drought of record conditions may indicate that there is essentially no risk of water supply shortage. Hence, a drought contingency plan for such a water supplier might only address facility capacity limitations and emergency conditions (example: supply source contamination and system capacity limitations).

Section IX: Drought Response Stages

The _____ (*designated official*), or his/her designee, shall monitor water supply and/or demand conditions on a daily basis and, in accordance with the triggering criteria set forth in Section VIII of this Plan, shall determine that a mild, moderate, severe, critical, emergency or water shortage condition exists and shall implement the following notification procedures:

Notification of the Public:

The _____ (*designated official*) or his/ her designee shall notify the public by means of:

Examples:

*publication in a newspaper of general circulation,
direct mail to each customer,
public service announcements,
signs posted in public places
take-home fliers at schools.*

Additional Notification:

The _____ (*designated official*) or his/ her designee shall notify directly, or cause to be notified directly, the following individuals and entities:

Examples:

*Mayor / Chairman and members of the City Council / Utility Board
Fire Chief(s)
City and/or County Emergency Management Coordinator(s)
County Judge & Commissioner(s)
State Disaster District / Department of Public Safety
TCEQ (required when mandatory restrictions are imposed)
Major water users
Critical water users, i.e. hospitals
Parks / street superintendents & public facilities managers*

Note: The plan should specify direct notice only as appropriate to respective drought stages.

Stage 1 Response – MILD Water Shortage Conditions

Target: Achieve a voluntary _____ percent reduction in _____ (*example: total water use, daily water demand, etc.*).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, activation and use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Voluntary Water Use Restrictions for Reducing Demand:

- (a) Water customers are requested to voluntarily limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9), and to irrigate landscapes only between the hours of midnight and 10:00 a.m. and 8:00 p.m. to midnight on designated watering days.
- (b) All operations of the _____ (*name of your water supplier*) shall adhere to water use restrictions prescribed for Stage 1 of the Plan.
- (c) Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

Stage 2 Response – MODERATE Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (example: total water use, daily water demand, etc.).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Demand Reduction:

Under threat of penalty for violation, the following water use restrictions shall apply to all persons:

- (a) Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9), and irrigation of landscaped areas is further limited to the hours of 12:00 midnight until 10:00 a.m. and between 8:00 p.m. and 12:00 midnight on designated watering days. However, irrigation of landscaped areas is permitted at any time if it is by means of a hand-held hose, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited except on designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8:00 p.m. and 12:00 midnight. Such washing, when allowed, shall be done with a hand-held bucket or a hand-held hose equipped with a positive shutoff nozzle for quick rises. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety,

and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.

- (c) Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools is prohibited except on designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- (e) Use of water from hydrants shall be limited to firefighting, related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the _____ (*name of your water supplier*).
- (f) Use of water for the irrigation of golf course greens, tees, and fairways is prohibited except on designated watering days between the hours 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight. However, if the golf course utilizes a water source other than that provided by the _____ (*name of your water supplier*), the facility shall not be subject to these regulations.
- (g) All restaurants are prohibited from serving water to patrons except upon request of the patron.
- (h) The following uses of water are defined as non-essential and are prohibited:
 - 1. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
 - 2. use of water to wash down buildings or structures for purposes other than immediate fire protection;
 - 3. use of water for dust control;
 - 4. flushing gutters or permitting water to run or accumulate in any gutter or street; and
 - 5. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

Stage 3 Response – SEVERE Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (example: total water use, daily water demand, etc.).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped

areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Demand Reduction:

All requirements of Stage 2 shall remain in effect during Stage 3 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 12:00 midnight and 10:00 a.m. and between 8 p.m. and 12:00 midnight and shall be by means of hand-held hoses, hand-held buckets, drip irrigation, or permanently installed automatic sprinkler system only. The use of hose-end sprinklers is prohibited at all times.
- (b) The watering of golf course tees is prohibited unless the golf course utilizes a water source other than that provided by the _____ (*name of your water supplier*).
- (c) The use of water for construction purposes from designated fire hydrants under special permit is to be discontinued.

Stage 4 Response – CRITICAL Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (example: total water use, daily water demand, etc.).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2 and 3 shall remain in effect during Stage 4 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 6:00 a.m. and 10:00 a.m. and between 8:00 p.m. and 12:00 midnight and shall be by means of hand-held hoses, hand-held buckets, or drip irrigation only. The use of hose-end sprinklers or permanently installed automatic sprinkler systems are prohibited at all times.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle not occurring on the premises of a commercial car wash and commercial service stations and not in the immediate interest of public health, safety, and welfare is prohibited. Further, such vehicle washing at commercial car washes and commercial service stations shall occur only between the hours of 6:00 a.m. and 10:00 a.m. and between 6:00 p.m. and 10 p.m.

- (c) The filling, refilling, or adding of water to swimming pools, wading pools, and Jacuzzi-type pools is prohibited.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- (e) No application for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be approved, and time limits for approval of such applications are hereby suspended for such time as this drought response stage or a higher-numbered stage shall be in effect.

Stage 5 Response – EMERGENCY Water Shortage Conditions

Target: Achieve a _____ percent reduction in _____ (example: total water use, daily water demand, etc.).

Best Management Practices for Supply Management:

Describe additional measures, if any, to be implemented directly by _____ (name of your water supplier) to manage limited water supplies and/or reduce water demand. Examples include: system water loss control, reduced or discontinued irrigation of public landscaped areas; use of an alternative supply source(s); use of reclaimed water for non-potable purposes.

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2, 3, and 4 shall remain in effect during Stage 5 except:

- (a) Irrigation of landscaped areas is absolutely prohibited.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is absolutely prohibited.

Stage 6 Response – WATER ALLOCATION

In the event that water shortage conditions threaten public health, safety, and welfare, the _____ (*designated official*) is hereby authorized to allocate water according to the following water allocation plan:

Single-Family Residential Customers

The allocation to residential water customers residing in a single-family dwelling shall be as follows:

Persons per Household	Gallons per Month
1 or 2	6,000
3 or 4	7,000
5 or 6	8,000
7 or 8	9,000
9 or 10	10,000
11 or more	12,000

“Household” means the residential premises served by the customer’s meter. “Persons per household” include only those persons currently physically residing at the premises and expected to reside there for the entire billing period. It shall be assumed that a particular customer’s household is comprised of two (2) persons unless the customer notifies the _____ (*name of your water supplier*) of a greater number of persons per household on a form prescribed by the _____ (*designated official*). The _____ (*designated official*) shall give his/her best effort to see that such forms are mailed, otherwise provided, or made available to every residential customer. If, however, a customer does not receive such a form, it shall be the customer’s responsibility to go to the _____ (*name of your water supplier*) offices to complete and sign the form claiming more than two (2) persons per household. New customers may claim more persons per household at the time of applying for water service on the form prescribed by the _____ (*designated official*). When the number of persons per household increases so as to place the customer in a different allocation category, the customer may notify the _____ (*name of water supplier*) on such form and the change will be implemented in the next practicable billing period. If the number of persons in a household is reduced, the customer shall notify the _____ (*name of your water supplier*) in writing within two (2) days. In prescribing the method for claiming more than two (2) persons per household, the _____ (*designated official*) shall adopt methods to ensure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of persons in a household or fails to timely notify the _____ (*name of your water supplier*) of a reduction in the number of person in a household shall be fined not less than \$_____.

Residential water customers shall pay the following surcharges:

- \$_____ for the first 1,000 gallons over allocation.
- \$_____ for the second 1,000 gallons over allocation.
- \$_____ for the third 1,000 gallons over allocation.
- \$_____ for each additional 1,000 gallons over allocation.

Surcharges shall be cumulative.

Master-Metered Multi-Family Residential Customers

The allocation to a customer billed from a master meter which jointly measures water to multiple permanent residential dwelling units (example: apartments, mobile homes) shall be allocated 6,000 gallons per month for each dwelling unit. It shall be assumed that such a customer’s meter serves two dwelling units unless the customer notifies the _____ (*name of your water supplier*) of a greater number on a form prescribed by the _____ (*designated*

official). The _____ (*designated official*) shall give his/her best effort to see that such forms are mailed, otherwise provided, or made available to every such customer. If, however, a customer does not receive such a form, it shall be the customer's responsibility to go to the _____ (*name of your water supplier*) offices to complete and sign the form claiming more than two (2) dwellings. A dwelling unit may be claimed under this provision whether it is occupied or not. New customers may claim more dwelling units at the time of applying for water service on the form prescribed by the _____ (*designated official*). If the number of dwelling units served by a master meter is reduced, the customer shall notify the _____ (*name of your water supplier*) in writing within two (2) days. In prescribing the method for claiming more than two (2) dwelling units, the _____ (*designated official*) shall adopt methods to ensure the accuracy of the claim. Any person who knowingly, recklessly, or with criminal negligence falsely reports the number of dwelling units served by a master meter or fails to timely notify the _____ (*name of your water supplier*) of a reduction in the number of person in a household shall be fined not less than \$_____. Customers billed from a master meter under this provision shall pay the following monthly surcharges:

- \$_____ for 1,000 gallons over allocation up through 1,000 gallons for each dwelling unit.
- \$_____, thereafter, for each additional 1,000 gallons over allocation up through a second 1,000 gallons for each dwelling unit.
- \$_____, thereafter, for each additional 1,000 gallons over allocation up through a third 1,000 gallons for each dwelling unit.
- \$_____, thereafter for each additional 1,000 gallons over allocation.

Surcharges shall be cumulative.

Commercial Customers

A monthly water allocation shall be established by the _____ (*designated official*), or his/her designee, for each nonresidential commercial customer other than an industrial customer who uses water for processing purposes. The non-residential customer's allocation shall be approximately _____ (*example: 75%*) percent of the customer's usage for corresponding month's billing period for the previous 12 months. If the customer's billing history is shorter than 12 months, the monthly average for the period for which there is a record shall be used for any monthly period for which no history exists. Provided, however, a customer, _____ percent of whose monthly usage is less than _____ gallons, shall be allocated _____ gallons. The _____ (*designated official*) shall give his/her best effort to see that notice of each non-residential customer's allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer's responsibility to contact the _____ (*name of your water supplier*) to determine the allocation. Upon request of the customer or at the initiative of the _____ (*designated official*), the allocation may be reduced or increased if, (1) the designated period does not accurately reflect the customer's normal water usage, (2) one nonresidential customer agrees to transfer part of its allocation to another nonresidential customer, or (3) other objective evidence demonstrates that the designated allocation is inaccurate under present conditions. A customer may appeal an allocation established hereunder to the _____ (*designated official or alternatively, a special water allocation review committee*). Nonresidential commercial customers shall pay the following surcharges:

Customers whose allocation is _____ gallons through _____ gallons per month:

- \$ _____ per thousand gallons for the first 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the second 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the third 1,000 gallons over allocation.
- \$ _____ per thousand gallons for each additional 1,000 gallons over allocation.

Customers whose allocation is _____ gallons per month or more:

- _____ times the block rate for each 1,000 gallons in excess of the allocation up through 5 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 5 percent through 10 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 10 percent through 15 percent above allocation.
- _____ times the block rate for each 1,000 gallons more than 15 percent above allocation.

The surcharges shall be cumulative. As used herein, “block rate” means the charge to the customer per 1,000 gallons at the regular water rate schedule at the level of the customer’s allocation.

Industrial Customers

A monthly water allocation shall be established by the _____ (*designated official*), or his/her designee, for each industrial customer, which uses water for processing purposes. The industrial customer’s allocation shall be approximately _____ (*example: 90%*) percent of the customer’s water usage baseline. Ninety (90) days after the initial imposition of the allocation for industrial customers, the industrial customer’s allocation shall be further reduced to _____ (*example: 85%*) percent of the customer’s water usage baseline. The industrial customer’s water use baseline will be computed on the average water use for the _____ month period ending prior to the date of implementation of Stage 2 of the Plan. If the industrial water customer’s billing history is shorter than _____ months, the monthly average for the period for which there is a record shall be used for any monthly period for which no billing history exists. The _____ (*designated official*) shall give his/her best effort to see that notice of each industrial customer’s allocation is mailed to such customer. If, however, a customer does not receive such notice, it shall be the customer’s responsibility to contact the _____ (*name of your water supplier*) to determine the allocation, and the allocation shall be fully effective notwithstanding the lack of receipt of written notice. Upon request of the customer or at the initiative of the _____ (*designated official*), the allocation may be reduced or increased, (1) if the designated period does not accurately reflect the customer’s normal water use because the customer had shut down a major processing unit for repair or overhaul during the period, (2) the customer has added or is in the process of adding significant additional processing capacity, (3) the customer has shut down or significantly reduced the production of a major processing unit, (4) the customer has previously implemented significant permanent water conservation measures such that the ability to further reduce water use is limited, (5) the customer agrees to transfer part of its allocation to another industrial customer, or (6) if other objective evidence demonstrates that the designated allocation is inaccurate under present

conditions. A customer may appeal an allocation established hereunder to the _____ (*designated official or alternatively, a special water allocation review committee*). Industrial customers shall pay the following surcharges:

Customers whose allocation is _____ gallons through _____ gallons per month:

- \$ _____ per thousand gallons for the first 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the second 1,000 gallons over allocation.
- \$ _____ per thousand gallons for the third 1,000 gallons over allocation.
- \$ _____ per thousand gallons for each additional 1,000 gallons over allocation.

Customers whose allocation is _____ gallons per month or more:

- _____ times the block rate for each 1,000 gallons in excess of the allocation up through 5 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 5 percent through 10 percent above allocation.
- _____ times the block rate for each 1,000 gallons from 10 percent through 15 percent above allocation.
- _____ times the block rate for each 1,000 gallons more than 15 percent above allocation.

The surcharges shall be cumulative. As used herein, “block rate” means the charge to the customer per 1,000 gallons at the regular water rate schedule at the level of the customer’s allocation.

Section X: Enforcement

- (a) No person shall knowingly or intentionally allow the use of water from the _____ (*name of your water supplier*) for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by _____ (*designated official*), or his/her designee, in accordance with provisions of this Plan.
- (b) Any person who violates this Plan is guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than _____ dollars (\$ _____) and not more than _____ dollars (\$ _____). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the _____ (*designated official*) shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, hereby established at \$ _____, and any other costs incurred by the _____ (*name of your water supplier*) in discontinuing service. In addition, suitable assurance must be given to the _____ (*designated official*) that the same action shall not be repeated while the Plan is in effect. Compliance with this plan may also be sought through injunctive relief in the district court.
- (c) Any person, including a person classified as a water customer of the _____ (*name of your water supplier*), in apparent control of the property where a violation occurs or originates

shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parents' control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this Plan and that the parent could not have reasonably known of the violation.

- (d) Any employee of the _____ (*name of your water supplier*), police officer, or other _____ employee designated by the _____ (*designated official*), may issue a citation to a person he/she reasonably believes to be in violation of this Ordinance. The citation shall be prepared in duplicate and shall contain the name and address of the alleged violator, if known, the offense charged, and shall direct him/her to appear in the _____ (*example: municipal court*) on the date shown on the citation for which the date shall not be less than 3 days nor more than 5 days from the date the citation was issued. The alleged violator shall be served a copy of the citation. Service of the citation shall be complete upon delivery of the citation to the alleged violator, to an agent or employee of a violator, or to a person over 14 years of age who is a member of the violator's immediate family or is a resident of the violator's residence. The alleged violator shall appear in _____ (*example: municipal court*) to enter a plea of guilty or not guilty for the violation of this Plan. If the alleged violator fails to appear in _____ (*example: municipal court*), a warrant for his/her arrest may be issued. A summons to appear may be issued in lieu of an arrest warrant. These cases shall be expedited and given preferential setting in _____ (*example: municipal court*) before all other cases.

Section XI: Variances

The _____ (*designated official*), or his/her designee, may, in writing, grant temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the health, sanitation, or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

- (a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- (b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Ordinance shall file a petition for variance with the _____ (*name of your water supplier*) within 5 days after the Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by the _____ (*designated official*), or his/her designee, and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Purpose of water use.
- (c) Specific provision(s) of the Plan from which the petitioner is requesting relief.

- (d) Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (e) Description of the relief requested.
- (f) Period of time for which the variance is sought.
- (g) Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- (h) Other pertinent information.

Section XII: Severability and Amendment

It is hereby declared to be the intention of the _____ (*governing body of your water supplier*) that the sections, paragraphs, sentences, clauses, and phrases of this Plan are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the _____ (*governing body of your water supplier*) without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

The _____ (*name of your water supplier*) reserves the right to review, change, amend, or alter any provision of this plan at any time. The _____ (*name of your water supplier*) shall review and update this Plan, as appropriate, at least every five years in consideration of new or updated information.

APPENDIX 7-D3

**MODEL DROUGHT CONTINGENCY PLAN FOR
IRRIGATION DISTRICTS**

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Section I: Declaration of Policy, Purpose, and Intent

The Board of Directors of the _____ (*name of irrigation district*) deems it to be in the interest of the District to adopt Rules and Regulations governing the equitable and efficient allocation of limited water supplies during times of shortage. These Rules and Regulations constitute the District's drought contingency plan required under Section 11.1272, Texas Water Code, *Vernon's Texas Codes Annotated*, and associated administrative rules of the Texas Commission on Environmental Quality (Title 30, Texas Administrative Code, Chapter 288).

Section II: User Involvement

Opportunity for users of water from the _____ (*name of irrigation district*) was provided by means of _____ (*describe methods used to inform water users about the preparation of the plan and opportunities for input; for example, scheduling and providing notice of a public meeting to accept user input on the plan*).

Section III: User Education

The _____ (*name of irrigation district*) will periodically provide water users with information about the Plan, including information about the conditions under which water allocation is to be initiated or terminated and the district's policies and procedures for water allocation. This information will be provided by means of _____ (*example: describe methods to be used to provide water users with information about the Plan; for example, by providing copies of the Plan and by posting water allocation rules and regulations on the district's public bulletin board*).

Section IV: Coordination with Regional Water Planning Groups

The service area of the _____ (*name of your water supplier*) is located within the _____ (*name of regional water planning area or areas*) and _____ (*name of your water supplier*) has provided a copy of this Plan to the _____ (*name of your regional water planning group or groups*).

Section V: Authorization

The _____ (*example: general manager*) is hereby authorized and directed to implement the applicable provision of the Plan upon determination by the Board that such implementation is necessary to ensure the equitable and efficient allocation of limited water supplies during times of shortage.

Section VI: Application

The provisions of the Plan shall apply to all persons utilizing water provided by the _____ (*name of irrigation district*). The term “person” as used in the Plan includes individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Initiation of Water Allocation

The _____ (*designated official*) shall monitor water supply conditions on a _____ (*example: weekly, monthly*) basis and shall make recommendations to the Board regarding irrigation water allocation. Upon approval of the Board, water allocation will become effective when _____ (*describe the criteria and the basis for the criteria*):

Below are examples of the types of triggering criteria that might be used; singly or in combination, in an irrigation district’s drought contingency plan:

Example 1: Water in storage in the _____ (name of reservoir) is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 2: Combined storage in the _____ (name or reservoirs) reservoir system is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 3: Flows as measured by the U.S. Geological Survey gage on the _____ (name of reservoir) near _____, Texas reaches _____ cubic feet per second (cfs).

Example 4: The storage balance in the district’s irrigation water rights account reaches _____ acre-feet.

Example 5: The storage balance in the district’s irrigation water rights account reaches an amount equivalent to _____ (number) irrigations for each flat rate acre in which all flat rate assessments are paid and current.

Example 6: The _____ (name of entity supplying water to the irrigation district) notifies the district that water deliveries will be limited to _____ acre-feet per year (i.e. a level below that required for unrestricted irrigation).

Section VIII: Termination of Water Allocation

The district’s water allocation policies will remain in effect until the conditions defined in Section VII of the Plan no longer exist and the Board deems that the need to allocate water no longer exists.

Section IX: Notice

Notice of the initiation of water allocation will be given by notice posted on the District’s public bulletin board and by mail to each _____ (example: landowner, holders of active irrigation accounts, etc.).

Section X: Water Allocation

- (a) In identifying **specific, quantified targets** for water allocation to be achieved during periods of water shortages and drought, each irrigation user shall be allocated _____ irrigations or _____ acre-feet of water each flat rate acre on which all taxes, fees, and charges have been paid. The water allotment in each irrigation account will be expressed in acre-feet of water.

Include explanation of water allocation procedure. For example, in the Lower Rio Grande Valley, an “irrigation” is typically considered to be equivalent to eight (8) inches of water per irrigation acre; consisting of six (6) inches of water per acre applied plus two (2) inches of water lost in transporting the water from the river to the land. Thus, three irrigations would be equal to 24 inches of water per acre or an allocation of 2.0 acre-feet of water measured at the diversion from the river.

- (b) As additional water supplies become available to the District in an amount reasonably sufficient for allocation to the District’s irrigation users, the additional water made available to the District will be equally distributed, on a pro rata basis, to those irrigation users having _____.

Example 1: An account balance of less than _____ irrigations for each flat rate acre (i.e. _____ acre-feet).

Example 2: An account balance of less than _____ acre-feet of water for each flat rate acre.

Example 3: An account balance of less than _____ acre-feet of water.

- (c) The amount of water charged against a user’s water allocation will be _____ (example: eight inches) per irrigation, or one allocation unit, unless water deliveries to the land are metered. Metered water deliveries will be charges based on actual measured use. In order to maintain parity in charging use against a water allocation between non-metered and metered deliveries, a loss factor of _____ percent of the water delivered in a metered situation will be added to the measured use and will be charged against the user’s water allocation. Any metered use, with the loss factor applied, that is less than eight (8) inches per acre shall be credited back to the allocation unit and will be available to the user. It shall be a violation of the Rules and Regulations for a water user to use water in excess of the amount of water contained in the user’s irrigation account.
- (d) Acreage in an irrigation account that has not been irrigated for any reason within the last two (2) consecutive years will be considered inactive and will not be allocated water. Any landowner whose land has not been irrigated within the last two (2) consecutive years, may, upon application to the District expressing intent to irrigate the land, receive future allocations. However, irrigation water allocated shall be applied only upon the acreage to which it was allocated, and such water allotment cannot be transferred until there have been two consecutive years of use.

Section XI: Transfers of Allotments

- (a) A water allocation in an active irrigation account may be transferred within the boundaries of the District from one irrigation account to another. The transfer of water can only be made by the landowner's agent who is authorized in writing to act on behalf of the landowner in the transfer of all or part of the water allocation from the described land of the landowner covered by the irrigation account.
- (b) A water allocation may not be transferred to land owned by a landowner outside the District boundaries.

or

A water allocation may be transferred to land outside the District's boundaries by paying the current water charge as if the water was actually delivered by the District to the land covered by an irrigation account. The amount of water allowed to be transferred shall be stated in terms of acre-feet and deducted from the landowner's current allocation balance in the irrigation account. Transfers of water outside the District shall not affect the allocation of water under Section X of these Rules and Regulations.

- (c) Water from outside the District may not be transferred by a landowner for use within the District.

or

Water from outside the District may be transferred by a landowner for use within the District. The District will divert and deliver the water on the same basis as District water is delivered, except that a _____ percent conveyance loss will be charged against the amount of water transferred for use in the District as the water is delivered.

Section XII: Penalties

Any person who willfully opens, closes, changes or interferes with any headgate or uses water in violation of these Rules and Regulations, shall be considered in violation of Section 11.0083, Texas Water Code, *Vernon's Texas Codes Annotated*, which provides for punishment by fine of not less than \$10.00 nor more than \$200.00 or by confinement in the county jail for not more than thirty (30) days, or both, for each violation, and these penalties provided by the laws of the State and may be enforced by complaints filed in the appropriate court jurisdiction in _____ County, all in accordance with Section 11.083; and in addition, the District may pursue a civil remedy in the way of damages and/or injunction against the violation of any of the foregoing Rules and Regulations.

Section XIII: Severability and Amendment

It is hereby declared to be the intention of the Board of Directors of the _____ (*name of irrigation district*) that the sections, paragraphs, sentences, clauses, and phrases of this Plan shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of this Plan, since the same would not have been enacted by the Board without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section.

The _____ (*name of irrigation district*) reserves the right to review, change, amend, or alter any provision of this plan at any time. The _____ (*name of irrigation district*) shall review and update this Plan, as appropriate, at least every five years in consideration of new or updated information.

Section XIV: Authority

The foregoing rules and regulations are adopted pursuant to and in accordance with Sections 11.039, 11.083, 11.1272; Section 49.004; and Section 58.127-130 of the Texas Water Code, *Vernon's Texas Codes Annotated*.

Section XV: Effective Date of Plan

The effective date of this Rule shall be five (5) days following the date of Publication hereof and ignorance of the Rules and Regulations is not a defense for a prosecution for enforcement of the violation of the Rules and Regulations.

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APPENDIX 7-D4

**MODEL DROUGHT CONTINGENCY PLAN FOR
INDUSTRIAL WATER USERS**

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Section I: Declaration of Policy, Purpose, and Intent

This Drought Contingency Plan (the “Plan”) sets forth guidelines for the implementation of temporary water conservation measures by *(name of water user)* during times of reduced supply or emergency conditions. *Optional: Pursuant to (contract section), (name of water user) has developed a Drought Contingency Plan to set forth temporary water conservation measures that are consistent with the (name of wholesale provider) drought contingency plan and (contract).*

Section II: Coordination with Regional Water Planning Groups

The *(name of water user)* facility subject to this Plan is located within the _____ *(name of regional water planning area or areas)* and _____ *(name of water user)* has provided a copy of this Plan to the _____ *(name of your regional water planning group or groups)*.

Section III: Initiation of Drought Response Measures

The _____ *(designated official)* shall monitor water supply conditions on a _____ *(example: weekly, monthly)* basis. Temporary water conservation measures will be implemented when _____ *(describe the criteria and the basis for the criteria)*. *Optional: Industrial entity may choose to develop multiple drought stages and establish different levels of triggering criteria and water-saving response measures, accordingly.*

Below are examples of the types of triggering criteria that might be used; singly or in combination, in a water user’s drought contingency plan:

Example 1: Water in storage in the _____ (name of reservoir) is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 2: Combined storage in the _____ (name or reservoirs) reservoir system is equal to or less than _____ (acre-feet and/or percentage of storage capacity).

Example 3: Flows as measured by the U.S. Geological Survey gage on the _____ (name of reservoir) near _____, Texas reaches _____ cubic feet per second (cfs).

Example 4: The storage balance in the water user’s water rights account reaches _____ acre-feet.

Example 5: The _____ (name of wholesale provider) notifies (name of water user) that water deliveries will be limited to _____ acre-feet per year or million gallons per day (i.e. a level below that required for unrestricted operations).

Temporary water conservation measures may include:

User-specific actions to reduce water usage may be included in the plan or may be maintained internally.

Section IV: Termination of Drought Response Measures

Temporary conservation measures will remain in effect until the conditions defined in Section VII of the Plan no longer exist and the Board deems that the need to allocate water no longer exists.

Section V: Effective Date of Plan

The effective date of this Plan is (*effective date*).

Section VI: Revisions (*optional*)

Within one hundred eighty (180) calendar days of the adoption of any revision to the existing drought contingency plan of (*name of wholesale provider*), (*name of water user*) will amend this Plan, as necessary, to reflect the revisions to (*name of wholesale provider*)'s drought contingency plan and will provide a copy of the amended Plan to (*name of wholesale provider*). Any changes to this Plan shall become effective upon approval of (*name of wholesale provider*) and shall not require an update to the (*contract*).

CHAPTER 8 APPENDICES

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APPENDIX 8-A

**DETAILED DISCUSSION OF OTHER REGULATORY, ADMINISTRATIVE, AND
LEGISLATIVE RECOMMENDATIONS**



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Recommendation	Type
Quantitative Environmental Analysis	Regulatory and Administrative
Discussion:	
<p>The Regional Water Planning Guidelines require that the evaluation of potentially feasible water management strategies include a quantitative analysis of environmental factors including effects on wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico (31 TAC §357.7.(a)(8)(A)). The TWDB has provided detailed guidance on specific study methods to be used in determining population, water demand, project costs, socioeconomic impacts and yield from current and proposed supply sources, but it has not provided similar guidance in the area of environmental impacts. This lack of specificity is resulting in different methods being used in different regions. Additionally, it places the planning groups at risk of needing to conduct additional analysis after state agencies review the Initially Prepared Plans and add those results to the report after the public review period has closed.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the TWDB determines, in conjunction with the TCEQ and TPWD, which specific environmental studies and analysis are required for each category of management strategy (i.e., new water right, new reservoir, etc.). Furthermore, the guidance should be added to the Planning Guidelines, so that Regional Water Planning Groups can reflect the cost of those requirements in their budgets and scopes of work. Adding environmental guidelines will also make water plans consistent across the state.</p>	

Recommendation	Type
Identification of Ecologically Significant River and Stream Segments	Regulatory and Administrative
Discussion:	
<p>The Regional Water Planning Guidelines offer planning groups the opportunity to identify river and stream segments of unique ecological value within a planning area (31 TAC §357.43(b)), including those with important biological or hydrologic functions, riparian conservation areas, threatened, endangered, or unique wildlife communities, or other criteria indicative of ecological significance. In prior planning cycles, the planning groups benefitted in this assessment from TPWD’s evaluation and recommendation of streams relative to the statutory criteria. TPWD’s recommendations for listings of ecologically significant segments were most recently updated in 2003. Due to the continuing growth in the state, the potential for changing stream and riparian conditions, and the importance of protecting ecological function, an updated identification of ecologically significant river and stream segments would be highly beneficial in guiding planning groups in making informed recommendations.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the TPWD, in cooperation with TWDB and the Regional Water Planning Groups, develop an updated analysis of ecologically significant river and stream segments, including identification of river and stream segments of unique ecological value.</p>	

Recommendation	Type
Access to Current Water Availability Models	Regulatory and Administrative
Discussion:	
<p>Water Availability Models (WAMs) are a core component of the regional water planning process and, furthermore, are required by TWDB’s rules for plan development. In response to requests by planning groups and others seeking water rights applications, House Bill 723 was adopted to provide for updates to the Brazos, Neches, Red, and Rio Grande River Basins prior to December 1, 2022. These updates will address revised drought conditions and general updates that have been made since the initial development of these WAMS. Due to the vital importance of these tools in statewide water planning, it is imperative that this initiative continue throughout the state and that up-to-date models are made readily accessible through the TCEQ WAM website.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that TCEQ continue routine updates to Water Availability Models across the state based on a prioritized methodology based on observed climate conditions and the overall limitation on water resources in each basin. This may be prescribed in future rulemaking. Furthermore, these rules should require that the most recent model for each basin be made available through the TCEQ website for use by both the RWPGs and the public.</p>	

Recommendation	Type
Availability of Groundwater within Jurisdictions of Groundwater-Regulating Entities	Regulatory and Administrative
Discussion:	
<p>During the development of the 2016 Region H Regional Water Plan, it was recognized that the approach to groundwater availability required by TWDB’s rules may place an unrealistic limit on groundwater production for various reasons, including local preference for how Desired Future Conditions (DFCs) may be met, differences between average and peak pumping, and the undue pressure on the Groundwater Management Areas (GMAs) to keep up with the regional planning cycle. The TWDB worked to address these issues with the implementation of a Modeled Available Groundwater (MAG) peaking factor that helps align the average conditions considered by GMAs with the peak demand conditions considered by RWPGs. This approach has greatly improved the harmonization of the two planning processes.</p>	
Recommendation:	
<p>Provide for additional opportunities for Groundwater Management Areas and Regional Water Planning Groups to align their planning through rules that recognize the inherent differences of these processes and account for the timing of the methodologies so that changes in groundwater management can be reflected in the Regional Water Plans.</p>	

Recommendation	Type
Promoting OneWater Approaches in Regional Planning	Regulatory and Administrative
Discussion:	
<p>A OneWater or comprehensive approach to water management has demonstrated potential for achieving the highest practicable value to return on investment for managing water, wastewater, recovered water, and stormwater resources. Recently, Austin’s Water Forward program has done the most to push Texas toward a comprehensive approach to water management. However, obstacles still exist to implementation of these sorts of programs. First, more can be done to promote these concepts of demand management and water supply development with water suppliers and utilities. Often, this requires utilities to work with regional partners in order to capture the complete water budget into a program. Second, several strategies such as the conjunctive use of water sources and “banked” supplies like aquifer storage and recovery are difficult to incorporate into Regional Water Plans due to their focus solely on drought-of-record supply. Effort should be made to better reflect these opportunities to maximize water supply.</p>	
Recommendation:	
<p>Work with water utilities and planners to identify the limitations of current planning approaches regarding OneWater management and how these programs may best be reflected in regional plans. This will have the added benefit of promoting these options for comprehensive water management.</p>	

Recommendation	Type
Interbasin Transfers	Legislative
Discussion:	
<p>Senate Bill One states that water rights developed as a result of an interbasin transfer become junior to other water rights granted before the interbasin transfer permit. Senate Bill One made obtaining a permit for interbasin transfer significantly more problematic than it was under prior law and thus, it discouraged the use of interbasin transfers for water supply. This is undesirable for several reasons. First, current supplies greatly exceed projected demands in some basins, and the supplies already developed in those basins can only be used via interbasin transfers. Second, interbasin transfers have been used extensively in Texas and are an important part of the State’s current water supply. For example, three of the Region H Major Water Providers (City of Houston, Trinity River Authority, and San Jacinto River Authority) maintain current permits for interbasin transfers collectively of over 1,000,000 acre-feet per year. A substantial portion of future water demands within the San Jacinto basin (Harris County in particular) of Region H must rely on interbasin transfers. Third, emerging regional water supply plans for major metropolitan areas in Texas (Dallas-Fort Worth and San Antonio) rely on interbasin transfers as a key component of their plans. It is difficult to envision developing a water supply for these areas without significant new interbasin transfers. Furthermore, the inability to meet demands through transfer of existing supplies may result in the need for development of additional, in-basin projects that may have additional cost and environmental impact.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the Legislature remove the unnecessary and counterproductive barriers to interbasin transfers that exist in current law.</p>	

Recommendation	Type
Texas Bays and Estuaries Program Funding	Legislative
Discussion:	
<p>The Texas 80th Legislature established the current process of assessing the environmental quality of riverine and estuarine systems and applying the “best available science” in prescribing actions to preserve these systems. These recommendations have, in turn, been incorporated into the Regional Water Planning process and serve as a critical standard for the evaluation of future water management strategies. However, the current levels of funding within the State of Texas Bay & Estuary program are insufficient to continue the needed monitoring, study, and development of management strategies for the bay.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends establishment of additional and dedicated funding to pursue necessary future efforts of the State’s bay and estuary programs.</p>	

Recommendation	Type
Rule of Capture	Legislative
Discussion:	
<p>Groundwater is a vital resource within Region H. This is especially true within the rural counties of the region that are predominantly dependent on groundwater. Current groundwater law based on the Rule of Capture has facilitated orderly development of groundwater systems throughout the State of Texas, barred the intrusion of private interests, and it could continue to serve the water usage interests throughout the state. It appears that the Rule-of-Capture could continue per the status quo to serve the groundwater interests within the region.</p>	
Recommendation:	
<p>The Region H Water Planning Group supports continued usage of the Rule of Capture as the basis of groundwater law throughout the State of Texas except as modified through creation of certified groundwater conservation districts.</p>	

Recommendation	Type
Groundwater Conservation Districts	Legislative
Discussion:	
<p>Region H communities, particularly those within the rural areas of the region, are dependent on groundwater supplies. Groundwater is a very valuable resource to this region. Region H contains counties, specifically Austin, Leon and Madison, where some municipalities, water supply corporations, and property owners believe Groundwater Conservation Districts (GCD) are needed to retain long-term groundwater supplies within their respective counties. Region H also has several counties, including Brazoria, Waller and Montgomery, where groundwater supplies will reach their maximum sustainable yield due solely to projected in-county water usage. A GCD is a potential vehicle for these counties to manage and protect groundwater supplies from over-development within each respective county.</p>	
Recommendation:	
<p>The Region H Water Planning Group supports creation of groundwater conservation districts, as necessary, by local subarea water interests. These districts provide a unique opportunity for balancing local management with regional planning through the joint planning exercises of Groundwater Management Areas.</p>	

Recommendation	Type
Water Supply Project Financing Mechanism	Legislative
Discussion:	
<p>The Region H Regional Water Plan includes development of several major water supply projects. The capital cost to develop these projects is significantly higher than the historic cost of water supply projects, as future resources are more difficult to perfect than the supplies that have already been developed. The high projected costs can dissuade local communities from making a financial commitment to support future projects and these challenges may delay the implementation of needed projects.</p>	
<p>The 80th Texas Legislature (2007) appropriated funding to enable issuance of \$440 million in bonds for the Water Infrastructure Fund (WIF) to fund water plan projects. The program is designed with a maximum repayment period of 20 years, which may not be adequate for financing larger projects such as surface water reservoirs.</p>	
<p>In 2013, the Texas Legislature created the State Water Implementation Fund for Texas (SWIFT) which was approved by Texas voters to provide \$2 billion dollars for the creation of a new loan program for the implementation of the State Water Plan. This program offers low-interest and deferred loan with maturities up to 30 years which enhances the opportunity for finding large, capital projects that are critical to the SWP. In addition, the program also funds the option of State ownership in projects as another alternative for development.</p>	
Recommendation:	
<p>The Region H Water Planning Group wishes to recognize the Legislature’s efforts in implementing the SWIFT program and also supports ongoing and expanded support for financing methods by the State of Texas for development of water supply projects recommended within adopted Regional Water Plans.</p>	

Recommendation	Type
Groundwater Availability Modeling Funding	Legislative
Discussion:	
<p>Many areas of Region H are totally dependent on groundwater to support the long-term viability of these areas. The current Groundwater Availability Modeling (GAM) effort is supported since it is the most comprehensive groundwater assessment and analysis effort of the previous 20 years.</p>	
Recommendation:	
<p>The Region H Water Planning Group supports continued funding for the Groundwater Availability Modeling effort and recommends comprehensive analysis of all groundwater resources within the state.</p>	

Recommendation	Type
Agricultural and Irrigation Conservation Funding	Legislative
Discussion:	
<p>The Region H water management plan includes a number of irrigation conservation based water management strategies. It is apparent that adoption of irrigation conservation practices may benefit the irrigation and agricultural industry in addition to local communities that may take advantage of water supply savings resulting from irrigation conservation. Additionally, the RHWPG supports further research and development of water-efficient and drought-resistant crops and species.</p>	
Recommendation:	
<p>The Region H Water Planning Group supports funding of research and development studies associated with the efficient usage of irrigation technologies and practices.</p>	

Recommendation	Type
Water Conservation	Legislative
Discussion:	
<p>The Region H Water Planning Group (RHWPG) strongly supports water conservation at all levels. The RHWPG has incorporated water conservation in the regional water plan as a management strategy. However, realizing advanced conservation savings in municipal county-other areas may be difficult, as these practices require some management, funding, and oversight. While the RHWPG does not advocate a one-size-fits-all conservation program for the State of Texas, they recommend that the Legislature address water conservation and provide some guidance and ability for county and local governments to implement these programs. The 78th Legislature appointed a Water Conservation Task Force to study water conservation policies and best management practices, and to report their results to the 79th Legislature in 2005. The 80th Legislature passed Senate Bill 3 creating a Water Conservation Advisory Council consisting of 23 members to provide a resource with expertise in water conservation. In 2018, TWDB funded the development of a water conservation planning tool specifically constructed for Texas water utilities. These efforts provide significant assistance to water suppliers that lack the resource to plan and implement water conservation approaches independently.</p>	
Recommendation:	
<p>The Region H Water Planning Group supports water conservation and recommends that the Legislature continue to address and improve water conservation activities in the state. In addition, the RHWPG recommends the State consider improvements to statewide efforts and messaging regarding the importance of water conservation.</p>	

Recommendation	Type
Water Conservation Research Funding	Legislative
Discussion:	
<p>The Water Conservation Implementation Task Force identified numerous best management practices in <i>TWDB Report 362 – Water Conservation Best Management Practices Guide</i>. The Best Management Practices outlined in the report were developed using information compiled from past research and studies along with information provided by the task force members. Additional water-saving technologies may still be developed in the future.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the State fund research into advanced conservation technologies.</p>	

Recommendation	Type
Flood Liability of Water Supply Reservoirs	Legislative
Discussion:	
<p>Flood control reservoirs are generally drawn down at the beginning of the annual wet season so that when large rain events occur, the runoff may be captured and later released more slowly into the receiving stream. These reservoirs therefore reduce downstream flood levels and prevent inundation in low areas. In contrast, water supply reservoirs are operated to capture and retain as much stream flow as allowable under their permits in order to have supply available during periods of high demand. This practice results in less available storage volume to capture runoff during major storms. When a major storm event occurs upstream or above a water supply reservoir, the reservoir operator must sometimes release flood flows during and after the event to prevent flooding upstream of the reservoir or to prevent damage to the dam and other facilities associated with the reservoir. Although this flood flow can contribute to downstream flooding, most reservoirs actually reduce the amount of flooding which could have occurred had the reservoir not been constructed.</p> <p>In recent years, plaintiffs with property in the downstream floodplains have brought multiple lawsuits against major water supply reservoir operators. Some recent court decisions have held the operators liable for damages to the downstream properties. If this trend is allowed to continue, it will increase insurance rates for these entities and will force operational changes to occur that may result in less available water supply for periods of need. The net effect to water users will be an increase in the cost of surface water throughout the state.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the State consider legislation clarifying the liability exposure of reservoir operators for passing storm flows through water supply reservoirs.</p>	

Recommendation	Type
Incorporation of Technology Advancements in Projections	Legislative
Discussion:	
Current population projections based on traditional historic growth patterns may not accurately reflect the changes likely to occur in the future as digital connectivity continues to alter our economic, educational, and social institutions.	
Recommendation:	
The Region H Water Planning Group recommends that the State direct the State Demographer's office to explore the potential changes in population distribution made possible by rapid advancements in information technology.	

Recommendation	Type
Ongoing RWPG Activities	Legislative
Discussion:	
<p>It is apparent that the RWPGs will have to meet periodically to address changed conditions related to the adopted regional water management plans. Ongoing activities will include, but not be limited to:</p> <ol style="list-style-type: none"> 1. Consideration of additions and modifications to the adopted plans 2. Serving as communications liaisons with the water user communities within each region 3. Assisting in the reconciliation of inter-regional water issues 	
<p>It will be necessary to consider additional and adequate funding to support maintenance of the RWPGs.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends that the TWDB request additional and adequate funding and the adoption of the appropriate administrative procedures from the Legislature to facilitate ongoing activities of the RWPGs. Funding should be made available throughout the entirety of the planning cycle without funding gaps that make it difficult for planning groups to accomplish their ongoing efforts.</p>	

Recommendation	Type
State Revolving Fund Programs (Drinking Water State Revolving Fund and Clean Water State Revolving Fund)	Infrastructure Finance
Discussion:	
<p>These programs provide loans at subsidized interest rates for the construction of water treatment and distribution systems and for source water protection (DWSRF) and for wastewater collection and treatment systems (CWSRF). As the loans are paid off, the TWDB uses the funds to make new loans (thus the name Revolving Fund). State funds for the program receive a federal match through the Environmental Protection Agency. These loans are intended for projects to bring existing systems into compliance with rules and regulations, and are available to political subdivisions, water supply corporations, and privately-owned water systems. Applications are collected at the beginning of each year, given a priority ranking, and funded to the extent possible. Projects not funded in a given year may carry forward into the next year’s ranking.</p> <p>These programs are important in that they assist sub-standard water systems in attaining the minimum water quality mandated by Federal and State regulations, but they are not intended to fund system expansions due to projected growth. However, these programs may apply to individual systems in the Region experiencing water quality declines, or to those systems affected by the changed standard for Arsenic. The SRF Fund may also provide assistance to water providers with aging treatment systems and transmission lines.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends increasing the funding of the State Revolving Funds Program in future decades and expand the program to include coverage for system capacity increases to meet projected growth for communities.</p>	

Recommendation	Type
Agricultural Water Conservation Loan Program	Infrastructure Finance
Discussion:	
<p>This program provides loans to soil and water conservation districts, underground water conservation districts and districts authorized to supply water for irrigation. These districts may further lend the funds to private individuals for equipment and materials, labor, preparation, and installation costs to improve water-use efficiency related to irrigation of their private lands. There is also a grant program for equipment purchases by eligible districts for the measurement and evaluation of irrigation systems and agricultural water conservation practices, and for efficient irrigation and conservation demonstration projects, among others. However, these grants are not available to individual irrigators. Similar Federal loan and grant programs are available but require a 25% to 50% local match.</p> <p>In the Region H Water Plan, irrigation conservation is a recommended strategy in eight counties (Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, and Waller). In some cases, the conservation of water through these agricultural programs provides additional water for use by municipalities that also use groundwater supplies. As it is unlikely that municipalities will seek out and fund irrigation conservation projects, the task of encouraging conservation will fall to the wholesale water providers and those government entities with jurisdiction in those counties. Even with Agricultural Water Conservation Loan Program assistance, irrigators will be slow to invest in water-conserving equipment until water rates increase, making it economically advantageous to do so. The difficulty increases in areas where groundwater is the primary supply source for irrigation.</p> <p>Additionally, irrigators in Region H also find it difficult to access funding programs as these typically require ownership of the irrigated property. Much of the production within the region is performed by farmers who lease land from others, making them ineligible for these programs.</p> <p>Eligible districts will need to act as conservation brokers, identifying those irrigators with the potential to reduce water demand through equipment improvements, and matching them with available loans. To assist with the immediate adoption of these improved conservation practices, a one-time grant or subsidy program for water-efficient equipment purchases may help by reducing the loans amounts required by each irrigator. If the requirements of an existing Federal loan or grant program could be met, the State could provide all or part of the local matching share. Since the methods used by irrigators vary across the state, such a program would need to be flexible, with local oversight provided by those districts currently eligible for the Agricultural Water Conservation Loan Program. Consistency with the applicable Regional Water Plan may be included as a prerequisite for this program, as it is for other State grants and loans.</p>	
Recommendation:	
<p>Provide a mechanism to leverage federal grant programs for agriculture by providing the local matching share. Increase funding of associated loan programs and consider adding a one-time grant or subsidy component to stimulate early adoption of conservation practices by individual irrigators. Provide opportunities for joint cooperation between growers and landowners to facilitate the use of funding programs for property under long-term lease agreements.</p>	

Recommendation	Type
Texas Community Development Program	Infrastructure Finance
Discussion:	
<p>The federal Community Development Block Grant program provides grants and loans to low-income communities for certain projects, including water and wastewater infrastructure. It is administered in Texas under the Office of Rural Community Affairs as the Texas Community Development Program. The Small Town Environment Program (STEP) under the TCDP provides water and sewer system grants to cities and counties not eligible for funding under the Colonias or Economically Disadvantaged Areas Programs (EDAP). Within Region H, there are no Colonias or EDAP-eligible communities, but STEP grants may be obtained.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends continued state and federal support of the Texas Community Development Program and increasing the allocation of funds for the Small Town Environment Program.</p>	

Recommendation	Type
Water and Waste Disposal Loans and Grants from the USDA Rural Utilities Service	Infrastructure Finance
Discussion:	
<p>This Federal program provides loans and grants in rural areas and communities of up to 10,000 people for water, wastewater, storm water, and municipal solid waste projects. The program is intended for communities that cannot obtain commercial loans at reasonable rates. Loans are made at or below market rates, depending upon the eligibility of the recipient. Grants can cover up to 75% of project costs when required to reduce user costs to a reasonable level. A separate program of Emergency Community Water Assistance Grants (up to \$500,000 per project) is also available to communities experiencing rapid declines in water quality or quantity.</p>	
<p>This program is similar to the state loan and revolving fund programs. It offers another option to small communities and rural areas unable to finance required infrastructure without assistance. However, this is a nationwide program, and the competition for available funds is correspondingly greater. Colonias and border areas are specifically identified as target areas for the grant portion of this program, and it is therefore in the State’s interest to support its continued funding.</p>	
Recommendation:	
<p>The Region H Water Planning Group recommends continued support and increased funding of Water and Waste Disposal Loans and Grants from USDA Rural Utilities Service at the federal level.</p>	

Recommendation	Type
Innovative Water Technologies	Infrastructure Finance
Discussion:	
<p>The Texas Water Development Board’s Innovative Water Technologies Program has provided technical assistance for development of seawater desalination, brackish groundwater, rainwater harvesting, water reuse, and aquifer storage and recovery programs. This has included several statewide feasibility studies and participation in site-specific demonstration programs. These and similar projects will be an essential resource in progressing the status of innovative water supply projects that will form a critical component of the overall water budget as Texas continues to grow.</p>	
Recommendation:	
<p>Provide technical assistance grants for the advancement of desalination water supplies and implementation of new desalination technologies available to wholesale and retail water suppliers. Provide resources for identification and feasibility assessment of opportunities for aquifer storage and recovery projects. Continue to fund appropriate demonstration facilities to develop a customer base and pursue federal funding for desalination programs.</p>	

Recommendation	Type
Regionalization	Infrastructure Finance
Discussion:	
<p>As communities assess the growing costs of water infrastructure, economies of scale can be realized by combining the needs of water user groups into larger, more efficient water supply, treatment and distribution facilities. Regional facilities offer interconnections between existing systems, which can increase overall reliability. The individual system connections to these systems can be phased over time to meet regional demands with less impact on individual systems than each individually trying to expand. In areas where groundwater limits are being reached, regional groups can identify areas where surface water supply is most needed, and allow other areas to remain on groundwater systems. Sharing costs across a wide customer base keeps rates comparable between service areas.</p> <p>A range of cooperative options exists, including formation of regional authorities, inter-local agreements, public-private partnerships, local government corporations, and public contracting with a private regional supplier. The optimal arrangement between political subdivisions depends upon the specific project and the goals of the parties. Partnerships with private investors through public-private partnerships and direct contracting with privately-owned facilities offer an advantage of using private financing to meet part of the initial planning and construction costs. The regulations governing these partnerships must protect the public represented by the partnership, but if too restrictive, may prevent the partnership from realizing potential cost savings through the use of private-sector procurement and construction practices.</p> <p>Consideration should be given to reducing procurement restrictions for Local Government Corporations to encourage the pooling of resources for funding regional projects. Also, existing assistance programs should remain available when political subdivisions enter into public/public or public/private partnerships.</p>	
Recommendation:	
<p>Region H supports the forming of regional partnerships and encourages the State to allow them the greatest possible latitude for financing in their governing regulations. Additionally, funding opportunities should be made available to these public/private partnerships and to private nonprofit water supply corporations.</p>	

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CHAPTER 9 APPENDICES

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APPENDIX 9-A
TABULATED SURVEY RESULTS

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Table 9-A1 – Tabulated Infrastructure Finance Report Survey Responses

Sponsor	Project Name	Project Total Capital Cost	(1) Planning, Design, Permitting & Acquisition		(2) Construction		Total of (1) Planning and Acquisition and (2) Construction	Percent State Participation in Owning Excess Capacity
			Amount	Year Needed	Amount	Year Needed		
CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	\$17,202,167	\$2,300,000	2019	\$9,205,750	2022	\$11,505,750	0
	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	\$26,588,846	\$4,551,000	multi-year	\$30,589,000	multi-year	\$35,140,000	0
	COH, NCHCRWA, AND CHCRWA SHARED TRANSMISSION	\$12,962,627	\$1,892,000	multi-year	\$10,473,000	multi-year	\$12,365,000	0
	MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	\$13,212,771						
CHATEAU WOODS MUD	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	\$1,185,366	TBD	TBD	TBD	TBD	TBD	0
	WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	\$14,616,551	TBD	TBD	TBD	TBD	TBD	0
	MUNICIPAL CONSERVATION, CHATEAU WOODS MUD	\$685,178	\$0	?	\$0	?	\$0	0
	BRAZOS SALTWATER BARRIER	\$67,552,043	\$19,888,000	TBD	\$35,891,480	TBD	\$55,779,480	TBD
DOW INC	DOW RESERVOIR AND PUMP STATION EXPANSION	\$350,000,000	\$15,000,000	2021	\$335,000,000	2022	\$350,000,000	0
	FREPORT SEAWATER DESALINATION	\$155,877,822	\$25,000,000	2030	\$130,877,822	2032	\$155,877,822	TBD
	MUNICIPAL CONSERVATION, FOREST HILLS MUD	\$524,989	\$200,000	2022	\$324,989	2025	\$524,989	0
FOREST HILLS MUD	WATER LOSS REDUCTION, FOREST HILLS MUD	\$369,452	\$100,000	2023	\$269,452	2026	\$369,452	0
	WUG INFRASTRUCTURE EXPANSION - FOREST HILLS MUD	\$10,162,348	\$500,000	2025	\$2,500,000	2027	\$3,000,000	0
FORT BEND COUNTY MUD 115	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 115	\$372,829	\$0		\$0		\$0	0
	WATER LOSS REDUCTION, FORT BEND COUNTY MUD 115	\$743,632	\$0		\$0		\$0	0
	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 115	\$10,289,100	\$0		\$0		\$0	0
FORT BEND COUNTY MUD 128	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 128	\$780,546	\$0		\$0		\$0	0
	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 128	\$10,439,739	\$0		\$0		\$0	0

Sponsor	Project Name	Project Total Capital Cost	(1) Planning, Design, Permitting & Acquisition		(2) Construction		Total of (1) Planning and Acquisition and (2) Construction	Percent State Participation in Owning Excess Capacity
			Amount	Year Needed	Amount	Year Needed		
FORT BEND COUNTY MUD 129	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 129	\$854,414	\$0		\$0		\$0	0
	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 129	\$10,289,100	\$0		\$0		\$0	0
FORT BEND COUNTY MUD 149	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 149	\$1,015,781	\$0		\$0		\$0	0
	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 149	\$10,088,460	\$0		\$0		\$0	0
FORT BEND COUNTY MUD 158	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 158	\$654,285	\$0		\$0		\$0	
	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 158	\$10,088,460	\$0		\$0		\$0	
FORT BEND COUNTY MUD 162	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD 162	\$869,534	\$0		\$0		\$0	
	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD 162	\$5,639,722	\$0		\$0		\$0	
GULF COAST WATER AUTHORITY	CHOCOLATE BAYOU PUMP STATION EXPANSION*	\$0						
	CHOCOLATE BAYOU SALTWATER BARRIER IMPROVEMENTS*	\$0						
	GALVESTON COUNTY INDUSTRIAL REUSE INFRASTRUCTURE	\$90,746,960						
	GCWA BACKUP WELL DEVELOPMENT	\$1,346,492						
GULF COAST WATER AUTHORITY	GCWA WESTERN GALVESTON COUNTY TREATMENT EXPANSION	\$167,919,105						
	GCWA INDUSTRIAL RAW WATER LINE	\$45,110,104						
	MUSTANG RESERVOIR IMPROVEMENTS*	\$0						
	SEWPP ADDITIONAL MODULE	\$97,597,266						
	SOUTHEAST TRANSMISSION LINE IMPROVEMENTS	\$53,117,789						

Sponsor	Project Name	Project Total Capital Cost	(1) Planning, Design, Permitting & Acquisition		(2) Construction		Total of (1) Planning and Acquisition and (2) Construction	Percent State Participation in Owning Excess Capacity
			Amount	Year Needed	Amount	Year Needed		
MONTGOMERY COUNTY WCID 1	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID 1	\$870,925	\$250,000	2027	\$620,925	2030	\$870,925	0
	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY WCID 1	\$10,088,460	\$1,500,000	2025	\$8,588,460	2026	\$10,088,460	0
NORTH CHANNEL WATER AUTHORITY	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	\$19,645,665	TBD		TBD		TBD	
	WATER LOSS REDUCTION, NORTH CHANNEL WATER AUTHORITY	\$5,816,298	TBD		TBD		TBD	
NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION - PHASES 1 AND 2	\$615,693,056	\$77,383,000	2017	\$696,447,000	2019	\$773,830,000	0
	COH, NHCRWA, AND CHRWA SHARED TRANSMISSION	\$300,595,751	\$33,999,000	2018	\$305,991,000	2018	\$339,990,000	0
	MUNICIPAL CONSERVATION, NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	\$228,700,267	\$22,870,027	2020	\$205,830,240	2021	\$228,700,267	0
	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRWA	\$21,061,144	\$2,106,114	2025	\$18,955,030	2027	\$21,061,144	0
	NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	\$501,912,161	\$82,679,000	2017	\$744,111,000	2020	\$826,790,000	0
	NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	\$404,769,674	\$40,476,967	2032	\$364,292,707	2035	\$404,769,674	0
	NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	\$13,022,081	\$1,302,208	2042	\$11,719,873	2045	\$13,022,081	0
	NHCRWA MEMBER DISTRICT REUSE INFRASTRUCTURE	\$4,295,775	\$429,578	2021	\$3,866,198	2021	\$4,295,775	0
	NHCRWA TRANSMISSION LINES	\$327,910,960	\$13,538,500	2019	\$121,846,500	2020	\$135,385,000	0
	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	\$225,394,742	\$22,539,474	2023	\$202,855,268	2025	\$225,394,742	0
NORTH ZULCH MUD	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	\$11,181,277	\$1,118,128	2032	\$10,063,149	2035	\$11,181,277	0
	MUNICIPAL CONSERVATION, NORTH ZULCH MUD	\$457,404	\$197,000	2020	\$260,404	2021	\$457,404	0
NRG	WATER LOSS REDUCTION, NORTH ZULCH MUD	\$215,606	\$70,000	2020	\$145,606	2021	\$215,606	0
	NRG CEDAR BAYOU DESALINATION INFRASTRUCTURE	\$342,840,391	\$6,900,000	2021	\$51,500,000	2022	\$58,400,000	20

Sponsor	Project Name	Project Total Capital Cost	(1) Planning, Design, Permitting & Acquisition		(2) Construction		Total of (1) Planning and Acquisition and (2) Construction	Percent State Participation in Owning Excess Capacity
			Amount	Year Needed	Amount	Year Needed		
PEARLAND	MUNICIPAL CONSERVATION, PEARLAND	\$40,507,644	\$6,500,000	2029-2030	\$34,007,644	2031-2035	\$40,507,644	0
	PEARLAND REUSE INFRASTRUCTURE	\$12,648,000	\$3,500,000	2023	\$9,148,000	2024	\$12,648,000	0
	PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	\$232,787,093	\$32,000,000	2040-2041	\$200,787,093	2041-2043	\$232,787,093	0
	WATER LOSS REDUCTION, PEARLAND	\$7,680,110	\$1,500,000	2023	\$6,180,110	2024	\$7,680,110	0
PORTER SUD	PORTER SUD GRP INFRASTRUCTURE - PHASE 1	\$18,370,179	\$13,340,000	2022	\$24,000,000	2023	\$37,340,000	0
	PORTER SUD GRP INFRASTRUCTURE - PHASE 2	\$8,492,353	\$5,560,000	2029	\$10,000,000	2030	\$15,560,000	0
	WUG INFRASTRUCTURE EXPANSION - PORTER SUD	\$19,391,918	\$10,100,000	2025	\$18,200,000	2026	\$28,300,000	0
	LAKE LIVINGSTON TO SJIRA TRANSFER	\$245,492,975	\$58,152,562	2023	\$187,340,413	2035	\$245,492,975	0
SAN JACINTO RIVER AUTHORITY	SJIRA AQUIFER STORAGE AND RECOVERY	\$222,907,186	\$55,547,737	2048	\$167,359,449	2060	\$222,907,186	0
	SJIRA CATAHOULA AQUIFER SUPPLIES	\$18,200,411	\$4,613,155	2023	\$13,587,256	2031	\$18,200,411	0
	SJIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	\$87,842,787	\$21,960,697	2031	\$65,882,090	2036	\$87,842,787	0
	SJIRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	\$348,819,483	\$87,204,871	2041	\$261,614,612	2046	\$348,819,483	0
	SJIRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	\$213,429,097	\$53,357,274	2051	\$160,071,823	2056	\$213,429,097	0
	SJIRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	\$348,819,483	\$87,204,871	2061	\$261,614,612	2066	\$348,819,483	0
SIENNA PLANTATION	MUNICIPAL CONSERVATION, SIENNA PLANTATION	\$14,108,377	\$0		\$0		\$0	0
	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION	\$12,234,868	\$0		\$0		\$0	0

Sponsor	Project Name	Project Total Capital Cost	(1) Planning, Design, Permitting & Acquisition		(2) Construction		Total of (1) Planning and Acquisition and (2) Construction	Percent State Participation in Owning Excess Capacity
			Amount	Year Needed	Amount	Year Needed		
	MUNICIPAL CONSERVATION, SUGAR LAND	\$40,237,388	\$0		\$0		\$0	
	SUGAR LAND ADVANCED LOSS REDUCTION	\$359,565	\$0		\$0		\$0	
	SUGAR LAND AMI	\$12,488,608	\$0		\$0		\$0	
SUGAR LAND	SUGAR LAND GROUNDWATER PLANT CONVERSION	\$21,466,745	\$0		\$0		\$0	
	SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 1	\$18,579,129	\$0		\$0		\$0	
	SUGAR LAND IWRP REUSE INFRASTRUCTURE - PHASE 2	\$10,302,830	\$0		\$0		\$0	
	SUGAR LAND SURFACE WATER EXPANSION - PHASE 1	\$52,730,261	\$0		\$0		\$0	
SUGAR LAND	SUGAR LAND SURFACE WATER EXPANSION - PHASE 2	\$17,206,901	\$0		\$0		\$0	
	WATER LOSS REDUCTION, SUGAR LAND	\$1,306,356	\$0		\$0		\$0	
	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD 6	\$379,276	\$179,276	2025	\$200,000	2026	\$379,276	0
WEST HARRIS COUNTY MUD 6	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD 6	\$5,989,492	\$1,750,000	2028	\$4,239,492	2030	\$5,989,492	0

*Project included in the Region H Initially Prepared Plan but not included in the 2021 Region H Regional Water Plan at sponsor request due to project already being in development.

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CHAPTER 10 APPENDICES

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APPENDIX 10-A

PUBLIC HEARING MATERIALS

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APPENDIX 10-A1

ORIGINAL PUBLIC NOTICE

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REGION H

Water Planning Group

REGION H WATER PLANNING GROUP
Senate Bill 1 - Texas Water Development Board
c/o San Jacinto River Authority
P. O. Box 329, Conroe, Texas 77305
Telephone 936-588-3111 Facsimile 936-588-3043

TO:

- Each voting or non-voting member of the Regional Water Planning Group.
- Any person who has requested notice in writing.
- Each mayor of a municipality with a population of 1,000 or more or which is a county seat that is located in whole or in part in the Region H water planning area;
- Each county judge of a county located in whole or in part in the Region H water planning area;
- Each special or general law district or river authority with responsibility to manage or supply water in the Region H water planning area based upon lists of such water districts and river authorities obtained from Texas Commission on Environmental Quality;
- Each retail public utility, defined as a community water system, that serves any part of the Region H water planning area or receives water from the Region H water planning area based upon lists of such entities obtained from Texas Commission on Environmental Quality; and
- Each holder of record of a water right for the use of surface water the diversion of which occurs in the Region H water planning area based upon lists of such water rights holders obtained from Texas Commission on Environmental Quality.

RE: **Public Notice of an *Initially Prepared 2021 Region H Water Plan (IPP)***

DATE: March 6, 2020

PUBLIC NOTICE

To All Interested Parties:

The Region H Water Planning Group area includes all or part of the following counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Leon, Liberty, Madison, Montgomery, Polk, San Jacinto, Trinity, Walker, and Waller.

Notice is hereby given that the Region H Water Planning Group (RHWP) is requesting public review and comment on an Initially Prepared 2021 Region H Water Plan (the IPP).

A summary of the content of the Draft Initially Prepared Plan: The *Initially Prepared Plan (IPP)* updates the 2016 Region H Water Plan that was included in the 2017 State Water Plan prepared by the Texas Water Development Board (TWDB). The 2021 IPP addresses the following topics:

- Projected population and water demands
- Existing water supply sources
- Analysis of needs
- Recommended water management strategies for meeting any identified water shortages
- Water conservation recommendations

- Impacts of the Regional Water Plan
- Drought response
- Regulatory, Administrative and Legislative Recommendations
- Comparison to previous regional planning

Public Comment: Public hearings to receive public comment on the IPP will be held at the following dates and locations:

April 16, 6:00 p.m.

City of Madisonville, Texas - Truman Kimbro Center
111 West Trinity Street
Madisonville, Texas 77864

April 21, 6:00 p.m.

Richmond, Texas
Fort Bend County Libraries - George Memorial Library
1001 Golfview Drive
Richmond, Texas 77469

April 23, 6:00 p.m.

Conroe, Texas
Montgomery County Memorial Library System – Central Library
104 I-45 North
Conroe, Texas 77304

The Agenda for each public hearing will consist of (1) brief introductions on behalf of the RHWPG, (2) a summary of the planning effort and the IPP given by the consulting team, and (3) individual comments of members of the public.

The RHWPG will accept written comments until 5:00 p.m. June 28, 2020. Written comments should be provided to:

Hon. Mark Evans, Chair, RHWPG
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

Written comments without attachments also may be emailed to info@regionhwater.org.

Questions or requests for additional information may be submitted to: Jace Houston, General Manager, San Jacinto River Authority, P.O. Box 329, Conroe, TX 77305-0329, telephone 936-588-3111. The San Jacinto River Authority is the Administrator for the RHWPG.

A copy of the Initially Prepared Plan for 2021 is available at the County Clerk's office and at a depository library in each county in Region H. A list of depositories and a copy of the IPP are available on the RHWPG website at www.regionhwater.org. A copy of the IPP also is at <https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp>.

REGION H DEPOSITORY LIBRARIES AND COUNTY CLERKS

AUSTIN COUNTY

Gordon Library
917 North Circle Drive
Sealy, TX 77474

BRAZORIA COUNTY

Angleton Public Library
401 East Cedar
Angleton, TX 77515

CHAMBERS COUNTY

Chambers County Library – Main Branch
202 Cummings
Anahuac, TX 77514

FORT BEND COUNTY

George Memorial Library
1001 Golfview
Richmond, TX 77469

GALVESTON COUNTY

Rosenberg Library
2310 Sealy
Galveston, TX 77550

HARRIS COUNTY

Houston Public Library – Central
1st Floor, Bibliographic Information Center
500 McKinney
Houston, TX 77002

LEON COUNTY

Buffalo Public Library
1005 Hill
Buffalo, TX 75831

LIBERTY COUNTY

Sam Houston Regional Library
and Research Center
650 FM 1011
Liberty, TX 77575

AUSTIN COUNTY

County Clerk
County Courthouse
1 East Main
Bellville, TX 77418

BRAZORIA COUNTY

County Clerk
East Annex, Room 152
1524 East Mulberry (Highway 35)
Angleton, TX 77515

CHAMBERS COUNTY

County Clerk
County Courthouse
404 Washington Avenue
Anahuac, TX 77514

FORT BEND COUNTY

County Clerk
301 Jackson (corner of Jackson and 3rd)
Richmond, TX 77469

GALVESTON COUNTY

County Clerk
600 Fifty Ninth Street, Suite 2001 (2nd floor)
Galveston, TX 77551

HARRIS COUNTY

County Clerk
County Civil Courthouse
201 Caroline, Suite 330
Houston, TX 77002

LEON COUNTY

County Clerk
Leon County Courthouse
155 North Cass
Centerville, TX 75833

LIBERTY COUNTY

County Clerk
County Courthouse
1923 Sam Houston, Room 209
Liberty, TX 77575

MADISON COUNTY

Madison County Library
605 South May
Madisonville, TX 77864

MONTGOMERY COUNTY

Montgomery County Central Library
104 Interstate 45 North
Conroe, TX 77301

POLK COUNTY

Livingston Municipal Library
707 North Tyler Avenue
Livingston, TX 77351

SAN JACINTO COUNTY

Coldspring Area Public Library
14221 State Highway 150 West
Coldspring, TX 77331

TRINITY COUNTY

Blanche K. Werner Library
203 Prospect Drive
Trinity, TX 75862

WALKER COUNTY

Huntsville Public Library
1219 Thirteenth Street
Huntsville, TX 77340

WALLER COUNTY

Waller County Library -
Brookshire/Pattison
3815 Sixth Street
Brookshire, TX 77423

MADISON COUNTY

County Clerk
103 W. Trinity, Room 104
Madisonville, TX 77864

MONTGOMERY COUNTY

County Clerk
210 West Davis
Conroe, TX 77301

POLK COUNTY

County Clerk
101 West Mill Street, Suite 265
Livingston, TX 77351

SAN JACINTO COUNTY

County Clerk
County Courthouse
1 State Highway 150, Room 2
Coldspring, TX 77331

TRINITY COUNTY

County Clerk
211 West First Street
(across from County Courthouse)
Groveton, TX 75845

WALKER COUNTY

County Clerk
County Courthouse
1100 University Avenue, Room 201
Huntsville, TX 77340

WALLER COUNTY

County Clerk
County Courthouse
836 Austin Street, Room 217
Hempstead, TX 77445

APPENDIX 10-A2

REVISED PUBLIC NOTICE

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PUBLIC NOTICE

To All Interested Parties:

Notice is hereby given that due to the COVID-19 pandemic, the Region H Water Planning Group (RHWPG) is cancelling its previously posted public hearings on April 16, 2020 and April 21, 2020. The in-person portion of the April 23, 2020 public hearing is also canceled, with the hearing to be held via a publicly accessible webinar / telephone conference call. Information on how to participate in the hearing is provided below.

The RHWPG is requesting public review and comment on an Initially Prepared 2021 Region H Water Plan (the IPP). The RHWPG area includes all or part of the following counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Leon, Liberty, Madison, Montgomery, Polk, San Jacinto, Trinity, Walker, and Waller.

A summary of the content of the Draft Initially Prepared Plan: The *Initially Prepared Plan (IPP)* updates the 2016 Region H Water Plan that was included in the 2017 State Water Plan prepared by the Texas Water Development Board (TWDB). The 2021 IPP addresses the following topics:

- Projected population and water demands
- Existing water supply sources
- Analysis of needs
- Recommended water management strategies for meeting any identified water shortages
- Water conservation recommendations
- Impacts of the Regional Water Plan
- Drought response
- Regulatory, Administrative and Legislative Recommendations
- Comparison to previous regional planning

Public Comment: A public hearing to receive public comment on the IPP will be held on April 23, 2020 at 6:00 p.m. via a publicly accessible webinar / telephone conference call. The webinar will begin at 6:00 p.m. and is anticipated to conclude at 8 p.m. Comments will be recorded and will be documented in the summary of public comments in the 2021 Region H Water Plan.

Information on how to participate in the hearing is provided below. If you anticipate providing verbal comment at the public hearing and have email access, please contact info@regionhwater.org prior to the hearing to facilitate an accurate estimate of the number of speakers.

The agenda for the public hearing will consist of (1) brief introductions on behalf of the RHWPG, (2) a summary of the planning effort and the IPP given by the consulting team, and (3) individual comments of members of the public.

The RHWPG will accept **written comments** until 5:00 p.m. June 28, 2020. Written comments should be provided to:

Hon. Mark Evans, Chair, RHWPG
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

Written comments without attachments also may be emailed to info@regionhwater.org. Comments received at the hearing or in writing will be documented in the summary of public comments in the 2021 Region H Water Plan.

Questions or requests for additional information may be submitted to: Jace Houston, General Manager, San Jacinto River Authority, P.O. Box 329, Conroe, TX 77305-0329, telephone 936-588-3111. The San Jacinto River Authority is the Administrator for the RHWPG.

A copy of the Initially Prepared Plan for 2021 is available at the County Clerk's office and at a depository library in each county in Region H. A list of depositories and a copy of the IPP are available on the RHWPG website at www.regionhwater.org. A copy of the IPP also is at <https://www.twdb.texas.gov/waterplanning/rwp/plans/2021/index.asp>.

HOW TO PARTICIPATE IN THE PUBLIC HEARING

Notice is hereby given to all interested members of the public that the Region H Water Planning Group will hold a public hearing **via webinar / telephone conference call** pursuant to Texas Government Code, Section 551.125, as amended, and as modified by the temporary suspension of various provisions thereof effective March 16, 2020, by the Governor of Texas in accordance with the Texas Disaster Act of 1975, all as related to the Governor's proclamation on March 13, 2020, certifying that the COVID-19 pandemic poses an imminent threat of disaster and declaring a state of disaster for all counties in Texas. The webinar will begin **at 6:00 p.m. on April 23, 2020** and is anticipated to conclude at 8 p.m. Comments will be recorded and will be documented in the summary of public comments in the 2021 Region H Water Plan.

If you choose to participate via the webinar link below, you **WILL** have the opportunity to provide comments during the designated portion of the meeting.

Webinar Link: <https://attendee.gotowebinar.com/register/5389169788033358860>.

After registering, you will receive a confirmation email containing information about joining the webinar.

If you choose to participate via the **GoToWebinar App**, you **WILL** have the opportunity to provide comments during the designated portion of the meeting.

Please use Webinar ID: [192-171-611](#).

If you choose to participate in the hearing using the conference call number below, you will **NOT** have the opportunity to provide comments during the designated portion of the meeting. The conference call phone number is provided for **LISTENING PURPOSES ONLY**.

Telephone conference call phone number: [\(415\) 930-5321](#) and the audio access code is [612-139-300](#).

All members of the public may participate in the meeting via webinar, Webinar App, or telephone conference call.



FOR IMMEDIATE RELEASE

Water Planning Group to hold Webinar instead of In-Person Public Hearing

Due to the COVID-19 pandemic, the Region H Water Planning Group (RHWP) is cancelling its public hearings on April 16 and April 21, 2020. The in-person portion of the April 23 public hearing is also canceled, with the hearing to be held via a publicly accessible webinar / telephone conference call beginning at 6:00 p.m. on April 23, 2020. Public comments will be recorded and documented in the 2021 Region H Water Plan.

Members of the public may participate via webinar link, GoToWebinar App, or conference call number.

- Webinar link: <https://attendee.gotowebinar.com/register/5389169788033358860>.
- GoToWebinar App attendees: Please use Webinar ID: 192-171-611.
- Conference call number: (415) 930-5321 and audio access code is 612-139-300.

If you choose to participate via webinar link or GoToWebinar App, you will have the opportunity to provide comment during the designated portion of the hearing. The conference call phone number is provided for listening purposes only. Additional information is available at www.regionhwater.org.

For additional information, contact Jace Houston, General Manager, San Jacinto River Authority, 936-588-3111. San Jacinto River Authority is the Administrator for the RHWP.

*****END*****

If there are questions about this submission, please contact
Glenda Callaway, 713-705-1174 or Philip Taucer, 713-838-5235

APPENDIX 10-A3

PUBLIC HEARING MATERIALS

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The logo for Region H Water Planning Group is a dark blue rectangle containing the text "REGION H" in large, bold, white, sans-serif capital letters. Below "REGION H" is the text "Water Planning Group" in a smaller, bold, white, sans-serif font.

REGION H
Water Planning Group

**2021 Region H Initially Prepared
Regional Water Plan
Public Hearing Materials**

April 23, 2020

Common Region H Terms and Conversion Factors

List of Abbreviations

COA	Certificate of Adjudication
CRU	Collective Reporting Unit
DCP	Drought Contingency Plan
DFC	Desired Future Condition
DOR	Drought of Record
EA	Executive Administrator
EPA	Environmental Protection Agency
FWSD	Fresh Water Supply District
GAM	Groundwater Availability Model
GCD	Groundwater Conservation District
GMA	Groundwater Management Area
GPCD	Gallons Per Capita Per Day
GRP	Groundwater Reduction Plan
IPP	Initially Prepared Plan
MAG	Modeled Available Groundwater
MPC	Master Planned Community
MUD	Municipal Utility District
MWP	Major Water Provider
PDSI	Palmer Drought Severity Index
PWS	Public Water Supply
RHWPG	Region H Water Planning Group
ROR	Run-of-River
RWP	Regional Water Plan
RWPA	Regional Water Planning Area
RWPG	Regional Water Planning Group
SWIFT	State Water Implementation Fund for Texas
SWP	State Water Plan
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department
TWC	Texas Water Code
TWDB	Texas Water Development Board
UCM	Unified Costing Model
WAM	Water Availability Model
WCID	Water Control and Improvement District
WCP	Water Conservation Plan
WMS	Water Management Strategy
WRAP	Water Rights Analysis Package
WUD	Water Utility Database
WUG	Water User Group
WWP	Wholesale Water Provider

Water Measurements

1 acre-foot (AF) = 43,560 cubic feet = 325,851 gallons

1 acre-foot per year (ac-ft/yr) = 325,851 gallons per year = 893 gallons per day

1 gallon per minute (gpm) = 1,440 gallons per day = 1.6 ac-ft/yr

1 million gallons per day (mgd) = 1,000,000 gallons per day = 1120 ac-ft/yr

Region H Water Planning Group Public Hearing
6:00 PM Thursday
April 23, 2020

AGENDA

1. Introductions on behalf of the Region H Water Planning Group.
2. Summary of the planning effort and the Initially Prepared Plan given by the Consultant Team.
3. Individual comments of members of the public.
4. Adjourn.

HOW TO PARTICIPATE IN THE PUBLIC HEARING

The Region H Water Planning Group will hold the public hearing via **webinar / telephone conference call**. Comments will be recorded and will be documented in the summary of public comments in the 2021 Region H Water Plan. All members of the public may participate in the meeting via webinar, Webinar App, or telephone conference call. Options for accessing the hearing are summarized below.

If you choose to participate via the webinar link below, you **WILL** have the opportunity to provide comments during the designated portion of the meeting.

Webinar Link: <https://attendee.gotowebinar.com/register/5389169788033358860>.

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Telephone conference call phone number: **(415) 930-5321 and the audio access code is 612-139-300.**

Presentation Slides

REGION H

Water Planning Group



2021 REGION H INITIALLY PREPARED REGIONAL WATER PLAN

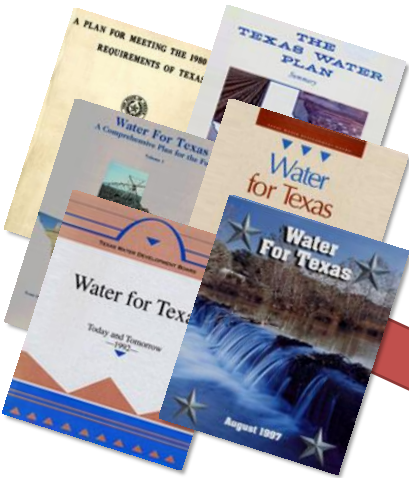
Public Hearing

23 April 2020

Freese and Nichols, Inc. | WSP USA, Inc. | Ekistics Corporation

1

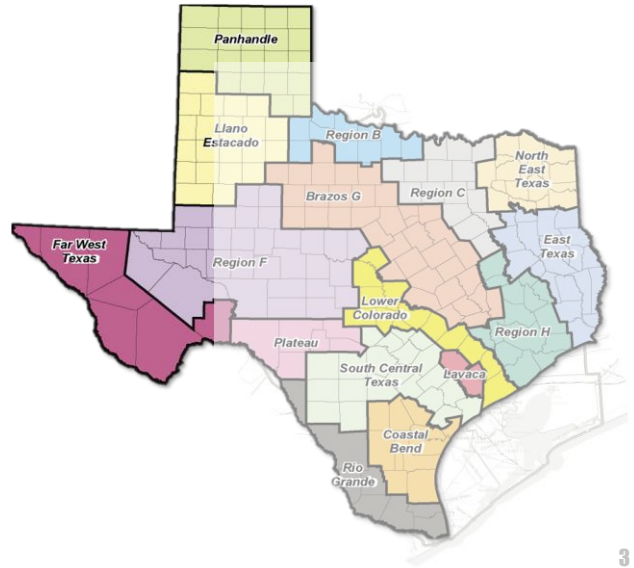
Water Planning in Texas



2

Regional Water Plans

- 16 regions based on natural and political boundaries
- Volunteer planning groups of diverse interests
- Five-year cycle
- Compiled into State Water Plan



3

The Planning Process



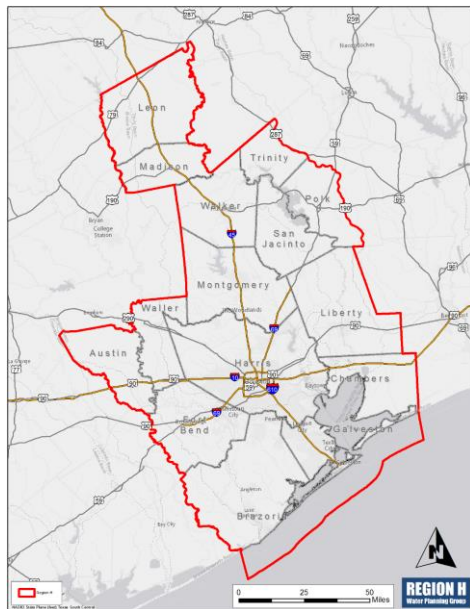
4

The Planning Process



5

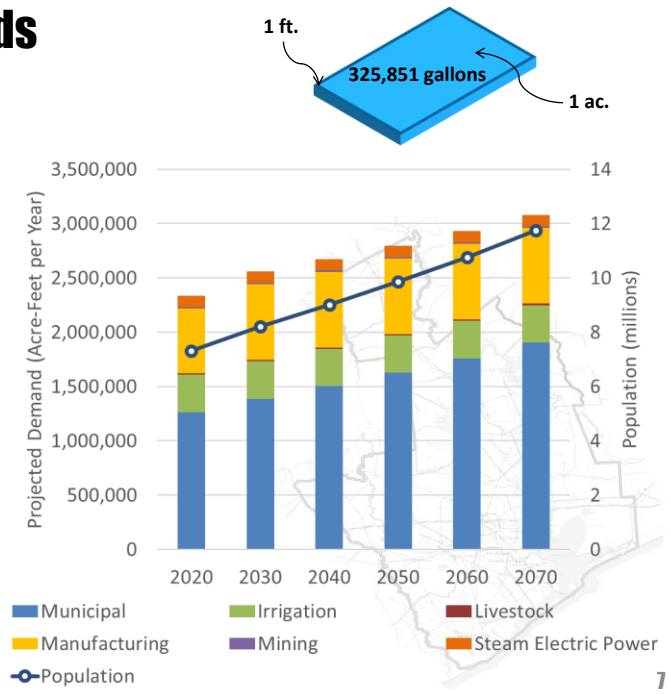
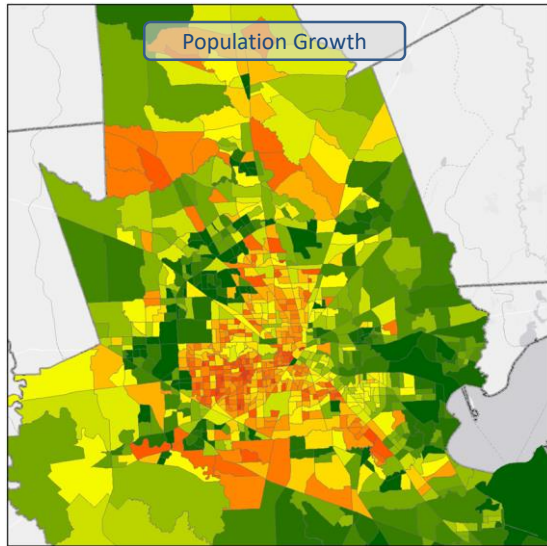
About Region H



- Extends over 15 counties
- Two major and four minor aquifers
- Three river basins and three major reservoirs
- 26 Planning Group members

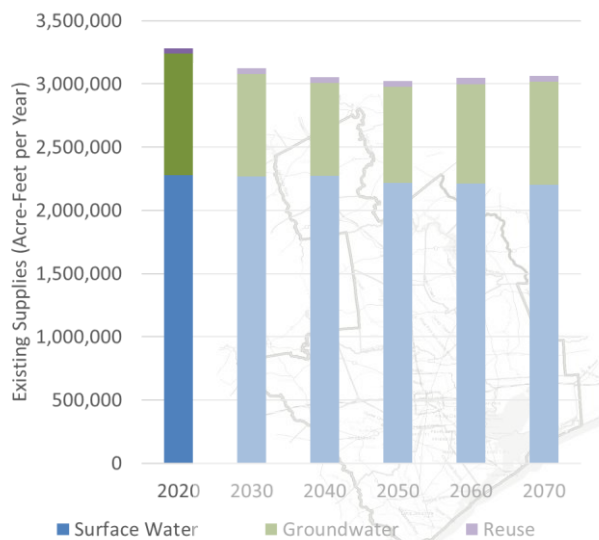
6

Population and Water Demands

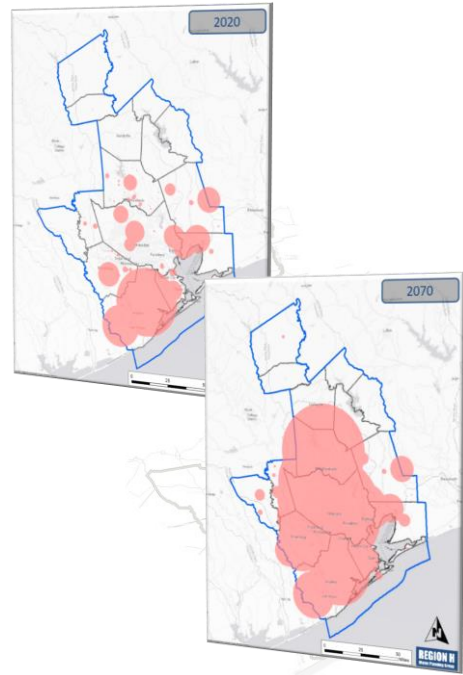
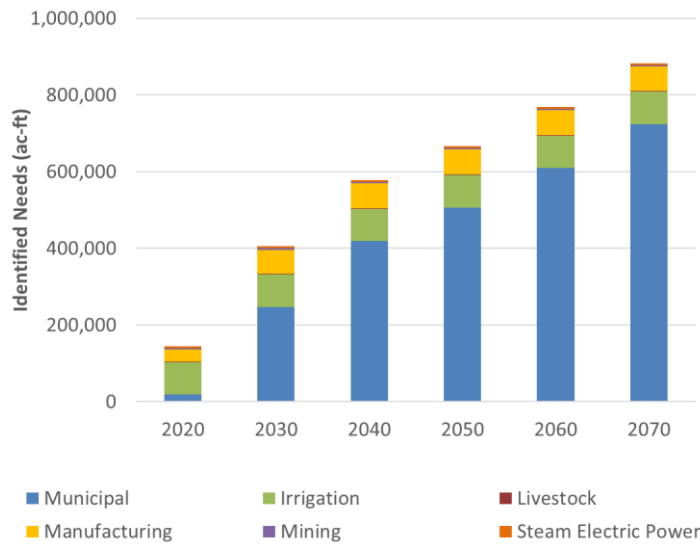


Available Supplies

- Surface Water
 - Drought-of-record
 - TCEQ Water Availability Model
- Groundwater
 - Groundwater Management Area Process
 - GMAs 11, 12, and 14
- Reuse



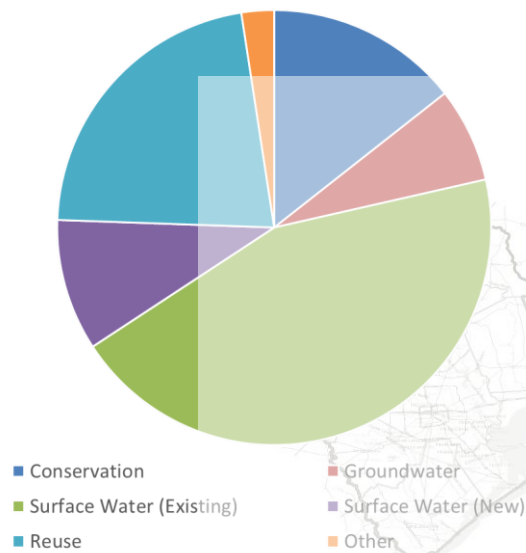
Projected Needs (Shortages)



9

Water Management Strategies and Projects

- 61 Water Management Strategies
 - Missouri City GRP
 - New/Expanded Contract with BRA
- 822 Projects
 - Allens Creek Reservoir
 - Northeast WPP Expansion



10

Key Projects

Conservation

- Municipal
 - Baseline
 - Advanced
 - Water Loss Reduction
- Irrigation
 - Rice

Reuse

- Direct
 - Municipal irrigation
 - Industry
- Indirect
 - City of Houston
 - San Jacinto Regional Return Flows



11

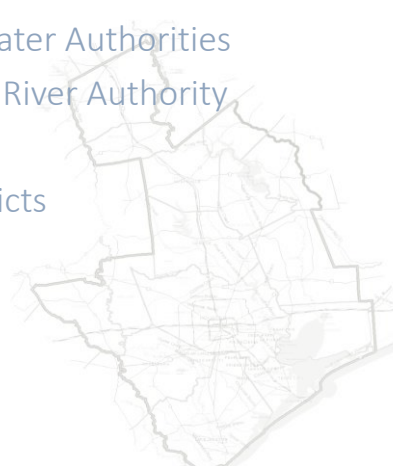
Key Projects

Groundwater Development

- Aquifer Storage and Recovery
- Brackish Groundwater Development
- Expanded Use of Groundwater
- Other groundwater projects

Groundwater Reduction Plans

- Regional Water Authorities
- San Jacinto River Authority
- Cities
- Utility Districts



12

Key Projects

Conveyance

- GRP transmission and distribution
- Other major water authorities
- Interbasin transfers
 - East Texas
 - Livingston to SJRA
 - LNVA

Treatment

- Brazosport Water Authority
- City of Houston
- City of Pearland
- Gulf Coast Water Authority
- Other smaller projects



13

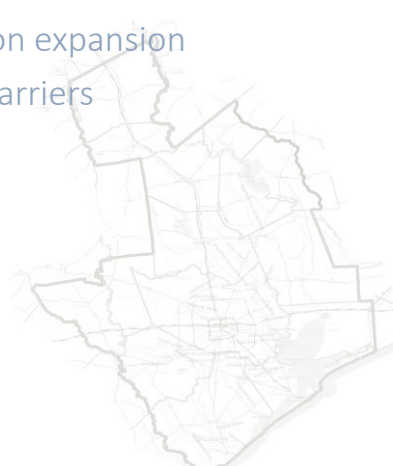
Key Projects

Surface Water

- Reservoir
 - Allens Creek
 - Dow
 - Storage expansions
- Desalination
 - Freeport
 - NRG Cedar Bayou

Other

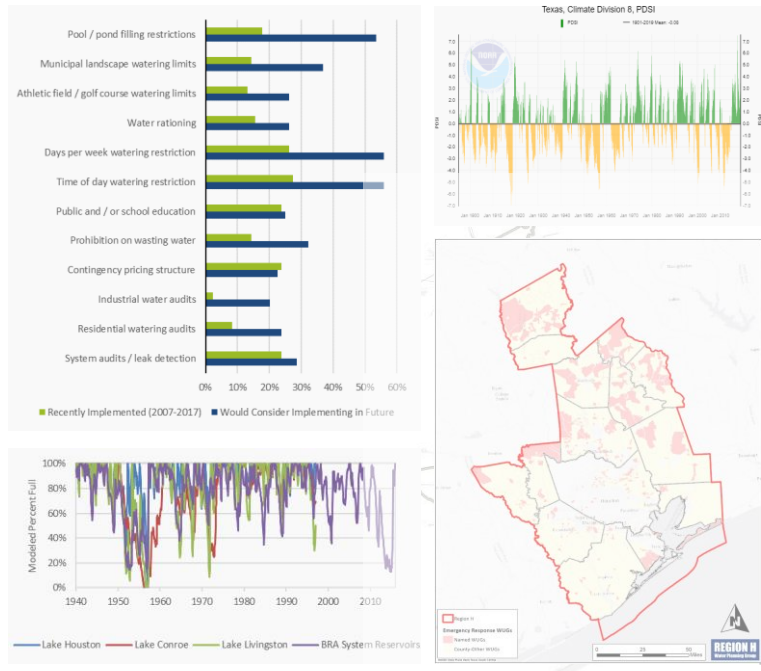
- Pump station expansion
- Saltwater barriers



14

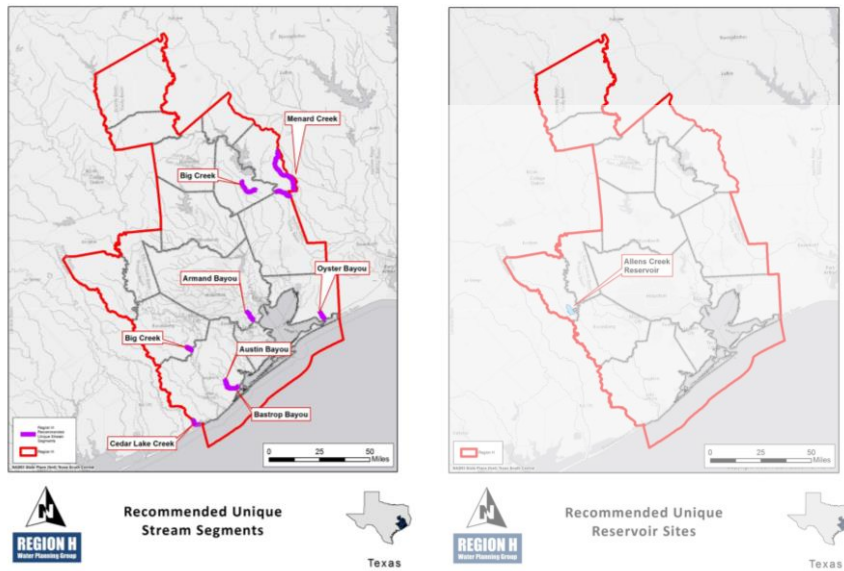
Drought Response

- Drought of Record
- Drought Preparations
- Emergency Responses
- Drought Recommendations



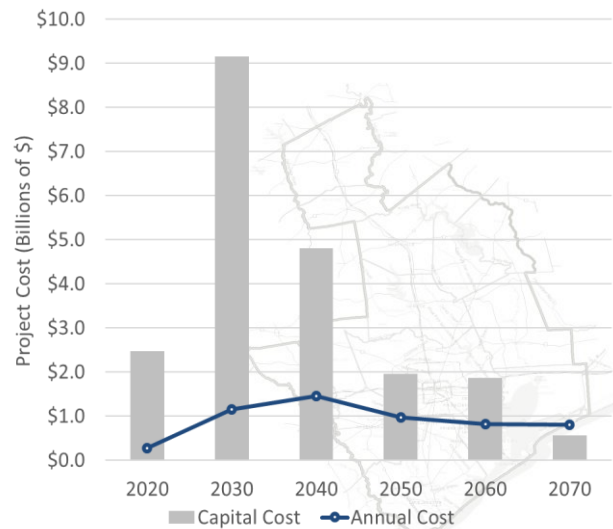
Recommendations

- Unique Stream Segments
- Unique Reservoir Sites
- Other
 - Administrative
 - Legislative
 - Funding



Project Finance

- ≈ \$20.8 billion capital cost
- Infrastructure Finance Survey following IPP
- RWP criterion for some project financing mechanisms



17

IPP Public Process

- Initially Prepared Plan Available
 - <http://www.regionhwater.org>
 - Office of the County Clerk in each county
 - Depository library in each county
- Public Hearing process
- Deadline for Public Comments
 - 5:00 PM on June 28, 2020



18

IPP Public Process

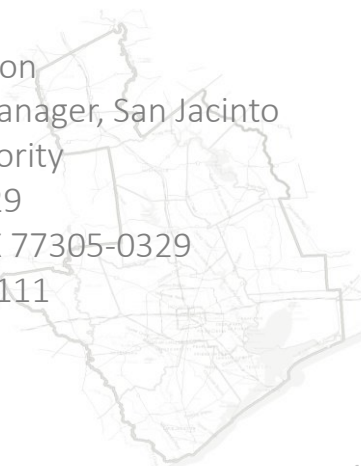
- To Submit Comments

- Hon. Mark Evans
Chair, Region H Water Planning
Group
c/o San Jacinto River Authority
P.O. Box 329
Conroe, TX 77305-0329

- info@regionhwater.org

- Questions and Info Request

- Jace Houston
General Manager, San Jacinto
River Authority
P.O. Box 329
Conroe, TX 77305-0329
936-588-3111



Key Project Overview

Region H Initially Prepared Plan Key Project Overview

Project	Potential Volume ¹ (ac ft)	Capital Cost (\$)	Unit Cost (\$/ac ft)		Start Decade
			Start Decade	2070	
Conservation					
Irrigation Conservation	93,562	\$1,489,156	\$133	\$131	2020
Municipal Conservation (Advanced Conservation)	123,251	\$2,211,236,519	\$754	\$591	2020
Municipal Conservation (Water Loss Reduction)	62,601	\$891,822,048	\$625	\$578	2020
Conveyance					
BWA Transmission Expansions	26,211	\$77,755,692	\$248	\$39	2030
CHCRWA Transmission and Distribution Expansion	5,466	\$17,202,167	\$238	\$16	2030
City of Houston GRP Transmission	27,216	\$31,986,905	\$91	\$8	2040
COH, NHCRA, and CHCRWA Shared Transmission	154,575	\$462,453,409	\$246	\$27	2030
CWA Transmission Expansion	349,785	\$119,336,981	\$43	\$19	2040
East Texas Transfer	250,000	\$423,969,947	\$134	\$15	2050
GCWA Industrial Raw Water Line	33,600	\$20,909,636	\$63	\$19	2020
Lake Livingston to SJRA Transfer	50,000	\$245,492,975	\$437	\$92	2050
LNVA Neches-Trinity Basin Interconnect	67,000	\$103,316,000	\$135	\$27	2040
NFBWA Phase 2 Distribution Segments	62,496	\$83,859,522	\$104	\$9	2030
NHCRA Distribution Expansion	143,360	\$919,703,916	\$489	\$44	2030
NHCRA Transmission Lines	143,360	\$327,910,960	\$185	\$24	2030
Southeast Transmission Line Improvements	39,928	\$119,413,067	\$229	\$19	2030
Surfside Beach Supply Infrastructure	323	\$1,900,440	\$450	\$36	2020
WHCRWA Distribution Expansion	92,288	\$276,977,822	\$237	\$26	2030
WHCRWA/NFBWA Transmission Line	169,030	\$1,310,701,901	\$613	\$67	2030
Groundwater Development					
Aquifer Storage and Recovery	9,426	\$222,907,186	\$2,551	\$2,551	2070
Brackish Groundwater Development ²	Varies	Varies by project	Varies by WUG	Varies by WUG	2020
BWA Brackish Groundwater Development	3,136	\$33,246,167	\$579	\$370	2030
City of Houston Area 2 Groundwater Infrastructure	50,400	\$122,751,076	\$403	\$222	2030
Expanded Use of Groundwater ²	31,000+	Varies by WUG	Varies by WUG	Varies by WUG	2020
GCWA Backup Well Development	1,120	\$1,346,492	\$169	\$84	2040
Groveton Groundwater Expansion	242	\$2,211,952	\$699	\$56	2020
SJRA Catahoula Aquifer Supplies	10,500	\$18,200,411	\$479	\$358	2040
Groundwater Reduction Plans					
CHCRWA GRP ³	5,466	\$0	\$0	\$0	2030
City of Houston GRP ³	124,914	\$0	\$0	\$0	2020
City of Missouri City GRP	25,760	\$87,837,323	\$405	\$165	2030
City of Richmond GRP	7,178	\$70,936,844	\$1,108	\$363	2020
City of Rosenberg GRP	3,920	\$12,963,110	\$261	\$29	2030
City of Sugar Land IWRP	15,492	\$133,134,039	\$1,210	\$390	2030
Fort Bend County MUD 25 GRP	1,120	\$26,718,250	\$2,541	\$862	2030
Fort Bend County WC&ID No. 2 GRP	6,720	\$63,535,966	\$1,106	\$440	2030
Montgomery County MUDs #8 and #9 GRP	2,240	\$30,510,375	\$1,875	\$917	2020
NFBWA GRP ³	62,496	\$0	\$0	\$0	2030
NHCRA GRP ³	143,360	\$0	\$0	\$0	2030
Porter SUD Joint GRP	2,240	\$26,862,533	\$1,542	\$699	2020
River Plantation and East Plantation Joint GRP ⁴	51	\$0	\$0	\$0	2030
SJRA GRP	100,000	\$998,910,850	\$697	\$340	2030
WHCRWA GRP ³	92,288	\$0	\$0	\$0	2030

Region H Initially Prepared Plan Key Project Overview

Project	Potential Volume ¹ (ac ft)	Capital Cost (\$)	Unit Cost (\$/ac ft)		Start Decade
			Start Decade	2070	
Reuse					
City of Houston Reuse	242,554	\$555,093,732	\$373	\$139	2040
City of Pearland Reuse	1,154	\$12,648,000	\$913	\$142	2030
Galveston County Industrial Reuse	22,400	\$90,746,960	\$564	\$279	2030
NFBWA Member District Reuse	3,816	\$46,640,088	\$1,695	\$835	2020
NHCRWA Member District Reuse	300	\$4,295,775	\$1,913	\$905	2020
San Jacinto Basin Regional Return Flows ³	119,673	\$0	\$0	\$0	2020
Wastewater Reclamation for Municipal Irrigation	19,776	\$181,028,438	\$1,308	\$896	2030
Westwood Shores MUD Reuse	150	\$2,031,251	\$1,921	\$968	2020
Surface Water Development					
Allens Creek Reservoir	99,650	\$365,446,301	\$211	\$39	2040
BRA System Operation Permit ³	78,276	\$0	\$0	\$0	2020
Dow Reservoir and Pump Station Expansion	80,000	\$350,000,000	\$373	\$66	2020
Freeport Seawater Desalination	11,200	\$155,877,822	\$2,273	\$1,293	2040
Manvel Supply Expansion	15,680	\$269,052,608	\$1,488	\$309	2030
Mustang Reservoir Improvements	3,734	\$14,551,195	\$298	\$23	2020
NRG Cedar Bayou Desalination	22,400	\$342,840,391	\$2,637	\$1,560	2030
Treatment					
BWA Conventional Treatment Expansion	8,400	\$19,085,165	\$351	\$191	2030
City of Houston Treatment Expansion ³	89,396	\$0	\$0	\$0	2040
City of Houston West Water Purification Plant	103,385	\$959,257,534	\$1,418	\$407	2040
GCWA Galveston County Treatment Expansion	22,400	\$167,919,105	\$894	\$367	2030
Northeast Water Purification Plant Expansion	448,000	\$2,179,413,588	\$615	\$272	2030
Pearland Surface Water Treatment Plant	22,400	\$232,787,093	\$973	\$242	2030
SEWPP Additional Module	22,400	\$97,597,266	\$497	\$191	2030
Other Infrastructure					
Brazos Saltwater Barrier	10,000	\$67,552,043	\$517	\$42	2040
Chocolate Bayou Pump Station Expansion	33,600	\$8,577,765	\$29	\$11	2020
Chocolate Bayou Saltwater Barrier Improvements	1,120	\$1,034,798	\$72	\$7	2020

1. Volumes listed in this table represent the maximum anticipated volume associated with the projects rather than new increments of yield. Volumes shown in this table may overlap and are not necessarily additive.
2. Includes brackish groundwater projects implemented under Expanded Use of Groundwater. Costs vary by Water User Group (WUG).
3. Costs, including construction costs, engineering, legal, and permitting fees, land acquisition, and other capital costs, are included under associated infrastructure projects.
4. Supply generated through expanded use of existing infrastructure. Cost estimated to be minimal.

APPENDIX 10-B

WRITTEN COMMENTS

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PUBLIC COMMENTS

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Philip Taucer

From: Debra Joly [REDACTED]
Sent: Wednesday, June 10, 2020 11:56 AM
To: info@regionhwater.org

External Email. Use caution when clicking links or opening attachments.

Hello,

I have been told there is a chance that the following legislation may occur. Flooding such as we had in Kingwood with Hurricane Harvey purely due to the release of the Conroe dam will continue to occur unless someone is held accountable. Please do what you can to prevent this kind of devastating event from happening again. There must be accountability.

On page 18 of the executive summary, there's an overview of the recommendation. It requests that "... the State consider legislation clarifying the liability exposure of reservoir operators for passing storm flows through water supply reservoirs."

Thank you.
Debra and Dale Joly
2019 Fairway Green Dr.
Kingwood TX 77339

Philip Taucer

From: Reed, Dana N [REDACTED]
Sent: Sunday, June 28, 2020 4:33 PM
To: info@regionhwater.org
Subject: Public Comments on Region H 2021 Initially Prepared Plan

Follow Up Flag: Follow up
Flag Status: Completed

External Email. Use caution when clicking links or opening attachments.

Dear Judge Evans,

Thank you to the Region H Water Planning Group for your efforts on the 2021 Initially Prepared Plan. As a constituent of Region H and a Houston resident, I am interested in the plans for water provision in this region and opportunities for conservation to reduce water demands as our needs evolve in the future. Please accept the comments presented below:

- (1) The introduction to Chapter 5B – Conservation Recommendations states that conservation is a prime project choice throughout Texas because of low costs and scalability, further noting, “As Water Management Strategies (WMS) grow more expensive over time, the avoided cost of developing new infrastructure projects becomes more attractive. This is made all the more attractive by the minimal environmental impacts brought about by conservation projects compared to other strategies.” (page 5B-1, pdf page 185)” However in the Project Overview tables (Table ES-3, pdf page 33 and Table 5-5, pdf page 176), the costs for Advanced Conservation and Water Loss Reduction are shown to be in the range of \$600/ac-ft in 2070 cost. These costs are significantly higher than those for large infrastructure projects like the West Purification Plant and Northeast Purification Plant expansions, which contradicts the statements highlighting the value of conservation. Further review of the calculation methods in Appendix 5-B-CNSV-001 – Adv. Municipal Conservation reveals that the costs demonstrated for conservation represent a total cost for offsetting a unit volume of water at the point of delivery. The costs of other water management strategies are not assessed at the point of delivery and will require a combination of different projects to deliver that same unit volume of water to the end user. Though the overview tables imply a direct comparison, it is misleading to measure the cost of municipal conservation against that of other water management strategies which must be combined with multiple projects to achieve the same objective. I suggest a modification of the tables to reflect the costs associated with treatment, transmission, and distribution that are avoided by implementation of conservation. An alternative to modifying the table is to add a comment preceding the table to highlight the fact that direct comparisons between the listed water management strategies are inappropriate in certain circumstances, especially with regards to conservation.
- (2) Section 5B.1.1 (page 5B-2, pdf page 186) notes the challenges of understanding the effectiveness of water conservation on a per-capita basis. The Region H Water Planning Group may consider alternative methods to the top-down, per-capita method for assessing water demand reduction. Bottom-up water conservation assessment methods, including methods based on household end uses and individual land uses may provide a more accurate assessment of the potential water savings from conservation. As an example, Austin Water’s Water Forward Integrated Water Resource Plan utilizes an end-use based model for water demand, which facilitates the estimation of savings from specific water conservation efforts. Even if bottom-up end-use or land-use based approaches are not feasible for estimating water savings from conservation on the regional water planning level, the report might encourage the use of such models for constituent water user groups in order to facilitate prediction and measurement of reductions due to conservation.
- (3) OneWater management is mentioned twice in the Initially Prepared Plan’s Regulatory and Administrative Recommendations (page ES-18, pdf page 40 and page 8-13, pdf page 265). While I am very supportive of this recommendation for the TWDB to work with water utilities and planners, I also see that the Region H Water Planning Group has a unique opportunity and responsibility to incorporate a OneWater management philosophy

at the regional planning level. I suggest that the regional water plan elaborate on the OneWater approach, including the following characteristics identified by the US Water Alliance: (a) Recognition that all water has value – including drinking water, wastewater, and stormwater, (b) Focus on achieving multiple benefits for the economy, environment, and society, (c) Approach with a systems mindset that incorporates the full water cycle and larger infrastructure systems, (d) Utilization of a watershed-scale decision-making that respects and responds to the natural ecosystem, geology, and hydrology, (e) Intervention with right-sized solutions for achieving the desired outcome, and (f) Reliance on partnerships and inclusion of all affected stakeholders (http://uswateralliance.org/sites/uswateralliance.org/files/publications/FINAL_US%20Water%20Alliance_Strategic%20Framework_2.12.2020.pdf, see pdf page 9). Additionally, the consideration of these OneWater tenets should be included along with the suggested water management strategies and incorporated in the strategy evaluation.

Again, many thanks for your efforts in preparing this 2021 Region H Water Plan and for your consideration of these comments.

Sincerely,

Dana Reed





www.sierraclub.org/texas

Lonestar.chapter@sierraclub.org

Comments of the Lone Star Chapter of the Sierra Club on the Region H 2021 Regional Water Plan Initially Prepared Plan (IPP) – Prepared and Submitted by Ken Kramer, Water Resources Chair, Lone Star Chapter – June 28, 2020

The Lone Star Chapter of the Sierra Club believes that the state and regional water planning process is an important tool in evaluating available water resources and developing a critical blueprint for meeting the anticipated future water needs of Texas and water users throughout the state. Individual water user groups make the ultimate decisions about whether and to what extent the water management strategies of regional water supply plans are implemented. However, the regional plans provide an overview that gives important context to those discrete decisions, and the planning process has the potential to recommend management strategies that could avoid duplication of efforts, waste of water resources, and negative impacts certain types of water development.

That is the lens through which the Sierra Club has reviewed and prepared comments on the 2021 Region H IPP. On the whole, we find the document to be an impressive compendium of current water supplies available to water user groups in the region, a detailed analysis of projected water demands, a thorough discussion of numerous proposed water management strategies, an informed discussion of important water topics such as drought management, and a source of well-reasoned proposals for advancing water conservation.

However, the Sierra Club believes that the 2021 Region H IPP falls short of the potential the planning process presents to avoid possibly duplicative water projects, maximize the use of demand management for meeting projected water needs, and address environmental water needs as well as consumptive water needs. We hope that the Region H planning process will continue to evolve in a way that better achieves that potential.

We are realistic in thinking that at this point in the fifth round of regional water planning, the likelihood of major modifications in the 2021 Region H IPP is low. These comments, which address what we see as both “the pros and cons” of the IPP, are primarily aimed at encouraging the evolution of the planning process in the region. Some of these comments, however, do suggest some minor tweaks in the IPP that could be made before final submittal of the 2021 Region H Water Plan to the Texas Water Development Board (TWDB), and we hope that these comments will be considered seriously.

Overview: Major Positive Features of the 2021 Region H IPP

(1) The Region H IPP identifies water loss in municipal water distribution systems as a significant problem (“real losses represent 15% of the total water input to the region”). A dramatic example of such water loss was the major water main break in Houston in February of this year. Thus, Region H recommends **Water Loss Reduction** as a water management strategy for all municipal WUGs with real losses of greater than 10% and calls upon those municipal water suppliers to reduce their real loss by one percent annually over the 2020-2070 planning period until they are at or below 10% real loss.

(2) The Region H Plan recommends **Advanced Conservation**, which includes a number of water use reduction measures, for municipal WUGs. Perhaps most important in this regard is that Region H recognizes that outdoor water use “is a major driver of overall municipal [water] demand” and thus recommends **mandatory outdoor watering restrictions (no more than twice per week) for all municipal WUGs (with the exception of The Woodlands, which already has those restrictions in place)**.

(3) The Region H Plan also identifies **Irrigation Conservation** as a major potential for saving water in the agricultural sector in the region (rice is the primary irrigated crop in Region H, produced to some extent in eight counties). If fully implemented, the recommended conservation measures could reduce rice irrigation water use to sufficiently cover all anticipated water needs from rice production over the course of the 50-year planning period. However, for a variety of reasons, the full potential is not likely to be reached and thus irrigated agriculture is one water use sector which the Region H plan identifies as having some “unmet needs” in certain areas over the 2020-2070 planning period.

(4) The Region H Plan propose **no new on-channel surface water reservoirs to meet additional water supply needs**. The only reservoir projects included in the Region H Plan are the long anticipated (but never quite pursued) off-channel Allens Creek Reservoir in southern Austin County and the expansion of an off-channel reservoir owned by Dow Chemical in Brazoria County. The latter project certainly warrants scrutiny in the permitting process, but some other water planning regions in Texas are calling for major on-channel water supply reservoirs with enormous negative environmental impacts. The 2021 Region H IPP does not do so.

Overview: Major Concerns about the 2021 Region H IPP

(1) The 2021 Region H IPP recommends **water management strategies that on a macro level would provide water supplies far in excess of the identified water needs of the region over the 50-year planning horizon**. For example, the Plan estimates that the region will need an additional 405,433 acre-feet of water per year by the decade that begins 2030, but the Plan recommends strategies that would provide 983,283 acre-feet of additional water supply each

year. We grant that approximately 75,000 acre-feet of that amount would be made available as a result of advanced conservation and water loss reduction and a potential additional 93,000 acre-feet would be through irrigation conservation). The Plan projects that the region will need an additional 883,136 acre-feet of water per year by the decade beginning 2070, but it recommends strategies that would provide for 1,947,784 acre-feet of additional water supply each year (in other words, ***more than double the amount needed***, although with roughly 278,000 acre-feet of that coming from the various conservation strategies).

To be fair, most of the water user groups in the region are not projected to have more supplies than needed by 2070, not all of the additional water supply projected will be proximate to the places needing the water or available for the types of uses in need of water, there are concerns by the Region H Planning Group that the manufacturing water use demands the Group was required to use are too low, and some proposed projects may never be built because they will not meet permitting requirements. Nevertheless, ***the scale of the difference between estimated needs and projected water volumes from proposed strategies is so large that ratepayers and taxpayers – especially in the City of Houston (which seeks to have 40% more water by 2070 than the total projected as needed) – should ask their water utility officials whether all of this water is really needed in the region over the next 50 years.*** Moreover, there are other water user groups in Region H for which the plan projects even larger percentages of water in excess of projected needs over several decades, including the decade beginning in 2070. **Where is the incentive to conserve water if water supplies will be available in volumes so far above projected needs for decades to come?**

(2) The Region H Water Plan continues to reject drought contingency measures as a water management strategy to reduce non-essential water uses during severe droughts until wetter periods return. Each regional water plan is predicated on meeting water needs during a period as severe as the “drought of record” (in other words, the worst drought experienced during recorded history). For Region H, the “drought of record” was the multi-year drought of the 1950s. Drought is a recurring phenomenon in Texas, and climatic projections for the coming decades indicates that will continue to be the case.

The Texas Legislature has taken drought response seriously. As a result, state law requires retail water utilities above a certain size or meeting other criteria to develop contingency plans for coping with drought conditions, including reducing non-essential water uses as a drought worsens. In addition, the Legislature has mandated that these drought contingency plans be implemented in counties where the Governor has declared a disaster due to drought. In other words, the contingency plans should not just be paper documents to be put on a shelf or electronic documents to be stored in a computer.

Obviously, then, drought contingency plans are going to be implemented during a drought as severe as the “drought of record,” reducing the volume of water being used during that period.

That reduction in volume offsets the need for additional supply equivalent to that volume. Therefore, implementation of a drought contingency plan does on a temporary basis what adoption of conservation measures does on an ongoing basis, and conservation is a key water management strategy in the Region H Plan. However, while giving lip service in Chapter 7 to the importance of drought contingency plans, the Region H Plan (unlike some other regional water plans) does not include implementation of those plans as a water management strategy.

(3) While the 2021 Region H IPP does not recommend any new on-channel surface water reservoirs, it does include some other types of large water development projects as water management strategies that could have negative environmental consequences. One example is the proposed “East Texas Transfer,” which would move 250,000 acre-feet of water per year from the Toledo Bend Reservoir in the Sabine River Basin via canal and pipeline to diversion points in the Trinity and Brazos River Basins. While there are benefits to using water from an existing reservoir rather than constructing a new one, there are potential negative impacts on areas where the conveyance projects are built and possible impacts on environmental flows as a result of such a project.

(4) The environment is a “water user group” (or as environmental attorney Myron Hess often points out, “fish need water”), **but once again the Region H IPP does not specify a volume of water needed for instream flows in rivers and major tributaries in the region nor a volume of water needed for freshwater inflows into Galveston Bay during a drought as severe as the drought of record.** This omission continues to be a concern if for no other reason than the economic value of healthy rivers and a healthy bay to the region as a result of recreational, commercial, and other activities dependent upon those resources. If drought diminishes the instream flows and freshwater inflows that are required to maintain the health and the productivity of those resources, that will negatively affect the economic enterprises directly or indirectly tied to those resources. However, the socio-economic impacts of that “unmet need” during a drought as severe as the drought of record is not considered in the Region H IPP.

The original 2001 Region H Plan at least provided a number indicating a volume of water needed for freshwater inflows to Galveston Bay, based in part on the deliberations of a diverse stakeholder entity known as the Galveston Bay Freshwater Inflows Group (GBFIG). Even then, however, no water management strategy was recommended in that Plan to meet the projected needs of the Bay. Since that time, the topic of environmental water needs has not been addressed in any substantive way in subsequent Region H plans, except for occasional general discussions of the possible environmental impacts of a proposed water project to meet consumptive water needs of other water user groups.

We recognize, of course, that the Texas Water Development Board does not require regional water planning groups to consider the environment as a water user group, nor to our knowledge through this or previous rounds of regional water planning has any other planning

group included the environment as a water user group in their plans, much less proposed strategies to meet environmental water needs.

Some participants in the regional water planning process may be under the impression that the passage of Senate Bill 3 by the Texas Legislature in 2007, which established an environmental flow standard setting process for major river basins and their associated bay systems, may have obviated the need for regional water planners to concern themselves with environmental water needs. That is an erroneous impression.

Although originally conceived as identifying what amount of water remaining in rivers and streams would be needed to maintain a sound ecological environment for those river basins and their associated bay systems, and then reserving that amount of water for the environment, in reality the standard-setting process achieved no such result thus far in any bay/basin area. At best, the standards that were set potentially put some permit conditions on new water rights permits issued after 2007 to try to keep withdrawals under those permits from taking all of the water out of the rivers and streams which they otherwise might have withdrawn. That's not enough to meet environmental flow needs.

The Sierra Club encourages Region H to become a leader in assessing environmental water needs and proposing strategies for meeting those needs during the regional water planning process. There is some membership overlap between the Region H Water Planning Group and the stakeholder committee and science team for the Trinity & San Jacinto Basin / Galveston Bay area, and all of these entities could work together for a common purpose. Such an effort would be in keeping with the "One Water" concept of comprehensive water management, which is referred to positively in the Region H IPP Section 8.4.1 on "Regulatory and Administrative Recommendations."

Comments on Individual Chapters, Sections, and Selected Appendices of the Region H IPP

Chapter 1 – Description of Region

Chapter 1 provides a very thorough and highly useful compilation of information about Region H and the many factors that go into driving water use in the region. Among the notable insights from the discussion in this chapter are the following:

- "One third of the state's commercial fishing income and one half of the state's expenditures for recreational fishing come from Galveston Bay."
- From 2000 to 2015, the population of the region has grown from approximately 4.9 million to over 6.8 million.
- "In 2015, municipal uses accounted for 55 percent of the region's total reported water use, a substantial increase from 41 percent during the first RWP in 2000."

- “As demonstrated [in Table 1-15], real [water] losses represent approximately 13.3 percent of the total reported water input to the region, which is slightly higher than the statewide average of 12.4 percent. This data represents a real potential for the reduction - of water demand through leak detection and other practices aimed at increasing accountability.”

Chapter 2 – Projected Population and Water Demands

Non-Population Water Demands

2.2.1.1 Irrigation

We agree with the approach taken by Region H in developing water demand projections for irrigated agriculture, which used the second-highest annual volume of irrigation water use from 2010 to 2015 and held demands “constant out to 2070 in the absence of any additional data representing long-term trends in agricultural production.” Given the nature and economics of irrigated agriculture, and the heavy reliance of many producers on interruptible water supplies that is a reasonable methodology that does not overestimate water demands in this sector.

2.2.1.2 Livestock

We agree with the Region H Water Planning Group’s decision to retain the livestock water demands developed by TWDB, which used estimates of livestock inventories from the Texas Agricultural Statistics Service, averaged water demands for the years 2010 through 2014, and then calculated demand through 2070.

2.2.1.3 Manufacturing

We believe that the Region H Water Planning Group has taken a reasonable approach to projecting manufacturing water demands, which is a slight variation on the draft projections from TWDB based on more localized information. However, we disagree with the Planning Group’s comment that “the required assumption of constant manufacturing water demand after 2030 does not reflect the ongoing growth in the manufacturing section in Region H, and it is unlikely that reductions in water use per production unit will offset all growth in manufacturing.”

At best, we think that statement does not consider the impacts that changes in the demand for fossil fuels and products derived from those sources that are underway and likely to accelerate in the future, which are likely to affect the type of manufacturing that has been traditionally important in Region H. Moreover, we believe that the statement undermines the innovation that is possible in the Region to reduce water use per unit of production. One thing that could

stifle that innovation is the provision of an overabundance of cheap water as a result of overbuilding water supply capacity in the region.

At the least, we recommend that the current statement in the Region H IPP questioning TWDB's required assumption about manufacturing water demands after 2030 be accompanied by another statement along these lines: "However, the RHWPG will continue to assess the impacts of changes in the industries that have traditionally fueled the Region H economy and the possibilities for innovation in various sectors to maintain or even reduce the levels of manufacturing water use in the region in coming decades."

2.2.1.4 Mining

Considering that levels of oil and gas activity due to shale production are not as relevant to Region H as they are in some other regions, retention of mining water demand projections from the 2016 Region H Water Plan for the present round of regional water planning is reasonable.

2.2.1.5 Steam Electric Power

We believe that the decision by the Region H Water Planning Group that "steam electric water demand projections should be based on the maximum historical use from the year 2010 through 2015 for each facility and summing the maximum values by county" may overestimate the consumptive water demands over the next 50 years from this sector. We strongly disagree with the statement: "The RHWPG further noted that the required assumption of constant steam electric water demand after 2020 does not reflect the ongoing growth in the electrical demands for the region."

We believe that the latter statement disregards the changes that are happening and are likely to accelerate in the sources of electric power generation over the coming decades. Wind and solar power are advancing in Texas at a steady pace, and the pace is likely to pick up speed. Since these sources of power do not have the water use requirements of coal and natural gas, e growth in electrical power is possible without corresponding growth in water demands. Moreover, there are potential "game changers" on the horizon that are likely to bring a higher rate of change away from natural gas toward less water-intensive renewable energy sources.

As reported in the Houston Chronicle on June 11, 2020: "Broad Reach Power, a Houston energy storage company...will install 15 utility-scale batteries at sites in Houston and Odessa to store electricity when it's cheap and sell it into wholesale power markets when prices jump." The article goes on to point out that: "Batteries are beginning to undercut one of the central features of natural gas-fired power plants: filling in for power produced by renewable generators when the sun isn't shining and the winds aren't blowing. Batteries can make renewable energy a reliable and steady source of power...."

More broadly, the Houston Chronicle article notes: “Renewables are growing so quickly that solar power is expected to generate 61 percent of new power capacity coming online in Texas between now and 2023, according to...the Electrical Reliability Council of Texas. Wind represents another 27 percent of new capacity. About 7 percent will come battery storage.”

On the other hand, the article points out: “Natural gas,...the source that has traditionally supplied about half the power capacity in Texas is expected to add only 5 percent of new capacity in the next three years.” This is a trend, not an aberration.

We suggest that the Region H Water Plan at the very least add a sentence to this section of the Plan that says something to the effect: “However, the RHWPG will monitor regional transitions in the sources of electrical power, especially trends toward less water-intensive sources, that may impact or even reduce projected water use in this sector over the 50-year water planning horizon despite anticipated growth in electrical demands.”

Population Water Demands

We agree with the decision in this round of regional water planning to align population water demand projects with utility-based water user groups rather than based on political boundaries. That decision makes it easier to link the regional water planning process with utility forecasting and planning and easier for a utility’s customers to evaluate how their utility’s decision-making does or does not correspond to the Region H Water Plan.

We also agree with retention of the per-capita water demand from the 2017 Region H Water Plan in the new Plan wherever that was possible, and we further agree with the per-capita water demand adjustment from the baseline to reflect anticipated conservation savings from plumbing code enforcement and the proliferation of water-efficient appliances (year 2070 reductions of approximately 9.5 percent from projected 2020 demands).

HOWEVER, WE ARE SURPRISED THAT THE PERCENTAGE GROWTH RATE IN PROJECTED WATER DEMANDS IS HIGHER THAN THE PERCENTAGE GROWTH RATE IN PROJECTED POPULATION.

Note: In 2.3.2 “Demand Projections” on page 2-6 of the Region H IPP, there appears to be an error that needs correction: what is stated as simply “population” demands should be “population water demands.”

Chapter 3 – Analysis of Current Water Supplies

Overall, we find this chapter to be an informative and thorough discussion of available groundwater and surface water supplies in Region H.

3.2 Groundwater Sources & Groundwater Availability

We agree in general with the decision by Region H to use “MAG Peak Factors” (Multipliers greater than 100% applied to MAG – Managed Available Groundwater – values to estimate dry-year availability) to characterize available groundwater supplies. Our agreement with the decision is based on the understanding that the MAG Peak Factors reflect current groundwater regulations and permits issued by local groundwater districts and do not adjust the long-term supply under “Desired Future Conditions” for the respective aquifers as a result of the joint planning process. Use of MAG Peak Factors in lieu of using MAGS to characterize available groundwater supplies prevents an underestimation of the contribution of those supplies to meeting current and future water demands, thus presenting a more realistic assessment of anticipated water supply needs.

3.3 Surface Water Sources and Surface Water Availability

The TWDB’s First Amended General Guidelines for Regional Water Plan Development require that regional water plan estimates of surface water availability be based on what is termed Water Availability Model (WAM) “Run 3” – “full authorized diversion of current water rights with no return flows, which in our opinion likely underestimates the volume of water available in a planning region from surface water sources. Some previous versions of the Region H Water Plan based surface water availability in the region on a different WAM Run that realistically recognized that – as explained in this Region H IPP – “...not all [surface water] rightsholders attempt to divert their full permit amount every year and diversions for municipal and manufacturing users typically return a portion of diverted water to streams as treated wastewater effluent.” We believe that this latter approach represents a more accurate representation of surface water availability.

If we understand the approach taken in this iteration of the Region H IPP, surface water availability is generally determined on the basis of Run 3 in the WAMs for the relevant portion of river basins in Region H, *but* that the Region H Planning Group in several instances used a modified version of the Run 3 WAM to reflect various factors, including but not limited to calculated firm annual yields, type of water right (for example, run-of-the-river rights), existing subordination agreements, and some return flows, and TWDB approved these modifications. Frankly, assessing whether the process followed by Region H to develop the final estimates of surface water availability in the region was valid is practically impossible for lay reviewers due to the complexity involved. However, we do agree with the decision not to rely exclusively on Run 3 but rather to modify the availability estimates based on real world factors.

In the future, however, if it is not possible in the final 2021 Region H IPP in this round of planning, it would be helpful to provide in some type of Figure a more visual representation of the differences in surface water availability estimates based on use of Run 3 without

modification and on use of Run 3 with modification for the various key factors reflecting real-world conditions, including especially any existing return flow agreements, even if not all of those factors are eventually included in the final estimates of surface water availability. Such a presentation would provide a clearer opportunity for lay reviewers to assess the validity of the decisions made to determine surface water availability and to understand better the relative impacts of those decisions.

3.4 Reuse Resources and Reuse Availability

The assumptions used by the Region H Water Planning Group to identify availability of water from reclaimed supplies appear to be reasonable, given the variable factors discussed in this section of the IPP and given the fact that reuse may be a relatively recent water source for a number of water user groups. Over a period of time, these estimates of availability from this source may become more precise with a longer history to use as the basis for calculations.

Chapter 4 – Analysis of Needs

See our comments on Chapter 11 related to comparison of needs in the 2016 Region H Plan and the 2021 Region H IPP.

Chapter 5 – Water Management Strategies

We agree in general with the three assumptions the Region H Water Planning Group made in evaluating the general Water Management Strategies: utilization of conservation by WUGs with a projected shortage before pursuit of other strategies to increase supply, development of groundwater until it is fully utilized (as long as the groundwater supply is not allocated in excess of regulations set by the relevant regulatory authorities), and the ability of WUGs receiving water from wholesale water suppliers to increase their contract amounts until the wholesale supplies are fully allocated (and conveyance through existing infrastructure wherever possible).

Our one caveat on these assumptions relates to the groundwater regulatory assumption and is specifically based on concerns about changes that have occurred at the Lone Star Groundwater Conservation District that might weaken regulatory protections for groundwater supplies in Montgomery County and allow greater pumping from those supplies than is prudent to protect the resource. Although the Region H IPP did not incorporate any changes to the previous regulatory system for those supplies because the situation was in flux, if those changes occur before adoption of the final plan, we would oppose any modifications in the plan that would support a larger volume of groundwater withdrawal in that area than previously anticipated.

5.4.2 Conservation / 5.4.3 Drought Management – See relevant comments above in the Overview and below under Chapter 5B and Chapter 7.

5.7 Remaining Unmet Needs

We support the recommendations of the Region H Water Planning Group on how to address the projected “unmet needs” of agricultural irrigation and livestock watering, which in Region H do not lend themselves to the types of Water Management Strategies recommended for other Water User Groups.

Chapter 5B – Conservation Recommendations

We very much appreciate the discussion of water conservation and the potential for water loss control and advanced conservation to address a significant part of the projected water needs in Region H in addition to the baseline conservation from implementation of plumbing code requirements and installation of higher efficiency appliances that is incorporated into the water demand projections. We agree with the challenges to implementation of water conservation practices discussed in this chapter and appreciate the recognition of the value of conservation information from various initiatives such as the Texas Living Waters Project, in which Sierra Club is a partner.

5B.2.11 Water Loss Reduction

We agree with the decision by the Region H Water Planning Group to propose that water utilities within the region that have “real” water losses greater than a certain threshold reduce the fraction of their demands attributable to real loss by a certain percent annually throughout the planning period until they reach that threshold. **The finding by the Planning Group, based on the 2017 Water Loss Audits submitted to TWDB that “real losses represent over 15 percent of the total water input to the region” is very disturbing**, especially given the magnitude and cost of water infrastructure projects being recommended for the region as part of other water management strategies.

Given that disturbing level of water loss, however, we believe that the recommendation on water loss control in the Region H Plan is not sufficiently aggressive to curb this tremendous waste of water. That recommendation is that water utilities with real losses greater than 10 percent reduce those real losses by one percent annually throughout the planning period or until they reach the threshold level of ten percent real loss. If this is the target for water loss reduction in the region, then the volume of water lost over the 50 year planning period will be staggering – and setting this target will give the false impression that it is perfectly fine for a water utility to waste one-tenth of its water production each year.

For example, the City of Houston in its 2019 Water Conservation Plan notes that its 5- and 10-year water loss reduction targets – expressed in gallons per capita per day and in total water loss percentage, which includes real and apparent losses – are in keeping with the 2016 Region

H Plan recommendation for water loss control, which the 2021 Region H IPP retains. However, that means that if the City reaches its 10-year target for water loss reduction, water loss will only be reduced from 24 to 22 gallons per capita per day and total water loss will only be reduced from 19% to 17%, likely perpetuating huge water losses by the City for decades.

Initially during this fifth round of regional water planning, the consultants for Region H developed a proposed target of 5% rather than 10% on real water loss while retaining the 1% per year rate of reduction. Our understanding is that the City of Houston and perhaps some other water utilities objected to the 5% target, and thus the 2021 Region H IPP reverted to the 10% target. We see this change as short-sighted. **We recommend a more ambitious real water loss target of at least 7% and a rate of reduction of 2% per year for the duration of the planning period or until that 7% or lower target is reached.** That is still a large volume of water loss but would represent real progress in reducing water waste in the region, and such a target is reported to have been achieved by some other water utilities in the state and in the nation.

5B.2.1.3 Advanced Conservation

We strongly support the package of Advanced Conservation measures that the Region H Water Planning Group is recommending for most municipal WUGs in Region H. We especially support and congratulate the Planning Group for focusing much of this package on measures to reduce outdoor water use (which the 2021 Region H Plan accurately describes as “a major driver of overall local municipal demand”).

We appreciate the Region H Plan’s use of the extensive research done for the Texas Living Waters Project’s *Water Conservation by the Yard* report to demonstrate the potential for water savings from implementation of “no-more-than-twice-a-week” outdoor watering restrictions. Such restrictions have been put into practice successfully and effectively by cities such as Dallas and Fort Worth and (in Region H) by The Woodlands – and have received public acceptance.

We disagree, however, with the decision in the 2021 Region H IPP to incorporate estimates of water reductions only at “the lower end [2% of total municipal water demands per year] of the savings spectrum” identified in the *Water Conservation by the Yard*. The analysis done in the Texas Living Waters Project report calculated a range of a 2% to 7% reduction in annual municipal water demands from implementation of the outdoor watering restrictions, with the 7% high end based on not only the restrictions but active education about the benefits of those restrictions to water customers and water supplies and active enforcement of the measures by local officials.

We understand the reasoning behind not applying the upper end of the projected savings from outdoor watering restrictions – that different WUGs would implement the measure in different time frames, with variable levels of resources for education and compliance, and with varying

levels of customer compliance, especially in the early years of implementation. Therefore, we are not arguing for use of the high end (7%) savings from outdoor watering restrictions as the estimated savings for incorporation into the 2021 Region H Water Plan. However, we believe that it would be reasonable for Region H in this iteration of the regional water plan to adopt a higher estimate than 2% of savings in municipal water demands from outdoor watering restrictions, especially for the decade beginning 2030 – perhaps a 4%-5% savings estimate beginning in that decade and carrying through or even accelerating to 7% over the next 40 years.

We do note that Table 5B-3 (“Summary of Municipal Water Conservation Impacts by Decade”) on page 5B-10 of the 2021 Region H Plan indicates that the % of Regional Water Plan net [municipal] demand projected to come from “Advanced Conservation” will grow from 2.7% in the decade beginning 2020 to 4.1% in 2030 and then progressively to 6.5% by the decade beginning 6.5%. Since outdoor watering restrictions are a significant part of the Advanced Conservation – although not all of the Advanced Conservation measures recommended, perhaps the 2021 Region H Plan is accelerating the percentage of savings from those outdoor watering restrictions over the 50-year planning horizon. If that is the case, then the text on page 5B-7 that implies that the % reduction is only 2% and does not indicate a higher percentage for subsequent years needs to be modified.

However, we find no indication in the Region H Project Analysis Technical Memorandum on “Advanced Conservation and Water Loss Reduction” (Appendix 5-B-CNSV-001) that the 2021 Region H IPP does progressively increase the estimated savings from outdoor watering restrictions over each decade of the 50-year planning horizon. Therefore, we encourage incorporating such progress into the 2021 Plan.

As the outdoor watering restrictions become more common and the public better educated and informed on their ability to maintain desired outdoor landscapes with lowered volumes and frequency of outdoor watering, the spread of these restrictions and customer compliance will accelerate. Indeed, some communities in Texas – Austin and Frisco – have already gone beyond the “no-more-than-twice-a-week” to “no-more-than-once-a-week” outdoor watering restrictions for landscapes using irrigation systems.

We note that the City of Houston – although it has not yet adopted outdoor watering restrictions – did include in its *Resilient Houston* plan issued in February of this year a commitment that: “The City will also further water conservation efforts by implementing a twice-per-week outdoor watering restriction...and developing an incentive program for homeowners, renters, businesses, and wholesale customers to help reduce overall water demand.” [See Page 116 of *Resilient Houston* – available online – under the objective of “Holistically Manage Our Water Resources to be Climate Ready.”] Obviously, City leaders have had to put a higher priority on other initiatives during the spring of 2020 in the midst of a

pandemic and in light of growing calls for efforts to end racial injustice. But we are confident that at the appropriate time the City – the largest WUG in Region H – will follow through on the intent to adopt outdoor watering restrictions, and – as the largest wholesale municipal water provider in Region H – set a standard for others to follow.

5B.2.2 Recommended Non-Municipal Conservation

We agree with and support the recommendation in the 2021 Region H Water Plan for irrigation conservation methods in agricultural production in the region, and we find the estimated potential savings from this strategy – a total of 93,562 acre-feet per year in all planning decades – to be a reasonable projection. We would encourage the Region H Water Planning Group in the upcoming round of regional water planning to revisit this topic to assess any likely changes in production levels or irrigation techniques or other factors that might affect water use in this sector over the next 50 years.

We have no objection in this round of regional water planning to not including industrial conservation recommendations in the 2021 Plan, given the requirement from TWDB that manufacturing water demands be held steady after 2030. However, we believe that the next round of regional water planning needs to focus more attention on ongoing and anticipated changes in the types of industrial activities prevalent in the region and the potential impacts of innovation on water use by the manufacturing sector.

5B.2.4 Current Conservation Efforts in Region H

We appreciate the fact that the 2021 Region H Water Plan includes a review of current water conservation efforts in the region and that 164 revised Water Conservation Plans from water systems in the region were examined to develop the data that formed the basis of that review. The details provided about the percentage of those water systems adopting various conservation Best Management Practices (BMPs) recommended by TWDB are especially informative. We do think that it would be helpful in the Plan to identify at least some of the municipal WUGs who have adopted certain BMPs and the number of BMPs that they have adopted.

For example, the updated (2020) Texas Water Conservation Scorecard – just released in June 2020 a few months after the release of the 2021 Region H IPP – notes that the City of Houston, the largest municipal WUG in the region, has only adopted (as of 2018) eight of the now more than 30 municipal water conservation BMPs recommended by TWDB. The other three largest municipal WUGs in Region H – League City, Pasadena, and Pearland – have, respectively, only adopted 10, five, and (?) conservation BMPs. (The question mark for Pearland is because the City did not submit its annual [water conservation] implementation report to TWDB for the year, 2018, on which the Scorecard data was based.) Providing this information gives more

context to the understanding of how much conservation is actually being put into practice in the largest municipal WUGs and the implications that has for how much, if any, the volume of water savings might be in the region from implementation of conservation BMPs, given the relative importance of these large water utilities to water use in Region H.

We note that the information in this subsection on “Current Conservation Efforts in Region H” might be placed in Chapter 11 in the discussion of implementation of Water Management Strategies – in this case, conservation – recommended in the previous regional water plan. However, there may be a “disconnect” between some of the conservation practices found in the region and whether or not they were actually recommended as Water Conservation Strategies in a Region H Water Plan. At the least, though, a reference in Chapter 11 to the information in 5B.2.4 would be appropriate.

Chapter 7 – Drought Response

We appreciate the wealth of information on drought and drought response provided in this chapter in the 2021 Region H IPP, which emphasizes the importance of developing and implementing drought contingency measures during dry periods. However, we continue to urge Region H not to dismiss the possibility of employing implementation of drought contingency measures as part of a suite of Water Management Strategies in a subsequent iteration of the regional water plan – or perhaps alternatively as a percentage reduction in projected future water demands in periods of drought as severe as the historic drought of record during the 1950s.

Some members of the Region H Water Planning Group have argued that the regional water planning statute and subsequent regulations preclude consideration of drought response as a strategy to manage water because the statutory goal of SB 1 was that the regional water planning groups each devise a regional water plan that provides:

4-6 for the orderly development, management, and conservation of water
4-7 resources and preparation for and response to drought conditions in
4-8 order that sufficient water will be available at a reasonable cost
4-9 to ensure public health, safety, and welfare; further economic
4-10 development; and protect the agricultural and natural resources of
4-11 that particular region.

Nothing in this mandate, however, precludes using the implementation of drought contingency measures to assure the availability of sufficient water “to ensure public health, safety, and welfare” and meet the other requirements of this statutory mandate. “Sufficient” water to

achieve the enumerated purposes does not mean that the same amount of water needs to be available each year nor does it mean volumes of water that users may “demand” or would like to have but rather the volume of water that is truly needed for these purposes. Given the advances in water conservation and efficiency over the past few decades and how those advances have shown that our society is able to achieve just if much, if not more, in the area of economic and other activities but to do so with lower per capita water use demonstrates the point. Cutting back on non-essential water uses during drought periods is not going to undermine the Texas economy, especially if water utilities act to develop effective drought contingency plans and begin implementing them early enough.

The regional water planning statute does require regional planners to plan for the “drought of record” (the historic drought of the 1950s for most areas of the state, including Region H), and as noted earlier in our general comments, the Legislature has passed other legislation – including revisions to the planning statute – that emphasize its interest in responding to drought effectively. Among these legislative enactments, as previously noted, is a requirement that water utilities implement their drought contingency plans when the Governor has made a disaster declaration for their respective counties on the basis of drought conditions – which certainly is highly likely during a drought as severe as the historic drought of record. This scenario is a reality that regional water planning groups should not ignore.

Four of the 16 regional water planning groups have already taken the step of including drought management as one of their Water Management Strategies – Regions J (Plateau), K (Lower Colorado), L (South Central), and P (Lavaca). TWDB has approved the regional water plans for those regions that included drought management as a WMS, so there is no question that the state agency takes the position that incorporating a drought management WMS into a regional water plan is valid.

We understand the concerns that the Region H Water Planning Group has about uncertainties in the implementation of drought contingency plans that makes the Group hesitant to include drought management as a WMS. However, we are not asking nor expecting that somehow a drought management WMS would address all regional water needs during a time of drought, only that it would be part of the picture. The consultants to the Region H Water Planning Group had identified a scenario in which a certain amount of water – 32,865 acre feet (or some subset of that volume) – could be incorporated under certain circumstances as a drought management WMS, and we could support that limited and reasonable approach.

In addition, we believe that the Region H Water Planning Group should seriously evaluate possible recommendations to municipal WUGs in Region H to revamp their drought contingency plans to at least partially incorporate triggers such as the Palmer Drought Severity Index and the U. S. Drought Monitor data and not rely so heavily, in many instances, on triggers such as reservoir storage levels – potentially then beginning to implement initial stages of a

drought contingency plan early enough to help stretch water supplies longer over a drought period. The 2021 Region H Plan mentions these as information sources for preparing drought plans but not in the form of a specific recommendation for incorporating them into the plans to trigger various stages of implementation.

We also believe that Region H should encourage the development of similar drought contingency plans among municipal WUGs – a development that incorporation of triggers other than supply volumes – might allow in the region. We recognize the evaluation that the Region H consultants did of the drought contingency plans of a certain subset of retail water systems in the region and the targeted demand reductions in their drought plans “to identify potential unnecessary or counter productive variations in drought response measures which could impede effective drought response or cause confusion to the public regarding required drought contingency measures.”

We do not necessarily disagree with the conclusions of this evaluation of a subset of systems on this one indicator that “clear indication of counterproductive drought planning was not observed.” However, that is not really a firm declaration that there is no benefit to more collaboration and consistency among a larger number of municipal WUGs on their drought contingency plans, especially with regards to targets, types of drought response actions to be implemented by the public (for example, additional limitations on outdoor watering restrictions), and measures other than just percentage demand reductions at various stages. In a media market that reaches so much of the population in Region H, having greater consistency among retail public water systems in their drought contingency plans and implementation of drought response measures would likely have great value in boosting results.

Chapter 8 – Unique Stream Segments, Reservoir Sites, and Other Recommendations

8.4.1 Regulatory and Administrative Recommendations

We support the regulatory and administrative recommendations in the 2021 Region H IPP. We especially recognize the new recommendation regarding “OneWater” management and the need to identify [and hopefully address] the limitations of current planning approaches that may undermine this more comprehensive water management approach.

8.4.2 Legislative Recommendations

We support most of the legislative recommendations in the 2021 Region H IPP with the exceptions of those regarding “barriers” to interbasin transfers of surface water and “continued usage of the Rule of Capture as the basis for groundwater law....” There are statutory conditions on interbasin transfers that some people consider “barriers” but others see as important protections for the basins of origin and there are other factors that should be considered in

determining the advisability of interbasin transfers. The bottom line is that this legislative recommendation is too vague to garner support. With regard to the Rule of Capture, we feel that the current interpretations of the implication of that “rule” for landowner rights and for groundwater management does not adequately address the public interest in protecting a precious water resource that may be critical to people in an area other than the people who live on the surface over a portion of that resource.

Chapter 11 – Implementation and Comparison to Previous Regional Water Plan

11.2.1 Conservation Strategies

As noted in our comments on Chapter 5B, we believe that some of that information about current water conservation in Region H could be moved to this section of Chapter 11 but at the least should be referenced more specifically here. We believe, however, that it is premature to state that “It is assumed that municipal conservation practices have been implemented in Region H since the development of the 2016 RWP...” if that is a declaration that all of the recommended conservation strategies in the previous plan are being implemented by all of the relevant municipal WUGs in the region. We encourage Region H to undertake a more robust evaluation of the implementation of Advanced Conservation measures in the region for the next round of regional water planning, especially because the recommended restrictions on outdoor watering are such an important part of the recommended conservation in the 2021 Region H Plan.

11.3.2 Drought of Record, Modeling Assumptions, and Existing Source Supplies

We simply note as a sign of progress the higher volumes of projected water supply from reuse that are incorporated into the 2021 Region H IPP as compared to the 2016 Region H Water Plan.

11.3.3 WUG Supplies and Needs

We also note as a sign of progress in the region the lowered volume of projected WUG needs in the 2021 Region H IPP as compared to the 2016 Plan.

Conclusion

In conclusion, while we find much of value in the Region H IPP and many aspects of the Plan, and we support many of its recommended Water Management Strategies, we are concerned that the Region H IPP:

- proposes strategies that will result in volumes of water well in excess of not only “needs” (as defined in Texas water planning) but even projected demands,

- underestimates the potential for meeting a significantly higher percentage of water needs through conservation (although the Plan makes important recommendations to address outdoor watering and continues to promote water loss control),
- fails to take full advantage of the opportunity to incorporate the use of drought contingency plans to reduce water needs during drought, and
- does not adequately assess the environmental impacts of proposed Water Management Strategies in a way that affects the selections of Strategies to be included in the Plan.

We recognize that it is unrealistic to expect that the Region H Water Planning Group will make changes in the Plan at this point in the planning process to address those major concerns. However, the regional water planning process is an iterative process, and the 5-year review of planning inputs and reconsideration of potential Water Management Strategies has led to incremental improvements in the Region H water plans over the past 20 years. We hope that progress will continue and that the rate of progress will accelerate. With that context, the Lone Star Chapter of the Sierra Club encourages the Region H Water Planning Group in the next round of regional water planning, which will have the benefit of new information from the 2020 census, to do the following, among other things:

- evaluate the impacts that anticipated changes in the sources of electric power production will have on projected consumptive water use demands in the Steam-Electric Power sector in the region,
- explore the potential evolution of the mix of industrial activity in the region and the prospects for innovation in production of goods and water use by business and industry and how those factors are likely to shape water demands for the Manufacturing sector,
- critically examine whether the wide range of (and huge volumes of water from) the Water Management Strategies in the 2021 Region H Plan need to be included as recommended Strategies or whether some of those Strategies might more appropriately be considered as unnecessary or perhaps proposed as Alternative Water Management Strategies to be pursued if other higher ranked Strategies prove infeasible,
- evaluate more closely the extent to which recommended Water Loss Control and Advance Conservation strategies are actually being implemented by municipal WUGs in Region H and propose new legislative and/or regulatory initiatives to accelerate the adoption of these strategies by those WUGs,
- as a complement to the above, evaluate how to advance conservation in those WUGs where new water development projects coming online or projected for the future might dampen the incentives for water utilities to promote and implement conservation,
- study carefully how other regional water planning groups in Texas have been able to incorporate the implementation of drought contingency plans into their regional water plans either as Water Management Strategies or possibly as adjustments to projected water demands in a drought as severe as the historic drought of record,

- consider recommendations to municipal WUGs to modify their drought contingency plans and take a more regional approach to establishment of drought triggers, drought plan stages, and actions to be taken at different drought plan stages,
- establish a decision framework that allows the likely or potential environment impacts of possible Water Management Strategies to factor into the selection of recommended Strategies as part of a more comprehensive approach to water planning and management in the region, and
- monitor and closely coordinate the development of the 2026 Region H Water Plan with the preparation of the relevant regional flood plans in the new flood planning process getting underway this year, in order to achieve any synergies from both planning efforts, to avoid conflicts between the water plans and flood plans, and to advance a “One Water” approach to water management.

As always, the Lone Star Chapter of the Sierra Club stands ready to support and assist Region H in the evolution of the region water plan in the next round of planning. Thank you for the opportunity to submit these comments on the 2021 Region H IPP.

STATE AGENCY COMMENTS

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Mr. Mark Evans, Chair
c/o North Harris County Regional Water Authority
P.O. Box 2342
Trinity, Texas 75862

Mr. Jace Houston
San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305

Re: Texas Water Development Board Comments for the Region H Regional Water Planning Group Initially Prepared Plan, Contract No. 1548301836

Dear Mr. Evans and Mr. Houston:

Texas Water Development Board (TWDB) staff have completed their review of the Initially Prepared Plan (IPP) submitted by March 3, 2020 on behalf of the Region H Regional Water Planning Group (RWPG). The attached comments follow this format:

- **Level 1:** Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements; and,
- **Level 2:** Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

Please note that rule references are based on recent revisions to 31 Texas Administrative Code (TAC) Chapter 357, adopted by the TWDB Board on June 4, 2020. 31 TAC § 357.50(f) requires the RWPG to consider timely agency and public comment. Section 357.50(g) requires the final adopted plan include summaries of all timely written and oral comments received, along with a response explaining any resulting revisions or why changes are not warranted. Copies of TWDB's Level 1 and 2 written comments and the region's responses must be included in the final, adopted regional water plan (*Contract Exhibit C, Section 13.1.2*).

Standard to all planning groups is the need to include certain content in the final regional water plans that was not yet available at the time that IPPs were prepared and submitted. In your final regional water plan, please be sure to also incorporate the following:

- a) Completed results from the RWPG's infrastructure financing survey for sponsors of recommended projects with capital costs, including an electronic version of the survey spreadsheet [*31 TAC § 357.44*];

- b) Completed results from the implementation survey, including an electronic version of the survey spreadsheet [31 TAC § 357.45(a)];
- c) Documentation that comments received on the IPP were considered in the development of the final plan [31 TAC § 357.50(f)]; and
- d) Evidence, such as a certification in the form of a cover letter, that the final, adopted regional water plan is complete and adopted by the RWPG [31 TAC § 357.50(h)(1)].

Please ensure that the final plan includes updated State Water Planning Database (DB22) reports, and that the numerical values presented in the tables throughout the final, adopted regional water plan are consistent with the data provided in DB22. For the purpose of development of the 2022 State Water Plan, water management strategy and other data entered by the RWPG in DB22 shall take precedence over any conflicting data presented in the final regional water plan [Contract Exhibit C, Sections 13.1.3 and 13.2.2].

Additionally, subsequent review of DB22 data is being performed. If issues arise during our ongoing data review, they will be communicated promptly to the planning group to resolve. Please anticipate the need to respond to additional comments regarding data integrity, including any source overallocations, prior to the adoption of the final regional water plans.

The provision of certain content in an electronic-only form is permissible as follows: Internet links are permissible as a method for including model conservation and drought contingency plans within the final regional water plan; hydrologic modeling files may be submitted as electronic appendices, however all other regional water plan appendices should also be incorporated in hard copy format within each plan [31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2 and 13.2.1].

The following items must accompany, the submission of the final, adopted regional water plan:

- 1. The prioritized list of all recommended projects in the regional water plan, including an electronic version of the prioritization spreadsheet [31 TAC § 357.46]; and,
- 2. All hydrologic modeling files and GIS files, including any remaining files that may not have been provided at the time of the submission of the IPP but that were used in developing the final plan [31 TAC § 357.50(g)(2)(C), Contract Exhibit C, Section 13.1.2, and 13.2.1].

The following general requirements that apply to recommended water management strategies must be adhered to in all final regional water plans including:

- 1. Regional water plans must not include any recommended strategies or project costs that are associated with simply maintaining existing water supplies or replacing existing infrastructure. Plans may include only infrastructure costs that are associated with volumetric increases of treated water supplies delivered to water user groups or that result in more efficient use of existing supplies [31 TAC § 357.10(39), § 357.34(e)(3)(A), Contract Exhibit C, Sections 5.5.2 and 5.5.3]; and,

2. Regional water plans must not include the costs of any retail distribution lines or other infrastructure costs that are not directly associated with the development of additional supply volumes (e.g., via treatment) other than those line replacement costs related to projects that are for the primary purpose of achieving conservation savings via water loss reduction [*§ 357.34(e)(3)(A), Contract Exhibit C, Section 5.5.3*].

Please be advised that, within the attached document, your region has received a comment specifically requesting that the RWPG provide the basis for how the RWPG considers it feasible that certain water management strategies will actually be implemented by January 5, 2023 (see Level 1, Comment 1), especially for projects with long lead times. This comment is aimed at making sure RWPGs do not present projects in their plans to provide water during the 2020 decade that cannot reasonably be expected to be online, and provide water supply, by January 5, 2023. For project types whose drought yields rely on previously stored water, the 2020 supply volume should take into consideration reasonably expected accumulated storage that would already be available in the event of drought. The RWPG must adequately address this Level 1 comment in the final, adopted regional water plan, which might require making changes to your regional plan.

Please provide the TWDB with information on how you intend to address all Level 1 comments well in advance of your adoption the regional water plan to ensure that the response is adequate for the Executive Administrator to recommend the plan to the TWDB Board for consideration in a timely and efficient manner. Your TWDB project manager will review and provide feedback to ensure all IPP comments and associated plan revisions have been addressed adequately. Failure to adequately address any Level 1 comment may result in the delay of the TWDB Board approval of your final regional water plan.

As a reminder, the deadline to submit the final, adopted regional water plan and associated material to the TWDB is **October 14, 2020**. Any remaining data revisions to DB22 must be communicated to Sabrina Anderson at Sabrina.Anderson@twdb.texas.gov by **September 14, 2020**.

If you have any questions regarding these comments or would like to discuss your approach to addressing any of these comments, please do not hesitate to contact Lann Bookout at (512) 936-9439 or Lann.Bookout@twdb.texas.gov. TWDB staff will be available to assist you in any way possible to ensure successful completion of your final regional water plan.

Sincerely,

Jessica Pena Zuba

Digitally signed by Jessica Pena
Zuba
Date: 2020.06.17 09:19:31 -05'00'

Date: 6/17/2020

Jessica Zuba
Deputy Executive Administrator
Water Supply and Infrastructure

Mr. Mark Evans
Mr. Jace Houston
Page 4

Attachment

c w/att.: Mr. Philip Taucer, Freese & Nichols, Inc.

**TWDB comments on the Initially Prepared 2021 Region H
Regional Water Plan.**

Level 1: Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

1. Chapter 5 and the State Water Planning Database (DB22). The plan includes the following recommended water management strategies (WMS) by WMS type, providing supply in 2020 (not including demand management): seven *groundwater wells & other*, four *indirect reuse*, six *other direct reuse*, one *conjunctive use*, and 14 *other surface water*. **Strategy supply with an online decade of 2020 must be constructed and delivering water by January 5, 2023.**
 - a) Please confirm that all strategies shown as providing supply in 2020 are expected to be providing water supply by January 5, 2023. [31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]
 - b) Please provide the specific basis on which the planning group anticipates that it is feasible that the *conjunctive use* and 14 *other surface water* WMSs will all actually be online and providing water supply by January 5, 2023. For example, provide information on actions taken by sponsors and anticipated future project milestones that demonstrate sufficient progress toward implementation. [31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]
 - c) In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly, and also indicate whether ‘demand management’ will be the WMS used in the event of drought to address such water supply shortfalls or if the plan will show these as simply ‘unmet’. If municipal shortages are left ‘unmet’ and without a ‘demand management’ strategy to meet the shortage, please also ensure that adequate justification is included in accordance with 31 TAC § 357.50(j). [TWC § 16.051(a); 31 § TAC 357.50(j); 31 TAC § 357.34(i)(2); Contract Exhibit C, Section 5.2]
 - d) **Please be advised that, in accordance with Senate Bill 1511, 85th Texas Legislature, the planning group will be expected to rely on its next planning cycle budget to amend its 2021 Regional Water Plan during development of the 2026 Regional Water Plan, if recommended WMSs or projects become infeasible, for example, due to timing of projects coming online.** Infeasible WMSs include those WMSs where proposed sponsors have not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with implementation of the WMS on a schedule in order for the WMS to be completed by the time the WMS is needed to address drought in the plan. [TWC § 16.053(h)(10); 31 TAC § 357.12(b)]

2. Chapter 3, Section 3.2.4.3. The plan indicates that some non-relevant sources without modeled available groundwater (MAG) retained yields from the 2017 State Water Plan. Please specify which aquifers this applies to and include the methodology used to determine those estimates in the final, adopted regional water plan. *[Contact Exhibit C, Section 3.5.2]*
3. Chapter 4. Please include the secondary needs results for water user groups and major water providers in Chapter 4, at a minimum by reference to location elsewhere in the document, in the final, adopted regional water plan. *[31 TAC § 357.33(e)]*
4. Chapter 5 and DB22. The plan includes WMS projects that appear to come online after the related WMS is initially online providing supply. For example, the Missouri City GRP - Reuse WMS is reported to provide supply in 2020, however the related WMS project in DB22 does not come online until 2030. For WMS projects that are necessary for a strategy to deliver water, please ensure that the project is associated with the initial decade, or earlier decade, that the strategy is delivering supply. In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly. *[31 TAC § 357.10(21); Contract Exhibit C, Section 5.2]*
5. Chapter 5. The plan appears to include qualitative impact information in the WMS evaluations and a quantitative analysis for impacts to agricultural resources does not appear to have been conducted. Please include a quantitative impacts analysis for agricultural resources for each WMS in the final, adopted regional water plan. *[31 TAC § 357.34(e)(3)(C)]*
6. Appendix 5A, Table 5A-3, pages 5-A-15 to 5-A-17. Table 5A-3 appears to include quantitative analysis of "Environmental Land & Habitat" and "Environmental Flows"; however, it is not clear if all of the required environmental factors were considered (environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico). Please ensure that a quantitative reporting of all required environmental factors for each technical evaluation is included in the final, adopted regional water plan. *[31 TAC § 357.34(e)(3)(B)]*
7. Appendix 5B, page 5-B-SWDV-001-1. Please clarify whether the firm yield for the proposed Allens Creek Reservoir was estimated using the unmodified Brazos WAM RUN3. The firm yield appears to be based upon the permitted volume, however there is no approved hydrologic variance for estimating WMS yields for the region. If the yield was not calculated based on an unmodified WAM RUN3, please revise the yield, or submit a hydrologic variance request for future WMS supplies prior to the final, adopted regional water plan. *[Contract Exhibit C, Section 5.2.1]*
8. Appendix 5B. It is unclear if or how environmental flow needs were considered and if any adjustments were made in response to those needs during the development of the following WMSs: Aquifer Storage and Recovery (Appendix 5-B-GWDV-001) and

Brazos Saltwater Barrier (Appendix 5-B-OTHR-001). Please clarify how environmental flow criteria were considered in these strategy evaluations and document the information in the final, adopted regional water plan. [31 TAC § 357.34(e)(3)(B); 31 TAC § 358.3(22); 31 TAC § 358.3(23)]

9. Appendix 5B. The plan does not appear to present cost estimates broken out by project components (pipelines, pump stations, etc.) for all WMS evaluations, for example, but not limited to: CONV-002, CONV-003, CONV-004, CONV-006, CONV-009, CONV-010, CONV-011, CONV-014. Please present capital cost estimates for each project component for each WMS evaluated in the final, adopted regional water plan. [31 TAC § 357.34(f); Contract Exhibit C, Section 5.5.1]
10. Units costs reported in DB22 appear notably high in at least one planning decade for the following WMSs: Fort Bend WCID 2 GRP - Surface Water, Harris County MUD 122 (\$104,577); Brackish Groundwater Supplies, Willis (\$101,980); Missouri City GRP - Surface Water Expansion, Fort Bend County MUD 47 (\$38,989, \$43,234); New / Expanded Contract with SJRA, Panorama Village (\$173,987); SJRA GRP - Groundwater Offset, Cut & Shoot (\$76,350) and Pinehurst Decker Prairie WSC (\$81,634); SJRA GRP - Participant Surface Water, Magnolia (\$41,033) and Montgomery County MUD 15 (\$43,225). Please confirm that the calculated unit costs are correct in DB22 and that costs were considered in WMS recommendations in the final, adopted regional water plan. [31 TAC § 357.34(e)(2)]
11. Chapter 6. Please include the TWDB Socioeconomic Impacts of Projected Water Shortages Report as an appendix to Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. [31 TAC § 357.40(a)]
12. Chapter 6. Please include the summary of unmet water needs within Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. [31 TAC § 357.40(c)]
13. Chapter 8. The plan does not appear to include a quantitative analysis of the impact of the plan on the unique stream segments previously designated by the Legislature. Please include an assessment on the flows important to the river or stream segment, as determined by the planning group, comparing current conditions to conditions with implementation of all recommended WMSs, in the final, adopted regional water plan. [31 TAC § 357.43(b)(2)]
14. Section 9.3, page 9-4. The plan states that the Infrastructure Financing Survey will be completed after completion of the survey by the TWDB. Please ensure the region completes the Infrastructure Financing Survey, using the template provided by the TWDB to the region, and include the survey in the final, adopted regional water plan. [31 TAC § 357.44]

<p>Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.</p>
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1. Chapter 3. Please consider adding a statement in Chapter 3 that clarifies existing supplies are supplies that are legally and physically available.
2. Section 3.2.4.2, Table 3-2, page 3-8. Montgomery County is identified as being located in Groundwater Management Area (GMA) 12; however, it is located in GMA 14. Please update Table 3-2 to list Montgomery County in GMA 14.
3. Chapter 3, Section 3.3.5. Please consider clarifying how the projected rating curves for each decade are derived.
4. TWDB analysis GAM Task 18-002 (11/28/18) conducted for the Technical Memorandum indicated that the availability from the Carrizo-Wilcox, Queen City, Sparta Aquifers and Yegua-Jackson Aquifers, Walker and Trinity counties may be physically incompatible with the GMA 12 DFCs in the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson in Lost Pines, Brazos Valley, and Mid-East Texas GCDs. Please consider noting how the planning group considered this information in the final plan.
5. Appendix 3-A4, Table 3-A1, page 3-A4-1. The TWDB required that the MAG for Montgomery County would be carried over from DB17 due to the desired future condition petition. Please consider adding a footnote to Table 3-A1 noting such information since the MAG values for Montgomery County differ from the most recent MAG report for GMA 14.
6. Section 5.4.4, last sentence, page 5-14. Please replace the term "irritation" with "irrigation".
7. Appendix 5B. The WMS evaluation for Freeport Desalination (Appendix 5-B-SWDV-004), states that there is no impact on environmental flows due to location of intake and discharge, however the plan also states that the project may increase return flows to streams by approximately 50 percent of the potential project yield through municipal return flows. Please consider clarifying whether there will be instream flow impacts due to this apparent contradictory information, in the final, adopted regional water plan.
8. Appendix 5B. The plan in some instances appears to include multiple cost options for WMSs, for example CONV-008 and GWDB-002. Please consider clarifying in the text of the plan, which cost option is considered recommended and is represented in DB22.
9. Appendix 5B. For the WMS of Lone Star Lake (SWDV-006), please consider noting in the Permitting and Development section (page 5-B-SWDV-006-3) that a new appropriation of surface water would require water right permitting through the TCEQ.
10. The GIS files submitted for WMS projects do not include the minimum required metadata. Please include at a minimum, metadata about the data's projection, with the final GIS data submitted. *[Contract Exhibit D, Section 2.4.1]*



June 28, 2020

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Houston

Carter P. Smith
Executive Director

Hon. Mark Evans
Chair, RHWPG
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305-0329

Re: 2021 Region H Initially Prepared Regional Water Plan

Dear Honorable Mark Evans:

Thank you for seeking review and comment from the Texas Parks and Wildlife Department ("TPWD") on the 2021 Initially Prepared Regional Water Plan for Region H (IPP). Water impacts every aspect of TPWD's mission to manage and conserve the natural and cultural resources of Texas. Although TPWD has limited regulatory authority over the use of state waters, we are the agency charged with primary responsibility for protecting the state's fish and wildlife resources. To that end, TPWD offers these comments intended to help avoid or minimize impacts to state fish and wildlife resources. TPWD appreciates changes that were made to the 2016 Region H Regional Water Plan in response to our comments at that time.

TPWD understands that regional water planning groups are guided by 31 TAC §357 when preparing regional water plans. These water planning rules spell out requirements related to natural resource and environmental protection. Accordingly, TPWD staff reviewed the IPP with a focus on the following questions:

- Does the IPP include a quantitative reporting of environmental factors including the effects on environmental water needs and habitat?
- Does the IPP include a description of natural resources and threats to natural resources due to water quantity or quality problems?
- Does the IPP discuss how these threats will be addressed?
- Does the IPP describe how it is consistent with long-term protection of natural resources?
- Does the IPP include water conservation as a water management strategy?
- Does the IPP include Drought Contingency Plans?
- Does the IPP recommend any stream segments be nominated as ecologically unique?

- Does the IPP address concerns raised by TPWD in connection with the 2016 Water Plan?

The population of Region H was approximately 6.8 million in 2015 and is expected to be over 11.7 million by 2070. Regional water supply, which was about 3.35 million acre-feet in 2020 is expected to decrease to 3.13 million acre-feet by 2070. The reduction in supply between 2020 and 2070 is the result of reduced reservoir yields due to sedimentation. In 2020, approximately 52 percent of the water use in Region H was for municipal supply. In addition, about two-thirds of the water supply in Region H is derived from surface water, while groundwater is a decreasing supply over the planning period.

The IPP includes a variety of proposed water management strategies (WMS), including development of conveyance infrastructure and contracts to more fully utilize existing supplies, development of groundwater resources within areas with sufficient groundwater availability, reuse, conservation, development of new surface water supplies, development of treatment infrastructure, and a number of other approaches. Potential water management strategies were evaluated in accordance with 31 TAC 357.34 and the Chapter 5 appendices include a technical memorandum outlining the evaluation performed for each proposed strategy.

Water conservation, the most environmentally benign WMS, is projected to meet 18.3 percent of the region's municipal demands by 2070 reflecting the region's continued emphasis on conservation efforts in the future. Water conservation is also an important strategy for meeting other future water needs. Chapter 5B provides a detailed discussion of conservation efforts, including baseline conservation, water loss reduction, and advanced conservation efforts.

As in previous plans Chapter 1 describes the natural resources in Region H and how water development projects threaten natural resources. Chapter 6 also discusses threats to natural resources. In addition, the Region H 2021 IPP includes quantitative information for impacts on natural resources from water management strategies. Specifically, the Region H IPP includes an assessment of the impact of water management strategies and projects on key water quality parameters in the state and impacts of moving water from agricultural and rural areas as well a discussion of how the IPP is consistent with the long-term protection of the state's water, agricultural and natural resources. TPWD encourages Region H to continue to improve the quantitative impact analysis as environmental information for WMS becomes available. TPWD is particularly concerned about declining freshwater mussel populations, reflected in the 2009 Texas Parks and Wildlife Commission's decision to list 15 species of freshwater mussels as threatened. In order to avoid adverse impacts to aquatic resources and potential civil and criminal liability, the department recommends entities coordinate with the department to develop a plan to avoid impacts to aquatic resources and, in some instances, relocate aquatic resources outside of the project area. There have been

recent updates (March 30, 2020) to the list of federal and state listed species and Species of Greatest Conservation need, including species in Region H counties. We recommend that you update Table 1.15 and Appendix 6-C with the latest information that is available at https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/.

Included in Chapter 8 of the IPP is the recommendation that the TWDB determine, in conjunction with the TCEQ and the Texas Parks and Wildlife Department (TPWD), which specific environmental studies and analyses are required for each category of water management strategy (i.e., new water right, new reservoir, etc.). Furthermore, the IPP recommends that guidance should be added to the Planning Guidelines, so that RWPGs can reflect the cost of those requirements in their budgets and scopes of work. TPWD staff are willing to assist in the review of water management strategies but cautions that determining the specific studies and analyses required for each category of management strategy may be difficult.

An overall review for the selected identified WMS was conducted based on text provided in the Region H IPP and are listed below. Please note, there are many variables that go into a given water management strategy and not all projects will have the same variables or requirements associated with them. The formulation of generic guidelines is further complicated by the ecological and hydrological variations that occur across the state of Texas. Some amount of site-specific information is needed to identify the required studies and analyses necessary to properly assess the environmental impacts of a given project. TPWD staff are eager to assist Region H in reviewing the specific studies and analyses as they become available.

- Brazos Saltwater Barrier – Limited impacts from the development of the Brazos Saltwater Barrier are discussed in the Region H IPP. Developing the Brazos Saltwater Barrier will potentially lead to changes in the upstream and downstream water quantity and quality, especially during times of drought. This could have a negative impact on the species and their habitat that utilize the area for their life cycle activities including but not limited to migration, feeding and spawning. TPWD recommends an assessment of the potential upstream and downstream environmental impacts such as changes water quality and quantity, ecosystem functions, and species life cycles.
- Water Transfers – The transfer of water, from ground water to surface water or from surface water source to surface water source has the potential to alter the water quality and change the water available in the area the water is extracted as well as the area the water is introduced, thus there is a potential to alter the life cycle of species, their associated habitats and the overall function of the ecosystem. The transfer of water also has the potential to introduce new or

invasive species into an area. The impacts of these changes to the environment can have effects on the recreational opportunities (i.e. anglers and boaters) and well as to the public water supply. TPWD recommends the IPP include an assessment of the potential environmental impacts from transferring water.

- TPWD agrees that utilizing the process of “dilution and discharge to deal with brine concentrated during treatment processes...can result in an elevated level of TDS in streams used as receiving waters as well as other quality impacts depending upon the quality of the groundwater source”. TPWD recommends consideration of less impacting concentrate disposal methods (e.g. deep well injection) to minimize impacts to fish and wildlife resources.
- TPWD recognizes and agrees that increased groundwater pumping in the region can lead to land subsidence and exacerbate flooding and drainage problems. TWDB planning rules now require that groundwater supplies not exceed the Modeled Available Groundwater (MAG) values that were determined to meet the desired future conditions (DFCs) of the groundwater source. The adopted DFCs for the primary aquifers in Region H are aimed at combatting subsidence and not the restoration of springs or other manifestations of groundwater/surface water interactions. Generally, TPWD would like to see DFCs adopted to protect these features and their historical relationship. TPWD staff recognizes that there is insufficient data in many parts of the state to determine the extent, degree, and location of groundwater/surface water relationships, however TPWD staff encourages RWPGs to support studies to investigate the groundwater/surface water interactions within the region so that the relationship between these sources will be better understood as we continue to develop and manage water resources.
- Allens Creek Reservoir and the Dow Reservoir and Pump Station Expansion – Although less impacting than on-channel reservoirs, off-channel reservoirs still have the potential to cause loss of habitat for terrestrial, wetland, riverine and riparian species as well as cause a reduction and/or alteration of downstream habitat types for riverine, estuarine, riparian and wetland species. TPWD agrees that Allens Creek Reservoir will reduce the net flow within the basin and has the potential to inundate the habitats of species of concern including but not limited to the Whitefaced Ibis, Wood Stork, and Houston Toad which may require mitigation. TPWD looks forward to continued cooperation with project sponsors as mitigation plans are developed to address habitat issues as well as construction-related issues.
- BRA System Operation Permit - TPWD agrees that BRA System Operation Permit has the potential to impact flows into the Brazos River Estuary and the Columbia Bottomlands. Furthermore, TPWD agrees that the BRA System Operation Permit may alter the hydrology of the system by reducing the peak flows in the lower Brazos River due to the increase in diversions. These

alterations can have an impact on the terrestrial, wetland, riverine and riparian species. TPWD looks forward to continued efforts working with the Brazos River Authority to minimize these impacts.

As in the previous planning cycles TPWD staff appreciates the time the planning group gave to evaluating whether to recommend stream segments as ecologically unique. TPWD continues to see importance in designating unique stream segments and will support Region H in this regard in the next planning cycle as TPWD staff believes there are remaining stream segments within the region that warrant designation. While TPWD does not have immediate plans to update the information for Ecologically Significant River and Stream Segments of Region H that was initially prepared by the department, we would support an update if Region H would find it beneficial in making a decision to recommend a river or stream segment as ecologically unique. New natural resources information is likely available for the river and stream segments the department has identified as well as for other segments not yet identified as candidates for the ecologically unique designation.

Region H is subject to floods as well as droughts, thus must plan for each. Region H uses the drought of record from the 1950s to evaluate the impacts of drought though it recognizes that the triggers and responses of drought conditions may fluctuate depending on the site and should be prescribed by project owners. Drought Contingency Plans (DCP) are discussed in Chapter 7 and elaborated on in Appendix 7-A. Approximately 253 new DCPs were received by the Region H in 2019. TPWD concurs with Region H and strongly supports the “development of robust DCPs ... in order to prolong supply availability and reduce impacts to water users and local economies”. Region H, however, does not view DCPs as a strategy to meet future water needs and therefore does not include DCPs as a water management strategy.

TPWD recognizes the importance of water management strategies to provide a consistent and reliable source of water for the environment, recreation, and water supply especially in times of drought. By excluding drought management strategies as water management strategies, the impact of a drought on sustaining flows for species needs, recreational activities and public water supply cannot be fully assessed. Thus, it cannot be assumed that the Regional H plan will be protective of species, recreation, or water supply needs in times of drought.

TPWD requests the Region H IPP address invasive exotic species and their potential negative environmental impacts that may result from water management strategies that involve the transfer of water. The introduction of invasive exotic species can directly and/or indirectly impact native species, their habitats and associated ecosystem functions, recreational opportunities (e.g., anglers and boaters) and the public water supply and other water infrastructure negatively. In

particular, the zebra mussel is an invasive freshwater mollusk that could affect water management by clogging intake structures and fouling pipelines, resulting in increased maintenance needs and potentially hazardous conditions for workers. The presence of zebra mussels also raises concerns with the transfer of water from affected waterbodies that may require mitigation to prevent transfer of zebra mussels. The potential transport of zebra mussels and other invasive species via pipelines falls under Parks and Wildlife Code §66.007(n) and §66.0072(g) To prevent the transmission of invasive species TPWD recommends avoiding transport of water from water bodies where these species are known to occur, including rivers downstream of infested lakes. If this is unavoidable, effective mitigative measures should be considered and implemented for preventing the transfer of zebra mussels. As of June 23, 2020 zebra mussels have been found within the Region H boundaries in Lake Livingston. Please be advised TPWD regularly updates information on the TPWD website to clearly identify lakes with zebra mussels in Texas, as it is subject to change; this information can be found at:

<https://tpwd.texas.gov/huntwild/wild/species/exotic/zebramusselmap.phtml>.

TPWD recommends that the Region H IPP identify areas with infestations to prevent the spread of zebra mussels via water transfer and the negative impacts from invasive, exotic or nuisance species on the State's natural resources, economy, and recreation that would result from their introduction into new water bodies.

We appreciate the opportunity to provide these comments. While TPWD values and appreciates the need to meet future water supply demands, we must do so in a thoughtful and sound manner that ensures the ecological health of our state's aquatic and natural resources. If you have any questions, or if we can be of any assistance, please contact me at 512-389-8715 or Cindy.Loeffler@TPWD.Texas.gov.

Sincerely,

Cindy Loeffler

Cindy Loeffler
Chief, Water Resources Branch

CL:lc

APPENDIX 10-C

RESPONSES TO WRITTEN COMMENTS

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PUBLIC COMMENTS

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August 5, 2020

Agricultural

Robert Bruner
Pudge Willcox,
Executive Committee

Counties

John Blount
Judge Mark Evans, Chair
Judge Art Henson

Electric Generating Utilities

Carl Burch

Environmental

John R. Bartos,
Executive Committee

Groundwater Management Areas

Gary Ashmore
David Bailey

Industries

James Comin
Glenn Lord

Municipalities

Yvonne Forrest
Robert Istre

Public

Carl Masterson

River Authorities

Brad Brunett
Jace Houston, Secretary
Kevin Ward

Small Businesses

Judge Bob Hebert
W.R. Baker

Water Districts

Marvin Marcell
Jimmie Schindewolf
Mike Turco

Water Utilities

Brandon Wade
James Morrison
William Teer

Ms. Debra Joly
2019 Fairway Green Drive
Kingwood, TX 77339

Re: Comments on the Region H Initially Prepared Plan

Dear Ms. Joly:

The Region H Water Planning Group (RHWPG) has received and reviewed your comments on the Initially Prepared Plan (IPP) for Region H. The RHWPG appreciates your input in the public process associated with the development of the 2021 Regional Water Plan (RWP). Your comments related to the legislative recommendation to clarify liability exposure of reservoir operators have been considered by the RHWPG and will be incorporated into the public comment section of the RWP.

Development of recommendations to the Texas Legislature has been a component of the Region H RWP since the beginning of the regional planning process. Although the Region H's mandate from Texas Water Development Board is focused primarily on long-range supply availability under drought conditions, the importance of flood issues to the region has led the RHWPG to recommend legislative clarification on this critical topic since the 2006 RWP. Further, the RHWPG supports TWDB's ongoing development of a state and regional flood planning process to investigate flood management strategies and promote coordination among representatives of a broad range of interests.

Thank you again for providing your comments on the IPP.

Sincerely,



Mark Evans
Region H Chair

August 5, 2020

Ms. Dana Reed
[REDACTED]

Re: Comments on the Region H Initially Prepared Plan

Dear Ms. Reed:

The Region H Water Planning Group (RHWPG) has received and reviewed your comments on the Initially Prepared Plan (IPP) for Region H. The RHWPG appreciates your input in the public process associated with the development of the 2021 Regional Water Plan (RWP). Your comments related to water conservation and OneWater management have been considered by the RHWPG and will be incorporated into the public comment section of the RWP.

The RHWPG has always recognized the value of conservation as a solution that satisfies water demands without the need for additional projects, facilities, or treatment and transmission capacity expansions. All Region H RWPs, from the original 2001 report to the present, have recommended municipal water conservation as a key strategy due to this beneficial financial and supply efficiency. For the final RWP, a note has been added to the key project overview table to emphasize more clearly that conservation costs are not always directly comparable to costs for other projects, which in many cases must be developed in groups to deliver water to points of use. A recommendation for water systems to consider end uses and land uses both in water conservation plan development and in monitoring conservation program efficacy has also been incorporated into the conservation subchapter of the final RWP. The RHWPG recognizes the value of a OneWater approach to water management and supports coordination among utilities, planners, and legislators to promote OneWater management and identify opportunities to reflect these programs in the regional and state water planning process.

Thank you again for providing your comments on the IPP.

Sincerely,



Mark Evans
Region H Chair

Agricultural
Robert Bruner
Pudge Willcox,
Executive Committee

Counties
John Blount
Judge Mark Evans, Chair
Judge Art Henson

Electric Generating Utilities
Carl Burch

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August 5, 2020

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Mike Turco

Water Utilities
Brandon Wade
James Morrison
William Teer

Mr. Ken Kramer
Water Resources Chair
Sierra Club – Lone Star Chapter
PO Box 4998
Austin, TX 78765

Re: Comments on the Region H 2021 Initially Prepared Plan

Dear Mr. Kramer,

The Region H Water Planning Group (RHWP) has received and reviewed the comments from the Sierra Club on the Initially Prepared Plan (IPP) for Region H. The RHWP appreciates your thorough examination of the IPP and thoughtful input in the public process associated with the development of the 2021 Regional Water Plan (RWP). Guidance provided by the Sierra Club, in conjunction with other advocates for sustainable water management including the Texas Living Waters Project and the Alliance for Water Efficiency, has been a key component in enhancing the Region H assessment of water conservation. These insights were particularly beneficial in developing advanced municipal water conservation strategies, including the promotion of mandatory outdoor watering restrictions as a regular water management practice rather than a temporary measure in response to drought conditions.

While Sierra Club's comments note that the schedule for adoption of the final RWP precludes extensive modifications to the Plan, your letter includes a number of observations on opportunities to make the current RWP more robust. In light of your comments, several revisions have been made to the final 2021 RWP:

- Addition of acknowledgment that, while the RWP expresses concerns regarding potential under-projection of manufacturing and power generation water demands in the current cycle of Regional Planning, the RHWP also intends for continuing evaluation of this topic in future planning cycles to consider the potential for mitigating influence from changes in regional industry categories, water use characteristics, and implementation of water-efficient technologies.
- Clarification that the reduction threshold and remediation rate presented in the RWP for the Water Loss Reduction water management strategy are intended to reflect a conservative estimate of potential savings and are not intended to represent an ideal loss rate target. The RHWP recommends that all utilities perform regular system audits, aggressively strive to reduce the inefficient and costly leakage loss of water, and establish procedures to rapidly address line breaks.

Comments on the Region H 2021 Initially Prepared Plan
August 5, 2020

- Addition of a reference in Chapter 11 to the discussion of current conservation efforts in Region H as presented in Subchapter 5B.
- Incorporation of additional recommendations in Section 7.8.2 of the RWP regarding Drought Contingency Plan development, including coordination by municipal utilities with neighboring systems to identify opportunities for consistent response and messaging, as well as consideration of potential “early warning” triggers utilizing data sources such as the U.S. Drought Monitor and the Palmer Drought Severity Index.

The RHWPG further wishes to acknowledge opportunities for future enhancement of the process, including:

- Consideration of even more aggressive advanced municipal water conservation recommendations, including greater estimated savings from mandatory watering restrictions.
- Potential adjustment of savings goals and implementation rates for water loss reduction strategies.
- Reexamination of drought management savings and consideration of drought management as a potential formal water management strategy.
- Expanded evaluation of the historical implementation of water conservation measures within the region.

The RHWPG greatly appreciates the contributions of the Sierra Club to the development of the 2021 RWP and looks forward to continuing discussion of your insights on these and other topics as Region H transitions into the next planning cycle. Thank you again for providing your comments on the IPP and the active involvement of Sierra Club membership who have dedicated their time to contributing to the public process. Should you have any further questions, please feel free to contact me at [281.440.3924](tel:281.440.3924) or mevans@nhcrwa.com or the Region H consultant, Philip Taucer, at [713.600.6835](tel:713.600.6835) or philip.taucer@freese.com.

Sincerely,



Mark Evans
Region H Chair

STATE AGENCY COMMENTS

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August 26, 2020

Agricultural

Robert Bruner
Pudge Willcox,
Executive Committee

Counties

John Blount
Judge Mark Evans, Chair
Judge Art Henson

Electric Generating Utilities

Carl Burch

Environmental

John R. Bartos,
Executive Committee

Groundwater Management Areas

Gary Ashmore
David Bailey

Industries

James Comin
Glenn Lord

Municipalities

Yvonne Forrest
Robert Istre

Public

Carl Masterson

River Authorities

Brad Brunett
Jace Houston, Secretary
Kevin Ward

Small Businesses

W.R. Baker
Judge Bob Hebert
Ivan Langford

Water Districts

Marvin Marcell
Jimmie Schindewolf
Mike Turco

Water Utilities

James Morrison
William Teer
Brandon Wade

Mr. Jeff Walker
Executive Administrator
Texas Water Development Board
1700 Congress Avenue, Sixth Floor
Austin, Texas 78701

Re: TWDB Comments on the Region H 2021 Initially Prepared Plan

Dear Mr. Walker,

The Region H Water Planning Group (RHWPG) has received and reviewed the comments from the Texas Water Development Board (TWDB) on the Initially Prepared Plan (IPP) for Region H. The RHWPG appreciates the efforts of TWDB staff to review the IPPs and welcomes the helpful input in preparing the final, adopted Regional Water Plan (RWP). To this end, the RHWPG has made changes to the IPP to address the issues presented by TWDB or provided justification for the approach taken in the IPP.

Each comment made by TWDB is presented below along with the appropriate response from the RHWPG in italics.

Level 1: Comments, questions, and data revisions that must be satisfactorily addressed in order to meet statutory, agency rule, and/or contract requirements.

Chapter 5 and the State Water Planning Database (DB22). The plan includes the following recommended water management strategies (WMS) by WMS type, providing supply in 2020 (not including demand management): seven groundwater wells & other, four indirect reuse, six other direct reuse, one conjunctive use, and 14 other surface water. Strategy supply with an online decade of 2020 must be constructed and delivering water by January 5, 2023.

a) Please confirm that all strategies shown as providing supply in 2020 are expected to be providing water supply by January 5, 2023. [31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]

The strategies shown in the RWP as providing supply in 2020 are intended to reflect planned or recommended WMS and project development, including provision of water supply, by January 5, 2023.

b) Please provide the specific basis on which the planning group anticipates that it is feasible that the conjunctive use and 14 other surface water WMSs will all actually be online and providing water supply by January 5, 2023. For example, provide information on actions taken by sponsors and anticipated future project milestones that demonstrate sufficient progress toward implementation. [31 § TAC 357.10(21); Contract Exhibit C, Section 5.2]

Explanatory text has been added in the form of footnotes to Table 5A-8 in Appendix 5-A providing the specific basis for the conjunctive use and other surface water WMSs with recommended strategy supply allocations for the 2020 timestep. It should be noted that for many of these WMS, allocations for the 2020 timestep reflect increased supply transfers utilizing existing sources and existing water provider treatment and transmission infrastructure or are part of ongoing Groundwater Reduction Plan programs. Based upon additional guidance provided by project sponsors during review of the Initially Prepared Plan, the RWP no longer reflects 2020 timestep supply allocations for the Dow Reservoir and Pump Station Expansion WMS and the GCWA Brazoria County Raw Water Expansion WMS.

c) In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly, and also indicate whether 'demand management' will be the WMS used in the event of drought to address such water supply shortfalls or if the plan will show these as simply 'unmet'. If municipal shortages are left 'unmet' and without a 'demand management' strategy to meet the shortage, please also ensure that adequate justification is included in accordance with 31 TAC § 357.50(j). [TWC § 16.051(a); 31 § TAC 357.50(j); [31 TAC § 357.34(i)(2); Contract Exhibit C,

Based upon the information provided in response to Item 2b above, adjustments to the timing of strategies and revision of projected unmet water needs are not necessary. It should be noted that the RWP currently includes recommended demand management in the form of advanced municipal conservation with mandatory outdoor watering restrictions, as well as water loss reduction. The RHWPG also considered drought management practices and, while not designating as a recommended WMS in the 2021 RWP, strongly supports the development of robust DCPs and implementation of DCPs under appropriate conditions by water providers in order to prolong supply availability and reduce impacts to water users and local economies

d) Please be advised that, in accordance with Senate Bill 1511, 85th Texas Legislature, the planning group will be expected to rely on its next planning cycle budget to amend its 2021 Regional Water Plan during development of the 2026 Regional Water Plan, if recommended WMSs or projects become infeasible, for example, due to timing of projects coming online. Infeasible WMSs include those WMSs where proposed sponsors have not taken an affirmative vote or other action to make expenditures necessary to construct or file applications for permits required in connection with implementation of the WMS on a schedule in order for the WMS to be completed by the time the WMS is needed to address drought in the plan [TWC § 16.053(h); 31 TAC § 357.12(b)]

The RHWPG notes this requirement and will undertake appropriate measures, if necessary, during the development of the 2026 RWP.

2. Chapter 3, Section 3.2.4.3. The plan indicates that some non-relevant sources without modeled available groundwater (MAG) retained yields from the 2017 State Water Plan. Please specify which aquifers this applies to and include the methodology used to determine those estimates in the final, adopted regional water plan. [Contract Exhibit C, Section 3.5.2]

A table of non-MAG groundwater formations summarizing the applicable formations, counties, basins, and references used as a basis for estimated availability has been added to Section 3.2.4.3 of Chapter 3.

3. Chapter 4. Please include the secondary needs results for water user groups and major water providers in Chapter 4, at a minimum by reference to location elsewhere in the document, in the final, adopted regional water plan. [31 TAC § 357.33(e)]

Additional text has been added as Section 4.3 of Chapter 4, providing a definition of second-tier water needs and providing reference to locations in Chapter 5 and Appendix 5-A which provide discussion and numerical summary of second-tier water needs.

4. Chapter 5 and DB22. The plan includes WMS projects that appear to come online after the related WMS is initially online providing supply. For example, the Missouri City GRP - Reuse WMS is reported to provide supply in 2020, however the related WMS project in DB22 does not come online until 2030. For WMS projects that are necessary for a strategy to deliver water, please ensure that the project is associated with the initial decade, or earlier decade, that the strategy is delivering supply. In the event that the resulting adjustment of the timing of WMSs in the plan results in an increase in near-term unmet water needs, please update the related portions of the plan and DB22 accordingly. [31 TAC § 357.10(21); Contract Exhibit C, Section 5.2]

WMS supply allocations in Chapter 5 and TWDB DB22 were reviewed to confirm that strategy supply allocations and WMS project data reflected the appropriate online timestep. This review determined that strategy supply allocations were timed appropriately and that adjustments of start dates to a later timestep were not warranted. Cases where WMS supplies come online prior to WMS projects are associated with use of existing infrastructure (generally reflecting contract limited rather than source or infrastructure limited situations) in an initial decadal timestep, with growth in allocation for subsequent timesteps associated with infrastructure expansion projects. For allocations associated with this situation, no adjustment to the WMS is necessary for supply allocations occurring in timesteps prior to the WMS project start date.

5. Chapter 5. The plan appears to include qualitative impact information in the WMS evaluations and a quantitative analysis for impacts to agricultural resources does not appear to have been conducted. Please include a quantitative impacts analysis for agricultural resources for each WMS in the final, adopted regional water plan. [31 TAC § 357.34(e)(3)(C)]

A brief discussion of strategy impacts, including impacts to agricultural land and production, is included in the Water Management Strategy Evaluation section of each WMS technical memorandum in Appendix 5-B to Chapter 5. In addition, an appendix to Chapter 6 has been added to document quantitative analyses for a number of factors, including agricultural resources, wildlife habitat, environmental water needs, bays, estuaries, and arms of the Gulf of Mexico, and cultural resources.

6. Appendix 5A, Table 5A-3, pages 5-A-15 to 5-A-17. Table 5A-3 appears to include quantitative analysis of "Environmental Land & Habitat" and "Environmental Flows"; however, it is not clear if all of the required environmental factors were considered (environmental water needs, wildlife habitat, cultural resources, and effect of upstream development on bays, estuaries, and arms of the Gulf of Mexico). Please ensure that a quantitative reporting of all required environmental factors for each technical evaluation is included in the final, adopted regional water plan. [31 TAC § 357.34(e)(3)(B)]

As discussed under Item 5 above, an appendix has been added to the RWP to more clearly document quantitative analyses of the parameters listed in 31 TAC § 357.34(e)(3).

7. Appendix 5B, page 5-B-SWDV-001-1. Please clarify whether the firm yield for the proposed Allens Creek Reservoir was estimated using the unmodified Brazos WAM RUN3. The firm yield appears to be based upon the permitted volume, however there is no approved hydrologic variance for estimating WMS yields for the region. If the yield was not calculated based on an unmodified WAM RUN3, please revise the yield, or submit a hydrologic variance request for future WMS supplies prior to the final, adopted regional water plan. [Contract Exhibit C, Section 5.2.1]

Additional detail has been incorporated into the WMS technical memorandum for the Allens Creek Reservoir documenting the use of an unmodified WAM Run 3 for estimation of firm yield. Due to the nature of the WAM code used to reflect Water Use Permit 12-5851, commonly referred to as the BRA System Operation permit, modeling of a stand-alone firm yield from the Allens Creek Reservoir cannot be performed in an unmodified version of the latest WAM Run 3. Evaluating the stand-alone firm diversion from the reservoir would require modifying the recent WAM Run 3 to remove the reservoir from the BRA System Operation Permit framework to perform the firm diversion analysis. For this reason, the firm yield for the Allens Creek Reservoir reported in the 2021 RWP was based upon the results of modeling from prior RWP cycles utilizing the unmodified WAM Run 3, which indicated a modeled firm diversion of the full permitted amount of 99,650 ac-ft per year. The reliability of the permitted diversion is further supported by modeling analyses performed during the Texas Commission on Environmental Quality (TCEQ) permitting process for Water Use Permit 12-5851.

8. Appendix 5B. It is unclear if or how environmental flow needs were considered and if any adjustments were made in response to those needs during the development of the following WMSs: Aquifer Storage and Recovery (Appendix 5-B-GWDV-001) and Brazos Saltwater Barrier (Appendix 5-B-OTHR-001). Please clarify how environmental flow criteria were considered in these strategy evaluations in the final, adopted regional water plan. [31 TAC § 357.34(e)(3)(B); 31 TAC § 358.3(22); 31 TAC § 358.3(23)]

Additional information has been incorporated into the corresponding WMS technical memoranda to document consideration of environmental flow needs. For the Aquifer Storage and Recovery analysis, environmental flow needs were considered through the use of the TCEQ WAM Run 3 scenario, which includes Senate Bill 3 environmental flow criteria, as the basis for interruptible supply availability for input to the Region H ASR conceptual model. For the Brazos Saltwater Barrier, the WAM Run 3 analysis reflected environmental flow considerations specified by the associated existing water right.

9. Appendix 5B. The plan does not appear to present cost estimates broken out by project components (pipelines, pump stations, etc.) for all WMS evaluations, for example, but not limited to: CONV-002, CONV-003, CONV-004, CONV-006, CONV-009, CONV-010, CONV-011, CONV-014. Please present capital cost estimates for each project component for each WMS evaluated in the final, adopted regional water plan. [31 TAC § 357.34(f); Contract Exhibit C, Section 5.5.1]

Where applicable, project cost tables within the WMS technical memoranda were revised to show capital and operations and maintenance costs broken out by project component categories such as pump stations, pipelines, treatment facilities, etc. It should be noted that for a small number of key WMS and projects, the cost estimate data from project sponsors was provided to Region H in the form of a consolidated capital cost. In these cases, if sufficient additional information was not readily available from prior analyses to estimate component-level costs, the RWP presents the consolidated capital cost.

10. Units costs reported in DB22 appear notably high in at least one planning decade for the following WMSs: Fort Bend WCID 2 GRP - Surface Water, Harris County MUD 122 (\$104,577); Brackish Groundwater Supplies, Willis (\$101,980); Missouri City GRP - Surface Water Expansion, Fort Bend County MUD 47 (\$38,989, \$43,234); New / Expanded Contract with SJRA, Panorama Village (\$173,987); SJRA GRP - Groundwater Offset, Cut & Shoot (\$76,350) and Pinehurst Decker Prairie WSC (\$81,634); SJRA GRP - Participant Surface Water, Magnolia (\$41,033) and Montgomery County MUD 15 (\$43,225). Please confirm that the calculated unit costs are correct in DB22 and that costs were considered in WMS recommendations in the final, adopted regional water plan. [31 TAC § 357.34(e)(2)]

Project cost was a key consideration in the evaluation of strategies and projects in the RWP. As shown in Section 5.3.4 of Chapter 5 of the RWP, cost was a component of both phases of the dual-phased WMS selection methodology adopted by the RHWPG. Evaluation of unit cost in the context of candidate WUGs is critical to developing viable WMS recommendations and is a major factor in assessing the options available to extremely cost-sensitive demand sectors such as agricultural irrigation and livestock. Due to the importance of not under-representing WMS cost, the RWP for Region H applied conservative assumptions, including (1) recommendation of WUG-level infrastructure for almost all WUGs with either recommended groundwater expansions or recommended additional supply from a water provider, and (2) a conservative minimum capacity for WUG infrastructure expansion sizing. In a relatively small number of cases, including those identified by TWDB, the above conservative approach combined with small volume allocations for a WUG in the early timesteps of a WMS result in a high unit cost. The small number of high unit costs presented in the RWP are not erroneous entries but rather reflective of the approach to assessing WUG-level projects.

11. Chapter 6. Please include the TWDB Socioeconomic Impacts of Projected Water Shortages Report as an appendix to Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. [31 TAC § 357.40(a)]

The TWDB Socioeconomic Impacts of Projected Water Shortages Report has been moved to an appendix to Chapter 6, with summary information discussing the findings of the report included in the text of Chapter 6.

12. Chapter 6. Please include the summary of unmet water needs within Chapter 6 rather than Chapter 5 in the final, adopted regional water plan. [31 TAC § 357.40(c)]

The detailed discussion and tabular summary of unmet water needs have been moved to Chapter 6, with a brief summary of results for projected unmet need retained in Chapter 5.

13. Chapter 8. The plan does not appear to include a quantitative analysis of the impact of the plan on the unique stream segments previously designated by the Legislature. Please include an assessment on the flows important to the river or stream segment, as determined by the planning group, comparing current conditions to conditions with implementation of all recommended WMSs, in the final, adopted regional water plan. [31 TAC § 357.43(b)(2)]

Additional discussion documenting quantitative analysis of the impacts of the plan on recommended unique stream segments has been incorporated into Chapter 8.

14. Section 9.3, page 9-4. The plan states that the Infrastructure Financing Survey will be completed after completion of the survey by the TWDB. Please ensure the region completes the Infrastructure Financing Survey, using the template provided by the TWDB to the region, and include the survey in the final, adopted regional water plan. [31 TAC § 357.44]

The RHWPG has distributed the Infrastructure Financing Survey forms developed by TWDB to identified project sponsors and has incorporated a summary of available responses in Section 9.3 of Chapter 9 as well as Appendix 9-A. Additionally, the populated TWDB survey template will be submitted to TWDB along with the final RWP.

Level 2: Comments and suggestions for consideration that may improve the readability and overall understanding of the regional water plan.

1. Chapter 3. Please consider adding a statement in Chapter 3 that clarifies existing supplies are supplies that are legally and physically available.

Additional text providing clarification on this topic has been added to Chapter 3.

2. Section 3.2.4.2, Table 3-2, page 3-8. Montgomery County is identified as being located in Groundwater Management Area (GMA) 12; however, it is located in GMA 14. Please update Table 3-2 to list Montgomery County in GMA 14.

The table has been revised to reflect the appropriate Groundwater Management Area for Montgomery County.

3. Chapter 3, Section 3.3.5. Please consider clarifying how the projected rating curves for each decade are derived.

Additional text has been added to Section 3.3.5.1 of Chapter to providing a summary of the methodology applied used to project estimated decadal rating curves for the modeling analysis of impacts of reservoir sedimentation on surface water availability.

4. TWDB analysis GAM Task 18-002 (11/28/18) conducted for the Technical Memorandum indicated that the availability from the Carrizo-Wilcox, Queen City, Sparta Aquifers and Yegua-Jackson Aquifers, Walker and Trinity counties may be physically incompatible with the GMA 12 DFCs in the Carrizo-Wilcox, Queen City, Sparta, and Yegua-Jackson in Lost Pines, Brazos Valley, and Mid-East Texas GCDs. Please consider noting how the planning group considered this information in the final plan.

Additional text has been added to Section 3.2.4.3 of Chapter 3 to discuss how this information was considered by the RHWPG.

5. Appendix 3-A4, Table 3-A1, page 3-A4-1. The TWDB required that the MAG for Montgomery County would be carried over from DB17 due to the desired future condition petition. Please consider adding a footnote to Table 3-A1 noting such information since the MAG values for Montgomery County differ from the most recent MAG report for GMA 14.

A footnote has been added to Table 3-A1 within Appendix 3-A4 noting that TWDB required that the Modeled Available Groundwater (MAG) for Montgomery County included in the 2016 RWP be used as the base groundwater availability for the county in the 2021 RWP.

6. Section 5.4.4, last sentence, page 5-14. Please replace the term "irritation" with "irrigation".

The text of Section 5.4.4 has been revised to address this issue.

7. Appendix 5B. The WMS evaluation for Freeport Desalination (Appendix 5-B-SWDV-004), states that there is no impact on environmental flows due to location of intake and discharge, however the plan also states that the project may increase return flows to streams by approximately 50 percent of the potential project yield through municipal return flows. Please consider clarifying whether there will be instream flow impacts due to this apparent contradictory information, in the final, adopted regional water plan.

The Environmental Considerations section and WMS Evaluation Table of the WMS technical memorandum for Freeport Seawater Desalination have been revised to clarify that habitat and surface disturbance is expected to be minimal, with potential for increased stream flow via return flows from points of use and not related to brine disposal.

8. Appendix 5B. The plan in some instances appears to include multiple cost options for WMSs, for example CONV-008 and GWDB-002. Please consider clarifying in the text of the plan, which cost option is considered recommended and is represented in DB22.

Additional text has been incorporated into project and WMS technical memoranda for analyses considering multiple cost options in order to clarify the basis used for the recommended cost option, such as averaging of viable options or selection of one or more specific cost options.

9. Appendix 5B. For the WMS of Lone Star Lake (SWDV-006), please consider noting in the Permitting and Development section (page 5-B-SWDV-006-3) that a new appropriation of surface water would require water right permitting through the TCEQ.

Additional text clarifying the requirement for a new appropriation of surface water has been incorporated into the WMS technical memorandum for Lone Star Lake.

10. The GIS files submitted for WMS projects do not include the minimum required metadata. Please include at a minimum, metadata about the data's projection, with the final GIS data submitted. [Contract Exhibit D, Section 2.4.1]

Updated GIS files, including the required metadata, will be submitted to TWDB along with the final RWP.

TWDB Comments on the Region H 2021 Initially Prepared Plan
August 26, 2020

Should you have any further questions, please feel free to contact me at [281.440.3924](tel:281.440.3924) or mevans@nhcrwa.com or the Region H consultant, Philip Taucer, at [713.600.6835](tel:713.600.6835) or philip.taucer@freese.com.

Sincerely,



Mark Evans
Region H Chair

cc: Lann Bookout, TWDB
Sara Backhouse, TWDB

August 5, 2020

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Water Utilities
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William Teer

Ms. Cindy Loeffler
Chief, Water Resources Branch
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744-3291

Re: TPWD Comments on the Region H 2021 Initially Prepared Plan

Dear Ms. Loeffler,

The Region H Water Planning Group (RHWPG) has received and reviewed the comments from the Texas Parks and Wildlife Department (TPWD) on the Initially Prepared Plan (IPP) for Region H. Your comments have been considered and incorporated into the final, adopted 2021 Regional Water Plan (RWP) for Region H. On behalf of the RHWPG, I would like to thank you for your interest in our efforts to plan a reliable water supply that meets the needs of both the growing population of the greater-Houston area and also the region's rich natural resources.

Based on TPWD's guidance, the RHWPG has incorporated several refinements into the 2021 RWP, including updating of federal and state listed species data and additional discussion of potential impacts of water transfers, particularly in the context of invasive exotic species. The RHWPG appreciates TPWD's continuing support and looks forward to coordinating with you during the upcoming 2026 RWP cycle to discuss approaches to assessing impacts of key projects and strategies. Furthermore, the RHWPG recognizes the continued importance in assessing stream segments of ecological significance and welcomes TPWD's input and expertise in this pursuit during future planning cycles.

Thank you again for your interest in the RHWPG's efforts. Should you have any further questions regarding this response, please feel free to contact me at [281.440.3924](tel:281.440.3924) or mevans@nhcrwa.com or the Region H consultant, Philip Taucer, at [713.600.6835](tel:713.600.6835) or philip.taucer@freese.com.

Sincerely,



Mark Evans
Region H Chair

CHAPTER 11 APPENDICES

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APPENDIX 11-A
IMPLEMENTATION REPORT

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Table 11-A1 – Summary of Sponsor Action

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?*(TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*(When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	ALLENS CREEK RESERVOIR	2030	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; HOUSTON	Yes			Not implemented	Other: Pushed back to later decade.	Political support/governance
H	BRAZOS SALTWATER BARRIER	2030	PROJECT SPONSOR(S): DOW CHEMICAL USA	No			Not implemented	Other: Pushed back to later decade.	
H	BWA BRACKISH GROUNDWATER DEVELOPMENT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY	Yes			Under construction		
H	BWA CONVENTIONAL TREATMENT EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY	Yes			Acquisition and design phase		
H	CHCRWA GRP	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2003		Currently operating		
H	CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Under construction		Not applicable
H	CITY OF CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): CONROE	Yes			All phases fully implemented		
H	CITY OF HOUSTON GRP	2020	PROJECT SPONSOR(S): HOUSTON	Yes	2006		Currently operating		
H	CITY OF HOUSTON REUSE	2040	PROJECT SPONSOR(S): HOUSTON	No			Not implemented	Too soon	
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 1	2040	PROJECT SPONSOR(S): HOUSTON	No			Not implemented	Too soon	
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 2	2060	PROJECT SPONSOR(S): HOUSTON	No			Not implemented	Too soon	
H	CLCND WEST CHAMBERS SYSTEM	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT	No			Not implemented	Other: No customers committed	
H	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY; CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH FORT BEND WATER AUTHORITY; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Under construction		Not applicable
H	COH, NHCRWA, AND CHCRWA SHARED TRANSMISSION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Under construction		Not applicable
H	CONROE BRACKISH GROUNDWATER DESALINATION	2030	PROJECT SPONSOR(S): CONROE	Yes			All phases fully implemented		

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?*(TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*(When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	CONSERVATION - FLO COMMUNITY WSC	2050	WUG REDUCING DEMAND: FLO COMMUNITY WSC	No			Not implemented	Too soon	
H	DOW RESERVOIR AND PUMP STATION EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; DOW CHEMICAL USA	Yes			Permit application submitted/pending		
H	EAST TEXAS TRANSFER	2040	PROJECT SPONSOR(S): HOUSTON; LOWER NECHES VALLEY AUTHORITY; SABINE RIVER AUTHORITY	No			Not implemented	Too soon	
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: BEASLEY	No			Not implemented	Too soon	
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: MINING, FORT BEND	No			Not implemented	Too soon	
H	FORT BEND MUD 25 GRP	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25	Yes	2008		Currently operating		
H	FORT BEND WCID 2 GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): FORT BEND COUNTY WCID #2	Yes	2008				
H	FREPORT SEAWATER DESALINATION	2040	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY	No			Not implemented	Other: No customers committed	Other: Customer identification
H	GCWA REUSE FROM COH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; HOUSTON	No			Not implemented	Other: Sponsor decided to pursue other alternatives.	Not applicable
H	GRAND LAKES RECLAIMED WATER SYSTEM	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	Yes			Currently operating		
H	GROVETON WELL DEVELOPMENT	2020	PROJECT SPONSOR(S): GROVETON	Yes			Acquisition and design phase		
H	INDUSTRIAL CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (AUSTIN)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (GALVESTON)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (HARRIS)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, LEON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LEON)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, MADISON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MADISON)	No			Not implemented	Other: No formal project implementation	

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*(When if describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	INDUSTRIAL CONSERVATION, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, SAN JACINTO COUNTY	2050	PROJECT SPONSOR(S): MANUFACTURING (SAN JACINTO)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, WALKER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALKER)	No			Not implemented	Other: No formal project implementation	
H	INDUSTRIAL CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALLER)	No			Not implemented	Other: No formal project implementation	
H	IRRIGATION CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (AUSTIN)	No					
H	IRRIGATION CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (BRAZORIA)	No					
H	IRRIGATION CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (CHAMBERS)	No					
H	IRRIGATION CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)	No					
H	IRRIGATION CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (GALVESTON)	No					
H	IRRIGATION CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (HARRIS)	No					
H	IRRIGATION CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)	No					
H	IRRIGATION CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (WALLER)	No					
H	LAKE LIVINGSTON TO SIRA TRANSFER	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY	Yes	2018		Feasibility study ongoing		
H	LAVA IRRIGATION SYSTEM EXPANSION	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS); IRRIGATION (LIBERTY)						
H	LUCE BAYOU TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON	Yes			All phases fully implemented		
H	MISSOURI CITY GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): MISSOURI CITY	Yes	2008		Acquisition and design phase		
H	MONTGOMERY COUNTY MUDS #8 AND #9 REUSE	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8; MONTGOMERY COUNTY MUD #9				Acquisition and design phase		
H	MUNICIPAL CONSERVATION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	MUNICIPAL CONSERVATION, BA CLIFF MUD	2020	PROJECT SPONSOR(S): BA CLIFF MUD						
H	MUNICIPAL CONSERVATION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BAYOU VISTA	2020	PROJECT SPONSOR(S): BAYOU VISTA	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BEASLEY	2030	PROJECT SPONSOR(S): BEASLEY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BELLAIRE	2020	PROJECT SPONSOR(S): BELLAIRE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BELLVILLE	2020	PROJECT SPONSOR(S): BELLVILLE						
H	MUNICIPAL CONSERVATION, BENDERS LANDING WATER SYSTEM	2020	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY						
H	MUNICIPAL CONSERVATION, BOLIVAR PENINSULA SUD	2030	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD						
H	MUNICIPAL CONSERVATION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA						
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2						
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #21	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #21						
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3						
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6						
H	MUNICIPAL CONSERVATION, BROOKSHIRE	2020	PROJECT SPONSOR(S): BROOKSHIRE						
H	MUNICIPAL CONSERVATION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, BUFFALO	2020	PROJECT SPONSOR(S): BUFFALO						
H	MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE						
H	MUNICIPAL CONSERVATION, CENTERVILLE	2030	PROJECT SPONSOR(S): CENTERVILLE						

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H	MUNICIPAL CONSERVATION, CENTRAL-HARRIS COUNTY REGIONAL WATER AUTHORITY	2020	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	2020	PROJECT SPONSOR(S): CHIMNEY HILL MUD						
H	MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, CLEVELAND	2050	PROJECT SPONSOR(S): CLEVELAND	Yes	2015	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	2030	PROJECT SPONSOR(S): CONCORD-ROBBINS WSC						
H	MUNICIPAL CONSERVATION, CONROE	2020	PROJECT SPONSOR(S): CONROE	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - AUSTIN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - CHAMBERS COUNTY	2050	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - FORT BEND COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						

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H	MUNICIPAL CONSERVATION, COUNTY-OTHER - GALVESTON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - HARRIS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - LEON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LEON)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)						
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)						
H	MUNICIPAL CONSERVATION, GROSBY MUD	2020	PROJECT SPONSOR(S): GROSBY MUD						
H	MUNICIPAL CONSERVATION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT						
H	MUNICIPAL CONSERVATION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY						
H	MUNICIPAL CONSERVATION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC						
H	MUNICIPAL CONSERVATION, EAST PLANTATION UD	2020	PROJECT SPONSOR(S): EAST PLANTATION UD						
H	MUNICIPAL CONSERVATION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD						
H	MUNICIPAL CONSERVATION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	2020	PROJECT SPONSOR(S): FLO COMMUNITY WSC						
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #116	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116						
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #121	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	

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H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129						
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #23	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #25	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FRIENDSWOOD	2020	PROJECT SPONSOR(S): FRIENDSWOOD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, FULSHEAR	2020	PROJECT SPONSOR(S): FULSHEAR						
H	MUNICIPAL CONSERVATION, G & W WSC	2020	PROJECT SPONSOR(S): G AND W WSC						
H	MUNICIPAL CONSERVATION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, GREATWOOD	2020	PROJECT SPONSOR(S): GREATWOOD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, GREEN TRAILS MUD	2020	PROJECT SPONSOR(S): GREEN TRAILS MUD						
H	MUNICIPAL CONSERVATION, GREENWOOD UD	2020	PROJECT SPONSOR(S): GREENWOOD UD						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #11	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #119	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #132	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132						

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H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #148 - KINGSLAKE	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #148 - KINGSLAKE						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #151	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #152	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #153	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #158	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #158	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #189	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #221	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #278	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #46	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #5	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #5						

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H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #55	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #55	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #8	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #8						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #14	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #14						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #133	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74						
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #96						
H	MUNICIPAL CONSERVATION, HEDWIG VILLAGE	2020	PROJECT SPONSOR(S): HEDWIG VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD						
H	MUNICIPAL CONSERVATION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST						
H	MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	2020	PROJECT SPONSOR(S): HILSHIRE VILLAGE						
H	MUNICIPAL CONSERVATION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK						
H	MUNICIPAL CONSERVATION, HOLIDAY LAKES	2020	PROJECT SPONSOR(S): HOLIDAY LAKES	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, HUNTERS CREEK VILLAGE	2020	PROJECT SPONSOR(S): HUNTERS CREEK VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, INDIGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, JACINTO CITY	2020	PROJECT SPONSOR(S): JACINTO CITY						

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H	MUNICIPAL CONSERVATION, JAMAICA BEACH	2020	PROJECT SPONSOR(S): JAMAICA BEACH						
H	MUNICIPAL CONSERVATION, JERSEY VILLAGE	2020	PROJECT SPONSOR(S): JERSEY VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, JEWETT	2020	PROJECT SPONSOR(S): JEWETT						
H	MUNICIPAL CONSERVATION, JONES CREEK	2020	PROJECT SPONSOR(S): JONES CREEK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, KATY	2020	PROJECT SPONSOR(S): KATY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, KINGS MANOR MUD	2020	PROJECT SPONSOR(S): KINGS MANOR MUD	Yes	2015	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, KIRK MOUNT MUD	2020	PROJECT SPONSOR(S): KIRK MOUNT MUD						
H	MUNICIPAL CONSERVATION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE	Yes	2017	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, LEAGUE CITY	2020	PROJECT SPONSOR(S): LEAGUE CITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, LONGHORN TOWN UD	2020	PROJECT SPONSOR(S): LONGHORN TOWN UD						

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H	MUNICIPAL CONSERVATION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, MANVEL	2020	PROJECT SPONSOR(S): MANVEL						
H	MUNICIPAL CONSERVATION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD						
H	MUNICIPAL CONSERVATION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE						
H	MUNICIPAL CONSERVATION, MISSOURI CITY	2020	PROJECT SPONSOR(S): MISSOURI CITY						
H	MUNICIPAL CONSERVATION, MONT BELVIEU	2030	PROJECT SPONSOR(S): MONT BELVIEU						
H	MUNICIPAL CONSERVATION, MONTGOMERY	2020	PROJECT SPONSOR(S): MONTGOMERY						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #15	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15	Yes	2015	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #18	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #8	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #83	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #83						

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H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #9	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #9	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #94	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #2	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #2						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #3	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #3						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #4	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #4						
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1						
H	MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	2020	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD						
H	MUNICIPAL CONSERVATION, NASSAU BAY	2020	PROJECT SPONSOR(S): NASSAU BAY						
H	MUNICIPAL CONSERVATION, NEEDVILLE	2020	PROJECT SPONSOR(S): NEEDVILLE						
H	MUNICIPAL CONSERVATION, NEW CANEY MUD	2020	PROJECT SPONSOR(S): NEW CANEY MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, NHC/WA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	MUNICIPAL CONSERVATION, NORMANGEE	2030	PROJECT SPONSOR(S): NORMANGEE						
H	MUNICIPAL CONSERVATION, NORTH BELT UD	2020	PROJECT SPONSOR(S): NORTH BELT UD						
H	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH CHANNEL WATER AUTHORITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD						
H	MUNICIPAL CONSERVATION, NORTHWEST PARK MUD	2020	PROJECT SPONSOR(S): NORTHWEST PARK MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, OAK RIDGE NORTH	2020	PROJECT SPONSOR(S): OAK RIDGE NORTH	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, OAKWOOD	2040	PROJECT SPONSOR(S): OAKWOOD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK						
H	MUNICIPAL CONSERVATION, PANORAMA VILLAGE	2020	PROJECT SPONSOR(S): PANORAMA VILLAGE						
H	MUNICIPAL CONSERVATION, PARKWAY UD	2020	PROJECT SPONSOR(S): PARKWAY UD						
H	MUNICIPAL CONSERVATION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	MUNICIPAL CONSERVATION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, PINE ISLAND	2020	PROJECT SPONSOR(S): PINE ISLAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, PINEY POINT VILLAGE	2020	PROJECT SPONSOR(S): PINEY POINT VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD						
H	MUNICIPAL CONSERVATION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD						
H	MUNICIPAL CONSERVATION, PRAIRIE VIEW	2020	PROJECT SPONSOR(S): PRAIRIE VIEW						
H	MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	2020	PROJECT SPONSOR(S): RAYFORD ROAD MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	

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H	MUNICIPAL CONSERVATION, RICHMOND	2020	PROJECT SPONSOR(S): RICHMOND	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD						
H	MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD						
H	MUNICIPAL CONSERVATION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, ROSENBERG	2020	PROJECT SPONSOR(S): ROSENBERG	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD						
H	MUNICIPAL CONSERVATION, SAN FELIPE	2030	PROJECT SPONSOR(S): SAN FELIPE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD						
H	MUNICIPAL CONSERVATION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SEALY	2020	PROJECT SPONSOR(S): SEALY						
H	MUNICIPAL CONSERVATION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH						
H	MUNICIPAL CONSERVATION, SHOREACRES	2020	PROJECT SPONSOR(S): SHOREACRES						

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H	MUNICIPAL CONSERVATION, SIENNA PLANTATION	2020	PROJECT SPONSOR(S): SIENNA PLANTATION	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	2020	PROJECT SPONSOR(S): SOUTHERN MONTGOMERY COUNTY MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE						
H	MUNICIPAL CONSERVATION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA						
H	MUNICIPAL CONSERVATION, SPRING CREEK UD	2020	PROJECT SPONSOR(S): SPRING CREEK UD	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY						
H	MUNICIPAL CONSERVATION, STAFFORD	2020	PROJECT SPONSOR(S): STAFFORD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, STANLEY LAKE MUD	2020	PROJECT SPONSOR(S): STANLEY LAKE MUD						
H	MUNICIPAL CONSERVATION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY						

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H	MUNICIPAL CONSERVATION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY INC	2020	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC						
H	MUNICIPAL CONSERVATION, THE WOODLANDS	2020	PROJECT SPONSOR(S): THE WOODLANDS	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	2020	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD						
H	MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	2040	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD						
H	MUNICIPAL CONSERVATION, WALLER	2020	PROJECT SPONSOR(S): WALLER						
H	MUNICIPAL CONSERVATION, WALLIS	2030	PROJECT SPONSOR(S): WALLIS						
H	MUNICIPAL CONSERVATION, WEBSTER	2020	PROJECT SPONSOR(S): WEBSTER						
H	MUNICIPAL CONSERVATION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA						
H	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD #6	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6						
H	MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE	Yes	2019	ongoing	Currently operating		
H	MUNICIPAL CONSERVATION, WESTON LAKES	2020	PROJECT SPONSOR(S): WESTON LAKES	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	2020	PROJECT SPONSOR(S): WESTWOOD NORTH WSC						
H	MUNICIPAL CONSERVATION, WHCRWA	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	MUNICIPAL CONSERVATION, WILLIS	2020	PROJECT SPONSOR(S): WILLIS						
H	MUNICIPAL CONSERVATION, WINDFERN FOREST UD	2020	PROJECT SPONSOR(S): WINDFERN FOREST UD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	MUNICIPAL CONSERVATION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH	Yes	2019	ongoing	Sponsor has taken official action to initiate project	Other: Sponsor has developed an updated WCP, but actual level of conservation program implementation is unclear. This is an ongoing project throughout the planning horizon.	
H	MUNICIPAL CONSERVATION, WOODCREEK MUD	2020	PROJECT SPONSOR(S): WOODCREEK MUD						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	2030	PROJECT SPONSOR(S): COUNTY- OTHER (BRAZORIA)						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	2030	PROJECT SPONSOR(S): COUNTY- OTHER (HARRIS)						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	2030	PROJECT SPONSOR(S): COUNTY- OTHER (MONTGOMERY)						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY				Under construction		
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRA	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	NEW / EXPANDED CONTRACT WITH BRA - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; COUNTY- OTHER (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH BRA - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MANUFACTURING (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)						

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H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH BRA - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; STEAM ELECTRIC POWER (FORT BEND); NRG						
H	NEW / EXPANDED CONTRACT WITH BWA - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON; BRAZOSPORT WATER AUTHORITY						
H	NEW / EXPANDED CONTRACT WITH BWA - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA; BRAZOSPORT WATER AUTHORITY						
H	NEW / EXPANDED CONTRACT WITH BWA - CLUTE	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; CLUTE						
H	NEW / EXPANDED CONTRACT WITH BWA - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SUB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH BWA - FREEPORT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; FREEPORT						
H	NEW / EXPANDED CONTRACT WITH BWA - LAKE JACKSON	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; LAKE JACKSON						
H	NEW / EXPANDED CONTRACT WITH BWA - MANUFACTURING, BRAZORIA COUNTY (SUB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; MANUFACTURING (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH BWA - OYSTER CREEK	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; OYSTER CREEK						
H	NEW / EXPANDED CONTRACT WITH BWA - RICHWOOD	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; RICHWOOD						
H	NEW / EXPANDED CONTRACT WITH CLCND - COUNTY-OTHER, CHAMBERS COUNTY (TS)	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT; COUNTY-OTHER (CHAMBERS)						
H	NEW / EXPANDED CONTRACT WITH COH - COUNTY-OTHER, HARRIS COUNTY (TS)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS); HOUSTON						
H	NEW / EXPANDED CONTRACT WITH COH - FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION; HOUSTON						
H	NEW / EXPANDED CONTRACT WITH COH - KIRKMONT MUD	2070	PROJECT SPONSOR(S): HOUSTON; KIRKMONT MUD						

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H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (SJ)	2050	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)						
H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (SIB)	2030	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)						
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (SJ)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)						
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)						
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)						
H	NEW / EXPANDED CONTRACT WITH COH - MISSOURI CITY, HARRIS COUNTY	2060	PROJECT SPONSOR(S): HOUSTON; MISSOURI CITY						
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ)	2030	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG						
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG						
H	NEW / EXPANDED CONTRACT WITH GCWA - ARCOLA	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; ARCOLA						
H	NEW / EXPANDED CONTRACT WITH GCWA - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; CLEAR LAKE SHORES						
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (SJ)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (GALVESTON)						

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H	NEW / EXPANDED CONTRACT WITH GCWA - KEMAH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; KEMAH						
H	NEW / EXPANDED CONTRACT WITH GCWA - LA MARQUE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; LA MARQUE						
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (SI)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (SIB)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)						
H	NEW / EXPANDED CONTRACT WITH GCWA - MANVEL	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANVEL						
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (BRAZORIA)						
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (GALVESTON)						
H	NEW / EXPANDED CONTRACT WITH GCWA - MISSOURI CITY	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MISSOURI CITY						
H	NEW / EXPANDED CONTRACT WITH GCWA - SANTA FE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SANTA FE						
H	NEW / EXPANDED CONTRACT WITH GCWA - SIENNA PLANTATION	2070	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SIENNA PLANTATION						
H	NEW / EXPANDED CONTRACT WITH LINVA - COUNTY-OTHER, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; COUNTY-OTHER (GALVESTON)						
H	NEW / EXPANDED CONTRACT WITH LINVA - IRRIGATION, CHAMBERS COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS)						
H	NEW / EXPANDED CONTRACT WITH LINVA - IRRIGATION, LIBERTY COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (LIBERTY)						

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H	NEW / EXPANDED CONTRACT WITH LNVA - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; MINING (GALVESTON)						
H	NEW / EXPANDED CONTRACT WITH SIRA - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; BENDERS LANDING WATER SYSTEM						
H	NEW / EXPANDED CONTRACT WITH SIRA - COUNTY-OTHER, MONTGOMERY COUNTY (S)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; COUNTY-OTHER (MONTGOMERY)						
H	NEW / EXPANDED CONTRACT WITH SIRA - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD; SAN JACINTO RIVER AUTHORITY						
H	NEW / EXPANDED CONTRACT WITH SIRA - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; INDIGO LAKE WATER SYSTEM						
H	NEW / EXPANDED CONTRACT WITH SIRA - MANUFACTURING, MONTGOMERY COUNTY (S)	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MANUFACTURING (MONTGOMERY)						
H	NEW / EXPANDED CONTRACT WITH SIRA - MONTGOMERY	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY						
H	NEW / EXPANDED CONTRACT WITH SIRA - MONTGOMERY COUNTY MUD #18	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY COUNTY MUD #18						
H	NEW / EXPANDED CONTRACT WITH SIRA - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; PANORAMA VILLAGE						
H	NEW / EXPANDED CONTRACT WITH SIRA - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; RIVER PLANTATION MUD						
H	NEW / EXPANDED CONTRACT WITH SIRA - SHENANDOAH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; SHENANDOAH						
H	NEW / EXPANDED CONTRACT WITH SIRA - STAGECOACH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STAGECOACH						
H	NEW / EXPANDED CONTRACT WITH SIRA - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STANLEY LAKE MUD						
H	NEW / EXPANDED CONTRACT WITH SIRA - STEAM ELECTRIC POWER, MONTGOMERY COUNTY (S)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STEAM ELECTRIC POWER (MONTGOMERY)						

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H	NEW /EXPANDED CONTRACT WITH SUGAR LAND - FORT BEND MUD 25	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25; SUGAR LAND						
H	NFBWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	Yes	2008		Currently operating		
H	NFBWA PHASE 2 DISTRIBUTION SEGMENTS	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	Yes			Acquisition and design phase		
H	NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Acquisition and design phase		
H	NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	No			Not implemented	Too soon	
H	NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	2050	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	No			Not implemented	Too soon	
H	NHCRWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2014				
H	NHCRWA TRANSMISSION LINES	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Under construction		
H	OLD GALVESTON ROAD TRANSMISSION IMPROVEMENTS	2020	PROJECT SPONSOR(S): HOUSTON	Yes			Feasibility study ongoing		
H	PANORAMA AND SHENANDOAH GRP INFRASTRUCTURE	2040	PROJECT SPONSOR(S): PANORAMA VILLAGE; SHENANDOAH	Yes	2011		Currently operating		
H	PEARLAND REUSE INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PEARLAND	Yes					
H	PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	2030	PROJECT SPONSOR(S): PEARLAND	Yes			Under construction		
H	PORTER SUD GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PORTER SUD	Yes	2014				
H	REALLOCATE EXISTING SUPPLY	2030	WMS SUPPLY RECIPIENT: MISSOURI CITY						
H	REALLOCATE EXISTING SUPPLY	2040	WMS SUPPLY RECIPIENT: MISSOURI CITY						
H	REGIONAL RETURN FLOWS DEVELOPMENT	2020	PROJECT SPONSOR(S): HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY; SAN JACINTO RIVER AUTHORITY	No			Not implemented	Other: pushed back to later decade	
H	RICHMOND GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): RICHMOND	Yes	2019				

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H	RIVER PLANTATION REUSE EXPANSION	2030	PROJECT SPONSOR(S): EAST PLANTATION UD; RIVER PLANTATION MUD	Yes			Currently operating		
H	ROSENBERG GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): ROSENBERG	Yes	2014				
H	SIRA CATAHOULA AQUIFER SUPPLIES	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY	No			Feasibility study ongoing		
H	SIRA CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY	Yes			All phases fully implemented		
H	SIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY						
H	SIRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	2040	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY				Not implemented	Too soon	
H	SIRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY				Not implemented	Too soon	
H	SIRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY				Not implemented	Too soon	
H	SUGAR LAND GRP	2030	PROJECT SPONSOR(S): SUGAR LAND	Yes	2008		Currently operating		
H	SUGAR LAND GRP - REUSE INFRASTRUCTURE	2030	PROJECT SPONSOR(S): SUGAR LAND	Yes	2008		Feasibility study ongoing		
H	SUGAR LAND SURFACE WATER TREATMENT EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND						
H	SUGAR LAND TRANSMISSION EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND						
H	TRA TO COH TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON; TRINITY RIVER AUTHORITY	Yes			Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, AMES	2020	PROJECT SPONSOR(S): AMES						
H	WATER LOSS REDUCTION, ANAHUAC	2020	PROJECT SPONSOR(S): ANAHUAC						
H	WATER LOSS REDUCTION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON						
H	WATER LOSS REDUCTION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA						
H	WATER LOSS REDUCTION, BACLIFF MUD	2020	PROJECT SPONSOR(S): BACLIFF MUD						
H	WATER LOSS REDUCTION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE						
H	WATER LOSS REDUCTION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN						
H	WATER LOSS REDUCTION, BEASLEY	2060	PROJECT SPONSOR(S): BEASLEY						

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H	WATER LOSS REDUCTION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY						
H	WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	2020	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD						
H	WATER LOSS REDUCTION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA						
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2						
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3						
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6						
H	WATER LOSS REDUCTION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE						
H	WATER LOSS REDUCTION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, CLEVELAND	2020	PROJECT SPONSOR(S): CLEVELAND	Yes	2015	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, COLDSRING	2020	PROJECT SPONSOR(S): COLDSRING						
H	WATER LOSS REDUCTION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - LIBERTY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - MADISON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - POLK COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (POLK)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - TRINITY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (TRINITY)						
H	WATER LOSS REDUCTION, COUNTY-OTHER - WALKER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALKER)						

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H	WATER LOSS REDUCTION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)						
H	WATER LOSS REDUCTION, COVE	2020	PROJECT SPONSOR(S): COVE						
H	WATER LOSS REDUCTION, CROSBY MUD	2020	PROJECT SPONSOR(S): CROSBY MUD						
H	WATER LOSS REDUCTION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT						
H	WATER LOSS REDUCTION, DAIBETTA	2020	PROJECT SPONSOR(S): DAIBETTA						
H	WATER LOSS REDUCTION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY						
H	WATER LOSS REDUCTION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, DOBBIN-DOBBLIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-DOBBLIN-PLANTERSVILLE WSC						
H	WATER LOSS REDUCTION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD						
H	WATER LOSS REDUCTION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129						
H	WATER LOSS REDUCTION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, GROVETON	2020	PROJECT SPONSOR(S): GROVETON						
H	WATER LOSS REDUCTION, HARDIN	2020	PROJECT SPONSOR(S): HARDIN						
H	WATER LOSS REDUCTION, HARDIN WSC	2020	PROJECT SPONSOR(S): HARDIN WSC						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #11	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11						

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H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96						
H	WATER LOSS REDUCTION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15						
H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1						
H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74						
H	WATER LOSS REDUCTION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD						
H	WATER LOSS REDUCTION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST						
H	WATER LOSS REDUCTION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK						
H	WATER LOSS REDUCTION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, INDIGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM						
H	WATER LOSS REDUCTION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, KENEFICK	2020	PROJECT SPONSOR(S): KENEFICK						
H	WATER LOSS REDUCTION, KIRKSWONT MUD	2020	PROJECT SPONSOR(S): KIRKSWONT MUD						
H	WATER LOSS REDUCTION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	WATER LOSS REDUCTION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE	Yes	2017	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, LAKE LIVINGSTON WATER SUPPLY & SEWER SERVICE COMPANY	2020	PROJECT SPONSOR(S): LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE COMPANY						
H	WATER LOSS REDUCTION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM						
H	WATER LOSS REDUCTION, LIBERTY	2020	PROJECT SPONSOR(S): LIBERTY						
H	WATER LOSS REDUCTION, MADISONVILLE	2020	PROJECT SPONSOR(S): MADISONVILLE						
H	WATER LOSS REDUCTION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD						
H	WATER LOSS REDUCTION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE						
H	WATER LOSS REDUCTION, MONT BELVIEU	2020	PROJECT SPONSOR(S): MONT BELVIEU						
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1						
H	WATER LOSS REDUCTION, NASSAU BAY	2020	PROJECT SPONSOR(S): NASSAU BAY						
H	WATER LOSS REDUCTION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, NHCRA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	WATER LOSS REDUCTION, NORMANGEE	2040	PROJECT SPONSOR(S): NORMANGEE						
H	WATER LOSS REDUCTION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD						
H	WATER LOSS REDUCTION, OLD RIVER-WINFREE	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE						
H	WATER LOSS REDUCTION, ONALASKA	2020	PROJECT SPONSOR(S): ONALASKA						

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H	WATER LOSS REDUCTION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK						
H	WATER LOSS REDUCTION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD						
H	WATER LOSS REDUCTION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PLUM GROVE	2020	PROJECT SPONSOR(S): PLUM GROVE						
H	WATER LOSS REDUCTION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD						
H	WATER LOSS REDUCTION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD						
H	WATER LOSS REDUCTION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD						
H	WATER LOSS REDUCTION, RIVERSIDE	2020	PROJECT SPONSOR(S): RIVERSIDE						
H	WATER LOSS REDUCTION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD						
H	WATER LOSS REDUCTION, SAN JACINTO SUD	2020	PROJECT SPONSOR(S): SAN JACINTO SUD						
H	WATER LOSS REDUCTION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD						
H	WATER LOSS REDUCTION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH						
H	WATER LOSS REDUCTION, SHEPHERD	2020	PROJECT SPONSOR(S): SHEPHERD						
H	WATER LOSS REDUCTION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	WATER LOSS REDUCTION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE						
H	WATER LOSS REDUCTION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA						
H	WATER LOSS REDUCTION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY						
H	WATER LOSS REDUCTION, STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY						
H	WATER LOSS REDUCTION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, TRINITY	2020	PROJECT SPONSOR(S): TRINITY						
H	WATER LOSS REDUCTION, TRINITY BAY CONSERVATION DISTRICT	2020	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT	Yes	2019	ongoing	Sponsor has taken official action to initiate project		
H	WATER LOSS REDUCTION, TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC						
H	WATER LOSS REDUCTION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD						
H	WATER LOSS REDUCTION, WALLER	2020	PROJECT SPONSOR(S): WALLER						
H	WATER LOSS REDUCTION, WALLIS	2020	PROJECT SPONSOR(S): WALLIS						
H	WATER LOSS REDUCTION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA						
H	WATER LOSS REDUCTION, WEST HARDIN WSC	2020	PROJECT SPONSOR(S): WEST HARDIN WSC						
H	WATER LOSS REDUCTION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE	Yes	2019	ongoing	Currently operating		
H	WATER LOSS REDUCTION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH	Yes	2019	ongoing	Sponsor has taken official action to initiate project		

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H	WATER LOSS REDUCTION, WOODLAND HILLS WATER COMPANY	2020	PROJECT SPONSOR(S): WOODLAND HILLS WATER COMPANY						
H	WEST HARRIS COUNTY GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes	2014		Currently operating		
H	WHCRWA 2025 DISTRIBUTION EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Acquisition and design phase		
H	WHCRWA 2035 DISTRIBUTION EXPANSION	2040	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY				Not implemented	Too soon	
H	WHCRWA/NFBWA TRANSMISSION LINE	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY; WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	Yes			Acquisition and design phase		
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)						
H	WUG INFRASTRUCTURE EXPANSION - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON						
H	WUG INFRASTRUCTURE EXPANSION - ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA						
H	WUG INFRASTRUCTURE EXPANSION - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM						
H	WUG INFRASTRUCTURE EXPANSION - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA						
H	WUG INFRASTRUCTURE EXPANSION - CHICRWA DISTRICTS	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	WUG INFRASTRUCTURE EXPANSION - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES						
H	WUG INFRASTRUCTURE EXPANSION - CLUTE	2020	PROJECT SPONSOR(S): CLUTE						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2040	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (FORT BEND WUD #149)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						

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H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 1)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 2)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RIVERSTONE)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON COUNTY (NIT)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSI)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)						

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H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY (SIRA GRP PARTICIPANTS)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD						
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #116	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116						
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 1	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129						
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 2	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129						
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121						
H	WUG INFRASTRUCTURE EXPANSION - FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT						
H	WUG INFRASTRUCTURE EXPANSION - FULSHEAR	2030	PROJECT SPONSOR(S): FULSHEAR						
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #106	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106						
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #132	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132						
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #151	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151						
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #152	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152						
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #290	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290						

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H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #46	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46						
H	WUG INFRASTRUCTURE EXPANSION - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM						
H	WUG INFRASTRUCTURE EXPANSION - IRRIGATION, FORT BEND (RICHMOND GRP)	2030	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - KEMAH	2020	PROJECT SPONSOR(S): KEMAH						
H	WUG INFRASTRUCTURE EXPANSION - LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE						
H	WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON						
H	WUG INFRASTRUCTURE EXPANSION - LAKE WINDCREST WATER SYSTEM	2030	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (SIB)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	2070	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 1	2030	PROJECT SPONSOR(S): MANVEL						
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 2	2060	PROJECT SPONSOR(S): MANVEL						

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H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SI)	2020	PROJECT SPONSOR(S): MINING (HARRIS)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (HARRIS)						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TSI)	2020	PROJECT SPONSOR(S): MINING (HARRIS)						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #18	2030	PROJECT SPONSOR(S): MONTGOMERY						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #18	2070	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #19	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #89	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89						
H	WUG INFRASTRUCTURE EXPANSION - NFBWA DISTRICTS	2030	PROJECT SPONSOR(S): NORTH, FORT BEND WATER AUTHORITY						
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	WUG INFRASTRUCTURE EXPANSION - OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK						
H	WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): PANORAMA VILLAGE						
H	WUG INFRASTRUCTURE EXPANSION - RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD						

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H	WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): RIVER PLANTATION MUD						
H	WUG INFRASTRUCTURE EXPANSION - ROSENBERG GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION - SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE						
H	WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	2030	PROJECT SPONSOR(S): SHENANDOAH						
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION						
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION						
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION						
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION						
H	WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	2030	PROJECT SPONSOR(S): SPRING CREEK UD						
H	WUG INFRASTRUCTURE EXPANSION - STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH						
H	WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): STANLEY LAKE MUD						
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (FORT BEND); NRG						
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SI) - PHASE 1	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG						
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SI) - PHASE 2	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG						
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG						

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H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	2030	PROJECT SPONSOR(S): THE WOODLANDS						
H	WUG INFRASTRUCTURE EXPANSION - TOMBALL	2030	PROJECT SPONSOR(S): TOMBALL						
H	WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	2030	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD						
H	WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	2030	PROJECT SPONSOR(S): WESTWOOD NORTH WSC						
H	WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 1	2020	PROJECT SPONSOR(S): BEACH CITY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 2	2040	PROJECT SPONSOR(S): BEACH CITY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 3	2060	PROJECT SPONSOR(S): BEACH CITY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BENDERS LANDING WATER SYSTEM	2030	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY COMPANY	2030	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 3	2070	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SI)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, LIBERTY COUNTY (SI)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MADISON COUNTY (B)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY COUNTY	2060	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	2050	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	2070	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - EL DORADO UD	2030	PROJECT SPONSOR(S): EL DORADO UD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD #23	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREATWOOD	2030	PROJECT SPONSOR(S): GREATWOOD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	2030	PROJECT SPONSOR(S): GREEN TRAILS MUD						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #11	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #119	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #153	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #154	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #180	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #189	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #221	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #278	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #345	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #400 - WEST	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #14						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY UD #14						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #15	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #15						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*(When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #74	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD	2060	PROJECT SPONSOR(S): HEMPSTEAD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - INDIGO LAKE WATER SYSTEM	2030	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): IRRIGATION, LIBERTY COUNTY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (S)	2020	PROJECT SPONSOR(S): IRRIGATION, LIBERTY COUNTY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	2030	PROJECT SPONSOR(S): KATY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KINGS MANOR MUD	2030	PROJECT SPONSOR(S): KINGS MANOR MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, CHAMBERS COUNTY (TSJ)	2060	PROJECT SPONSOR(S): LIVESTOCK (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (S)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	2030	PROJECT SPONSOR(S): LONGHORN TOWN UD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA	2040	PROJECT SPONSOR(S): MAGNOLIA						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (LEON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (LEON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (LEON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (N)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (S)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe. If selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MANUFACTURING (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, WALLER COUNTY, BRAZOS	2030	PROJECT SPONSOR(S): MANUFACTURING (WALLER)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	2030	PROJECT SPONSOR(S): MASON CREEK UD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): MINING (CHAMBERS)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (LEON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (LEON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): MINING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (SJ)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MINING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 2	2070	PROJECT SPONSOR(S): MINING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, SAN JACINTO COUNTY (T)	2040	PROJECT SPONSOR(S): MINING (SAN JACINTO)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, TRINITY COUNTY (T)	2020	PROJECT SPONSOR(S): MINING (TRINITY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	2040	PROJECT SPONSOR(S): MONT BELVIEU						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	2060	PROJECT SPONSOR(S): MONT BELVIEU						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #15	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #94	2040	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 1	2030	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 2	2050	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	2050	PROJECT SPONSOR(S): NEW CANEY MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH BELT UD	2030	PROJECT SPONSOR(S): NORTH BELT UD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH GREEN MUD	2030	PROJECT SPONSOR(S): NORTH GREEN MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST PARK MUD	2030	PROJECT SPONSOR(S): NORTHWEST PARK MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 1	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 2	2070	PROJECT SPONSOR(S): OLD RIVER-WINFREE						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PATTON VILLAGE	2030	PROJECT SPONSOR(S): PATTON VILLAGE						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 1	2020	PROJECT SPONSOR(S): PINE ISLAND						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 2	2070	PROJECT SPONSOR(S): PINE ISLAND						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	2030	PROJECT SPONSOR(S): PLANTATION MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLEAK	2020	PROJECT SPONSOR(S): PLEAK						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	2060	PROJECT SPONSOR(S): POINT AQUARIUS MUD						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST	2040	PROJECT SPONSOR(S): ROMAN FOREST						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 2	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?* (When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 1	2020	PROJECT SPONSOR(S): SAN FELIPE						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 2	2050	PROJECT SPONSOR(S): SAN FELIPE						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SJRA GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (MONTGOMERY)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 1	2030	PROJECT SPONSOR(S): SPRING VALLEY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 2	2050	PROJECT SPONSOR(S): SPRING VALLEY						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 3	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUGAR LAND GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY INC	2030	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE CONSOLIDATED WSC	2020	PROJECT SPONSOR(S): THE CONSOLIDATED WSC						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD #6	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	2040	PROJECT SPONSOR(S): WILLIS						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Has Sponsor taken affirmative vote or actions?* (TWC 16.053(h)(10))	If yes, in what year did this occur?	If yes, by what date is the action on schedule for implementation?	At what level of implementation is the project currently?*	If not implemented, why?*(When if other, please describe is selected, please add the descriptive text to that field)	What impediments presented to implementation?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODBRANCH	2040	PROJECT SPONSOR(S): WOODBRANCH						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK MUD	2030	PROJECT SPONSOR(S): WOODCREEK MUD						

Table 11-A2 – Summary of Cost and Phasing

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Current water supply project yield (ac ft/yr)	Funds expended to date (\$)	Project Cost (\$)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac ft/yr)	(Phased) Ultimate project cost (\$)	Year project reaches maximum capacity?*
H	ALLENS CREEK RESERVOIR	2030	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; HOUSTON		\$316,226,894.00						
H	BRAZOS SALTWATER BARRIER	2030	PROJECT SPONSOR(S): DOW CHEMICAL USA		\$55,771,408.00						
H	BWA BRACKISH GROUNDWATER DEVELOPMENT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY		\$34,016,950.00						
H	BWA CONVENTIONAL TREATMENT EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY		\$15,951,976.00						
H	CHCRWA GRP	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY		\$-			No			
H	CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY		\$23,207,659.00				5466		2025
H	CITY OF CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): CONROE		\$-						
H	CITY OF HOUSTON GRP	2020	PROJECT SPONSOR(S): HOUSTON		\$-			Yes			
H	CITY OF HOUSTON REUSE	2040	PROJECT SPONSOR(S): HOUSTON		\$78,121,149.00						
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 1	2040	PROJECT SPONSOR(S): HOUSTON		\$183,404,685.00						
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 2	2060	PROJECT SPONSOR(S): HOUSTON		\$105,124,744.00						
H	CLCND WEST CHAMBERS SYSTEM	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT		\$24,657,839.00						
H	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY; CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH FORT BEND WATER AUTHORITY; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$1,263,612,418.00				358400		2025
H	COH, NHCRWA, AND CHCRWA SHARED TRANSMISSION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$150,325,381.00						
H	CONROE BRACKISH GROUNDWATER DESALINATION	2030	PROJECT SPONSOR(S): CONROE		\$40,691,342.00						
H	CONSERVATION - FLO COMMUNITY WSC	2050	WUG REDUCING DEMAND: FLO COMMUNITY WSC		n/a						

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	Current water supply project yield (ac ft/yr)	Funds expended to date (\$)	Project Cost (\$)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac ft/yr)	(Phased) Ultimate project cost (\$)	Year project reaches maximum capacity?*
H	DOW RESERVOIR AND PUMP STATION EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; DOW CHEMICAL USA			\$255,865,694.00					
H	EAST TEXAS TRANSFER	2040	PROJECT SPONSOR(S): HOUSTON; LOWER NECHES VALLEY AUTHORITY; SABINE RIVER AUTHORITY			\$388,064,210.00					
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: BEASLEY COUNTY			n/a					
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: MINING, FORT BEND			n/a					
H	FORT BEND MUD 25 GRP	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25			\$2,148,043.00		No			
H	FORT BEND WCID 2 GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): FORT BEND COUNTY WCID #2			\$36,668,844.00		Yes			
H	FREETPORT SEAWATER DESALINATION	2040	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY	0	\$-	\$132,937,747.00		No			2040
H	GCWA REUSE FROM COH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; HOUSTON			\$56,379,232.00					
H	GRAND LAKES RECLAIMED WATER SYSTEM	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			\$13,148,843.00					
H	GROVETON WELL DEVELOPMENT	2020	PROJECT SPONSOR(S): GROVETON			\$2,195,000.00					
H	INDUSTRIAL CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (AUSTIN)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (GALVESTON)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (HARRIS)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, LEON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LEON)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, MADISON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MADISON)		\$-	\$-		Yes			

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H	INDUSTRIAL CONSERVATION, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, SAN JACINTO COUNTY	2050	PROJECT SPONSOR(S): MANUFACTURING (SAN JACINTO)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, WALKER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALKER)		\$-	\$-		Yes			
H	INDUSTRIAL CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALLER)		\$-	\$-		Yes			
H	IRRIGATION CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (AUSTIN)			\$37,085.00					
H	IRRIGATION CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (BRAZORIA)			\$345,807.00					
H	IRRIGATION CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (CHAMBERS)			\$265,366.00					
H	IRRIGATION CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)			\$149,215.00					
H	IRRIGATION CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (GALVESTON)			\$21,311.00					
H	IRRIGATION CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (HARRIS)			\$14,417.00					
H	IRRIGATION CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)			\$189,776.00					
H	IRRIGATION CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (WALLER)			\$132,732.00					
H	LAKE LIVINGSTON TO SIRA TRANSFER	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$166,710,892.00					
H	LNVA IRRIGATION SYSTEM EXPANSION	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS); IRRIGATION (LIBERTY)			\$48,949,000.00					
H	LUCE BAYOU TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON			\$360,004,806.00	2019	No			2019
H	MISSOURI CITY GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): MISSOURI CITY			\$50,959,636.00		Yes			
H	MONTGOMERY COUNTY MUDS #8 AND #9 REUSE	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8; MONTGOMERY COUNTY MUD #9			\$15,351,774.00					
H	MUNICIPAL CONSERVATION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN			\$2,707,480.00	2020				
H	MUNICIPAL CONSERVATION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON			\$910,930.00	2020				
H	MUNICIPAL CONSERVATION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA			\$102,250.00	2020				
H	MUNICIPAL CONSERVATION, BAACLIFF MUD	2020	PROJECT SPONSOR(S): BAACLIFF MUD			\$60,520.00	2020				

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H	MUNICIPAL CONSERVATION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE			\$47,200.00	2020				
H	MUNICIPAL CONSERVATION, BAYOU VISTA	2020	PROJECT SPONSOR(S): BAYOU VISTA			\$37,000.00	2020				
H	MUNICIPAL CONSERVATION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN			\$4,061,780.00	2020				
H	MUNICIPAL CONSERVATION, BEASLEY	2030	PROJECT SPONSOR(S): BEASLEY			\$22,250.00	2020				
H	MUNICIPAL CONSERVATION, BELLAIRE	2020	PROJECT SPONSOR(S): BELLAIRE			\$1,986,980.00	2020				
H	MUNICIPAL CONSERVATION, BELLVILLE	2020	PROJECT SPONSOR(S): BELLVILLE			\$143,940.00	2020				
H	MUNICIPAL CONSERVATION, BENDERS LANDING WATER SYSTEM	2020	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM			\$1,722,900.00	2020				
H	MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY			\$307,120.00	2020				
H	MUNICIPAL CONSERVATION, BOLIVAR PENINSULA SUD	2030	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD			\$37,110.00	2020				
H	MUNICIPAL CONSERVATION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA			\$149,750.00	2020				
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2			\$1,066,740.00	2020				
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #21	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #21			\$312,180.00	2020				
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3			\$279,240.00	2020				
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6			\$329,070.00	2020				
H	MUNICIPAL CONSERVATION, BROOKSHIRE	2020	PROJECT SPONSOR(S): BROOKSHIRE			\$65,550.00	2020				
H	MUNICIPAL CONSERVATION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE			\$152,240.00	2020				
H	MUNICIPAL CONSERVATION, BUFFALO	2020	PROJECT SPONSOR(S): BUFFALO			\$50,730.00	2020				
H	MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE			\$849,380.00	2020				
H	MUNICIPAL CONSERVATION, CENTERVILLE	2030	PROJECT SPONSOR(S): CENTERVILLE			\$22,250.00	2020				
H	MUNICIPAL CONSERVATION, CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	2020	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY			\$2,346,070.00	2020	Yes			
H	MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	2020	PROJECT SPONSOR(S): CHIMNEY HILL MUD			\$246,900.00	2020				

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H	MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD			\$791,390.00	2020				
H	MUNICIPAL CONSERVATION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES			\$69,450.00	2020				
H	MUNICIPAL CONSERVATION, CLEVELAND	2050	PROJECT SPONSOR(S): CLEVELAND			\$3,900.00	2020	Yes			
H	MUNICIPAL CONSERVATION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE			\$739,900.00	2020				
H	MUNICIPAL CONSERVATION, CONCORD-ROBBINS W.SC	2030	PROJECT SPONSOR(S): CONCORD-ROBBINS W.SC			\$22,250.00	2020				
H	MUNICIPAL CONSERVATION, CONROE	2020	PROJECT SPONSOR(S): CONROE			\$6,395,980.00	2020	Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - AUSTIN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			\$334,670.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			\$13,476,210.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - CHAMBERS COUNTY	2050	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)			\$3,900.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - FORT BEND COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			\$10,746,090.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - GALVESTON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)			\$374,560.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - HARRIS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			\$18,449,940.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - LEON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LEON)			\$106,940.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			\$28,304,310.00	2020				
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			\$297,980.00	2020				
H	MUNICIPAL CONSERVATION, CROSBY MUD	2020	PROJECT SPONSOR(S): CROSBY MUD			\$145,210.00	2020				
H	MUNICIPAL CONSERVATION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT			\$53,090.00	2020				
H	MUNICIPAL CONSERVATION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY			\$82,700.00	2020				
H	MUNICIPAL CONSERVATION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK			\$1,946,860.00	2020				

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H	MUNICIPAL CONSERVATION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON			\$327,800.00	2020				
H	MUNICIPAL CONSERVATION, DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			\$466,360.00	2020				
H	MUNICIPAL CONSERVATION, EAST PLANTATION UD	2020	PROJECT SPONSOR(S): EAST PLANTATION UD			\$90,230.00	2020				
H	MUNICIPAL CONSERVATION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD			\$112,750.00	2020				
H	MUNICIPAL CONSERVATION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO			\$136,920.00	2020				
H	MUNICIPAL CONSERVATION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS			\$32,870.00	2020				
H	MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	2020	PROJECT SPONSOR(S): FLO COMMUNITY WSC			\$99,400.00	2020				
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #116	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116			\$186,080.00	2020				
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #121	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121			\$126,830.00	2020	Yes			
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			\$289,840.00	2020				
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #23	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23			\$338,530.00	2020	Yes			
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #25	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25			\$290,990.00	2020				
H	MUNICIPAL CONSERVATION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION			\$69,450.00	2020				
H	MUNICIPAL CONSERVATION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			\$737,550.00	2020				
H	MUNICIPAL CONSERVATION, FRIENDSWOOD	2020	PROJECT SPONSOR(S): FRIENDSWOOD			\$1,949,420.00	2020				
H	MUNICIPAL CONSERVATION, FULSHEAR	2020	PROJECT SPONSOR(S): FULSHEAR			\$403,440.00	2020				
H	MUNICIPAL CONSERVATION, G & W WSC	2020	PROJECT SPONSOR(S): G AND W WSC			\$56,620.00	2020				
H	MUNICIPAL CONSERVATION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK			\$346,820.00	2020				
H	MUNICIPAL CONSERVATION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON			\$2,312,290.00	2020				
H	MUNICIPAL CONSERVATION, GREATWOOD	2020	PROJECT SPONSOR(S): GREATWOOD			\$347,120.00	2020	Yes			
H	MUNICIPAL CONSERVATION, GREEN TRAILS MUD	2020	PROJECT SPONSOR(S): GREEN TRAILS MUD			\$237,550.00	2020				
H	MUNICIPAL CONSERVATION, GREENWOOD UD	2020	PROJECT SPONSOR(S): GREENWOOD UD			\$170,500.00	2020				

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H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106		\$593,450.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #11	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11		\$151,780.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #119	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119		\$215,790.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #132	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132		\$379,990.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #148 - KINGS LAKE	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #148 - KINGS LAKE		\$115,870.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #151	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151		\$433,720.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #152	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152		\$497,130.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #153	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153		\$514,510.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154		\$326,900.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #158	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #158		\$216,430.00	2020	Yes				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180		\$233,240.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #189	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189		\$168,590.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #221	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221		\$192,750.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #278	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278		\$530,520.00	2020	Yes				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290		\$287,230.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345		\$336,200.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST		\$383,960.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #46	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46		\$275,680.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49		\$209,900.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #5	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #5		\$236,810.00	2020					
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50		\$114,740.00	2020					

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H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #55	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #55			\$685,530.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #8	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #8			\$196,580.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96			\$288,400.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #14	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #14			\$116,630.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15			\$276,280.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1			\$263,750.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #133	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133			\$301,990.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74			\$353,050.00	2020				
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #96			\$911,940.00	2020				
H	MUNICIPAL CONSERVATION, HEDWIG VILLAGE	2020	PROJECT SPONSOR(S): HEDWIG VILLAGE			\$765,210.00	2020				
H	MUNICIPAL CONSERVATION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD			\$120,900.00	2020				
H	MUNICIPAL CONSERVATION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST			\$53,090.00	2020				
H	MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	2020	PROJECT SPONSOR(S): HILSHIRE VILLAGE			\$108,480.00	2020				
H	MUNICIPAL CONSERVATION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK			\$144,420.00	2020				
H	MUNICIPAL CONSERVATION, HOLIDAY LAKES	2020	PROJECT SPONSOR(S): HOLIDAY LAKES			\$38,270.00	2020				
H	MUNICIPAL CONSERVATION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON			\$227,698,870.00	2020				
H	MUNICIPAL CONSERVATION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE			\$1,544,820.00	2020				
H	MUNICIPAL CONSERVATION, HUNTERS CREEK VILLAGE	2020	PROJECT SPONSOR(S): HUNTERS CREEK VILLAGE			\$1,235,490.00	2020				
H	MUNICIPAL CONSERVATION, INDIGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			\$1,034,520.00	2020				
H	MUNICIPAL CONSERVATION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY			\$193,610.00	2020				
H	MUNICIPAL CONSERVATION, JACINTO CITY	2020	PROJECT SPONSOR(S): JACINTO CITY			\$335,830.00	2020				
H	MUNICIPAL CONSERVATION, JAMAICA BEACH	2020	PROJECT SPONSOR(S): JAMAICA BEACH			\$37,000.00	2020				

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H	MUNICIPAL CONSERVATION, JERSEY VILLAGE	2020	PROJECT SPONSOR(S): JERSEY VILLAGE			\$768,950.00	2020				
H	MUNICIPAL CONSERVATION, JEWETT	2020	PROJECT SPONSOR(S): JEWETT			\$46,830.00	2020				
H	MUNICIPAL CONSERVATION, JONES CREEK	2020	PROJECT SPONSOR(S): JONES CREEK			\$95,530.00	2020				
H	MUNICIPAL CONSERVATION, KATY	2020	PROJECT SPONSOR(S): KATY			\$2,348,840.00	2020				
H	MUNICIPAL CONSERVATION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH			\$192,750.00	2020				
H	MUNICIPAL CONSERVATION, KINGS MANOR MUD	2020	PROJECT SPONSOR(S): KINGS MANOR MUD			\$127,870.00	2020	Yes			
H	MUNICIPAL CONSERVATION, KIRK MOUNT MUD	2020	PROJECT SPONSOR(S): KIRK MOUNT MUD			\$192,380.00	2020				
H	MUNICIPAL CONSERVATION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE			\$411,580.00	2020				
H	MUNICIPAL CONSERVATION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE			\$2,047,910.00	2020	Yes			
H	MUNICIPAL CONSERVATION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON			\$2,697,850.00	2020				
H	MUNICIPAL CONSERVATION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			\$554,780.00	2020				
H	MUNICIPAL CONSERVATION, LEAGUE CITY	2020	PROJECT SPONSOR(S): LEAGUE CITY			\$2,288,290.00	2020	Yes			
H	MUNICIPAL CONSERVATION, LONGHORN TOWN UD	2020	PROJECT SPONSOR(S): LONGHORN TOWN UD			\$122,810.00	2020				
H	MUNICIPAL CONSERVATION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA			\$420,380.00	2020	Yes			
H	MUNICIPAL CONSERVATION, MANVEL	2020	PROJECT SPONSOR(S): MANVEL			\$2,029,850.00	2020				
H	MUNICIPAL CONSERVATION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD			\$527,340.00	2020				
H	MUNICIPAL CONSERVATION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE			\$180,220.00	2020				
H	MUNICIPAL CONSERVATION, MISSOURI CITY	2020	PROJECT SPONSOR(S): MISSOURI CITY			\$4,468,760.00	2020				
H	MUNICIPAL CONSERVATION, MONT BELVIEU	2030	PROJECT SPONSOR(S): MONT BELVIEU			\$12,460.00	2020				
H	MUNICIPAL CONSERVATION, MONTGOMERY	2020	PROJECT SPONSOR(S): MONTGOMERY			\$516,310.00	2020				
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #15	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15			\$236,690.00	2020	Yes			

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H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #18	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18		\$675,730.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19		\$84,570.00	2020	Yes				
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #8	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8		\$187,120.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #83	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #83		\$101,300.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89		\$129,140.00	2020	Yes				
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #9	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #9		\$215,180.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #94	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94		\$234,070.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #2	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #2		\$59,620.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #3	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #3		\$121,310.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #4	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #4		\$254,590.00	2020					
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1		\$99,160.00	2020					
H	MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	2020	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD		\$300,890.00	2020					
H	MUNICIPAL CONSERVATION, NASSAU BAY	2020	PROJECT SPONSOR(S): NASSAU BAY		\$466,590.00	2020					
H	MUNICIPAL CONSERVATION, NEEDVILLE	2020	PROJECT SPONSOR(S): NEEDVILLE		\$73,770.00	2020					
H	MUNICIPAL CONSERVATION, NEW CANEY MUD	2020	PROJECT SPONSOR(S): NEW CANEY MUD		\$302,150.00	2020	Yes				
H	MUNICIPAL CONSERVATION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD		\$429,450.00	2020	Yes				
H	MUNICIPAL CONSERVATION, NHCWA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$59,468,460.00	2020					
H	MUNICIPAL CONSERVATION, NORMANGEE	2030	PROJECT SPONSOR(S): NORMANGEE		\$13,960.00	2020					
H	MUNICIPAL CONSERVATION, NORTH BELT UD	2020	PROJECT SPONSOR(S): NORTH BELT UD		\$153,280.00	2020					

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H	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH CHANNEL WATER AUTHORITY			\$4,510,390.00	2020	Yes			
H	MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			\$24,492,410.00	2020	Yes			
H	MUNICIPAL CONSERVATION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD			\$206,000.00	2020				
H	MUNICIPAL CONSERVATION, NORTHWEST PARK MUD	2020	PROJECT SPONSOR(S): NORTHWEST PARK MUD			\$1,455,250.00	2020				
H	MUNICIPAL CONSERVATION, OAK RIDGE NORTH	2020	PROJECT SPONSOR(S): OAK RIDGE NORTH			\$208,910.00	2020	Yes			
H	MUNICIPAL CONSERVATION, OAKWOOD	2040	PROJECT SPONSOR(S): OAKWOOD			\$5,890.00	2020				
H	MUNICIPAL CONSERVATION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK			\$129,490.00	2020				
H	MUNICIPAL CONSERVATION, PANORAMA VILLAGE	2020	PROJECT SPONSOR(S): PANORAMA VILLAGE			\$227,300.00	2020				
H	MUNICIPAL CONSERVATION, PARKWAY UD	2020	PROJECT SPONSOR(S): PARKWAY UD			\$224,720.00	2020				
H	MUNICIPAL CONSERVATION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA			\$10,100,990.00	2020				
H	MUNICIPAL CONSERVATION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE			\$63,150.00	2020				
H	MUNICIPAL CONSERVATION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND			\$9,506,440.00	2020	Yes			
H	MUNICIPAL CONSERVATION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1			\$462,430.00	2020	Yes			
H	MUNICIPAL CONSERVATION, PINE ISLAND	2030	PROJECT SPONSOR(S): PINE ISLAND			\$11,330.00	2020				
H	MUNICIPAL CONSERVATION, PINEY POINT VILLAGE	2020	PROJECT SPONSOR(S): PINEY POINT VILLAGE			\$961,580.00	2020				
H	MUNICIPAL CONSERVATION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD			\$88,590.00	2020				
H	MUNICIPAL CONSERVATION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK			\$45,290.00	2020				
H	MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD			\$132,900.00	2020	Yes			
H	MUNICIPAL CONSERVATION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD			\$914,990.00	2020				
H	MUNICIPAL CONSERVATION, PRAIRIE VIEW	2020	PROJECT SPONSOR(S): PRAIRIE VIEW			\$152,640.00	2020				
H	MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	2020	PROJECT SPONSOR(S): RAYFORD ROAD MUD			\$383,700.00	2020	Yes			

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H	MUNICIPAL CONSERVATION, RICHMOND	2020	PROJECT SPONSOR(S): RICHMOND			\$516,390.00	2020	Yes			
H	MUNICIPAL CONSERVATION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD			\$193,050.00	2020				
H	MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD			\$240,070.00	2020				
H	MUNICIPAL CONSERVATION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST			\$133,390.00	2020	Yes			
H	MUNICIPAL CONSERVATION, ROSENBERG	2020	PROJECT SPONSOR(S): ROSENBERG			\$1,217,600.00	2020	Yes			
H	MUNICIPAL CONSERVATION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD			\$355,080.00	2020				
H	MUNICIPAL CONSERVATION, SAN FELIPE	2030	PROJECT SPONSOR(S): SAN FELIPE			\$31,180.00	2020				
H	MUNICIPAL CONSERVATION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD			\$55,760.00	2020				
H	MUNICIPAL CONSERVATION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			\$218,050.00	2020				
H	MUNICIPAL CONSERVATION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK			\$809,440.00	2020				
H	MUNICIPAL CONSERVATION, SEALY	2020	PROJECT SPONSOR(S): SEALY			\$176,660.00	2020				
H	MUNICIPAL CONSERVATION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH			\$619,890.00	2020				
H	MUNICIPAL CONSERVATION, SHOREACRES	2020	PROJECT SPONSOR(S): SHOREACRES			\$145,210.00	2020				
H	MUNICIPAL CONSERVATION, SIENNA PLANTATION	2020	PROJECT SPONSOR(S): SIENNA PLANTATION			\$1,998,460.00	2020	Yes			
H	MUNICIPAL CONSERVATION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON			\$41,800.00	2020				
H	MUNICIPAL CONSERVATION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON			\$862,200.00	2020				
H	MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	2020	PROJECT SPONSOR(S): SOUTHERN MONTGOMERY COUNTY MUD			\$300,420.00	2020	Yes			
H	MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE			\$128,330.00	2020				
H	MUNICIPAL CONSERVATION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA			\$91,630.00	2020				
H	MUNICIPAL CONSERVATION, SPRING CREEK UD	2020	PROJECT SPONSOR(S): SPRING CREEK UD			\$255,460.00	2020	Yes			
H	MUNICIPAL CONSERVATION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY			\$540,370.00	2020				
H	MUNICIPAL CONSERVATION, STAFFORD	2020	PROJECT SPONSOR(S): STAFFORD			\$1,102,130.00	2020				

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H	MUNICIPAL CONSERVATION, STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH			\$35,840.00	2020				
H	MUNICIPAL CONSERVATION, STANLEY LAKE MUD	2020	PROJECT SPONSOR(S): STANLEY LAKE MUD			\$342,240.00	2020				
H	MUNICIPAL CONSERVATION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND			\$7,681,760.00	2020				
H	MUNICIPAL CONSERVATION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD			\$776,770.00	2020				
H	MUNICIPAL CONSERVATION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY			\$256,990.00	2020				
H	MUNICIPAL CONSERVATION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE			\$278,080.00	2020				
H	MUNICIPAL CONSERVATION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY			\$997,730.00	2020				
H	MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY INC	2020	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC			\$170,500.00	2020				
H	MUNICIPAL CONSERVATION, THE WOODLANDS	2020	PROJECT SPONSOR(S): THE WOODLANDS			\$11,473,170.00	2020	Yes			
H	MUNICIPAL CONSERVATION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND			\$33,510.00	2020				
H	MUNICIPAL CONSERVATION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL			\$1,533,090.00	2020				
H	MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	2020	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD			\$459,230.00	2020				
H	MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	2040	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT			\$5,890.00	2020				
H	MUNICIPAL CONSERVATION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD			\$97,030.00	2020				
H	MUNICIPAL CONSERVATION, WALLER	2020	PROJECT SPONSOR(S): WALLER			\$74,180.00	2020				
H	MUNICIPAL CONSERVATION, WALLIS	2030	PROJECT SPONSOR(S): WALLIS			\$13,960.00	2020				
H	MUNICIPAL CONSERVATION, WEBSTER	2020	PROJECT SPONSOR(S): WEBSTER			\$1,886,580.00	2020				
H	MUNICIPAL CONSERVATION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA			\$206,670.00	2020				
H	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD #6	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6			\$157,670.00	2020				
H	MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE			\$1,462,880.00	2020	Yes			
H	MUNICIPAL CONSERVATION, WESTON LAKES	2020	PROJECT SPONSOR(S): WESTON LAKES			\$461,460.00	2020				

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H	MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	2020	PROJECT SPONSOR(S): WESTWOOD NORTH WSC			\$149,630.00	2020				
H	MUNICIPAL CONSERVATION, WHCRWA	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			\$34,492,720.00	2020				
H	MUNICIPAL CONSERVATION, WILLIS	2020	PROJECT SPONSOR(S): WILLIS			\$326,730.00	2020				
H	MUNICIPAL CONSERVATION, WINDFERN FOREST UD	2020	PROJECT SPONSOR(S): WINDFERN FOREST UD			\$357,740.00	2020				
H	MUNICIPAL CONSERVATION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH			\$48,330.00	2020	Yes			
H	MUNICIPAL CONSERVATION, WOODCREEK MUD	2020	PROJECT SPONSOR(S): WOODCREEK MUD			\$115,870.00	2020				
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			\$5,069,657.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY			\$547,319.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			\$15,483,621.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			\$4,612,547.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			\$47,190,817.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			\$19,989,803.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRWA	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$6,067,108.00					
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			\$4,493,242.00					
H	NEW / EXPANDED CONTRACT WITH BRA - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; COUNTY-OTHER (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BRA - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MANUFACTURING (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)		\$-	\$-					

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H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BRA - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; STEAM ELECTRIC POWER (FORT BEND); NRG		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON; BRAZOSPORT WATER AUTHORITY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA; BRAZOSPORT WATER AUTHORITY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - CLUTE	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; CLUTE		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - FREEPORT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; FREEPORT		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - LAKE JACKSON	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; LAKE JACKSON		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - MANUFACTURING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; MANUFACTURING (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - OYSTER CREEK	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; OYSTER CREEK		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH BWA - RICHWOOD	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; RICHWOOD		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH CLCND - COUNTY-OTHER, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT; COUNTY-OTHER (CHAMBERS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - COUNTY-OTHER, HARRIS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS); HOUSTON		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION; HOUSTON		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - KIRKMONT MUD	2070	PROJECT SPONSOR(S): HOUSTON; KIRKMONT MUD		\$-	\$-					

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H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (S)	2050	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (SIB)	2030	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (S)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (TS)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - MISSOURI CITY, HARRIS COUNTY	2060	PROJECT SPONSOR(S): HOUSTON; MISSOURI CITY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (S)	2030	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - ARCOLA	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; ARCOLA		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; CLEAR LAKE SHORES		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (GALVESTON)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - KEMAH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; KEMAH		\$-	\$-					

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H	NEW / EXPANDED CONTRACT WITH GCWA - LA MARQUE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; LA MARQUE		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (SIB)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MANVEL	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANVEL		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (BRAZORIA)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (GALVESTON)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - MISSOURI CITY	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MISSOURI CITY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - SANTA FE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SANTA FE		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH GCWA - SIENNA PLANTATION	2070	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SIENNA PLANTATION		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH LNVA - COUNTY-OTHER, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; COUNTY-OTHER (GALVESTON)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH LNVA - IRRIGATION, CHAMBERS COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH LNVA - IRRIGATION, LIBERTY COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (LIBERTY)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH LNVA - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; MINING (GALVESTON)		\$-	\$-					

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H	NEW / EXPANDED CONTRACT WITH SJRA - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; BENDERS LANDING WATER SYSTEM		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - COUNTY-OTHER, MONTGOMERY COUNTY (SJ)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; COUNTY-OTHER (MONTGOMERY)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD; SAN JACINTO RIVER AUTHORITY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; INDIGO LAKE WATER SYSTEM		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - MANUFACTURING, MONTGOMERY COUNTY (SJ)	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MANUFACTURING (MONTGOMERY)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - MONTGOMERY	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - MONTGOMERY COUNTY MUD #18	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY COUNTY MUD #18		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; PANORAMA VILLAGE		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; RIVER PLANTATION MUD		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - SHENANDOAH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; SHENANDOAH		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - STAGECOACH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STAGECOACH		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STANLEY LAKE MUD		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SJRA - STEAM ELECTRIC POWER, MONTGOMERY COUNTY (SJ)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STEAM ELECTRIC POWER (MONTGOMERY)		\$-	\$-					
H	NEW / EXPANDED CONTRACT WITH SUGAR LAND - FORT BEND MUD 25	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25; SUGAR LAND		\$-	\$-					
H	NFBWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY		\$-	\$-					

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H	NFBWA PHASE 2 DISTRIBUTION SEGMENTS	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			\$65,450,062.00					
H	NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$537,692,455.00					
H	NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$373,353,219.00					
H	NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	2050	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$11,503,412.00					
H	NHCRWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$-	\$-					
H	NHCRWA TRANSMISSION LINES	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$155,993,406.00					
H	OLD GALVESTON ROAD TRANSMISSION IMPROVEMENTS	2020	PROJECT SPONSOR(S): HOUSTON			\$99,886,253.00					
H	PANORAMA AND SHENANDOAH GRP INFRASTRUCTURE	2040	PROJECT SPONSOR(S): PANORAMA VILLAGE, SHENANDOAH			\$1,619,114.00	No				
H	PEARLAND REUSE INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PEARLAND			\$5,895,808.00					
H	PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	2030	PROJECT SPONSOR(S): PEARLAND			\$112,947,347.00					
H	PORTER SUD GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PORTER SUD			\$22,061,536.00	Yes				
H	REALLOCATE EXISTING SUPPLY	2030	WMS SUPPLY RECIPIENT: MISSOURI CITY			n/a					
H	REALLOCATE EXISTING SUPPLY	2040	WMS SUPPLY RECIPIENT: MISSOURI CITY			n/a					
H	REGIONAL RETURN FLOWS DEVELOPMENT	2020	PROJECT SPONSOR(S): HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY; SAN JACINTO RIVER AUTHORITY		\$-	\$-					
H	RICHMOND GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): RICHMOND			\$32,167,109.00	Yes				
H	RIVER PLANTATION REUSE EXPANSION	2030	PROJECT SPONSOR(S): EAST PLANTATION UD; RIVER PLANTATION MUD		\$-	\$-					
H	ROSENBERG GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): ROSENBERG			\$12,469,012.00	No				
H	SIRA CATAHOULA AQUIFER SUPPLIES	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$10,980,367.00					

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H	SIRA CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY		\$-	\$-					
H	SIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$73,426,045.00					
H	SIRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	2040	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$291,557,644.00					
H	SIRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$178,389,686.00					
H	SIRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			\$291,557,643.00					
H	SUGAR LAND GRP	2030	PROJECT SPONSOR(S): SUGAR LAND		\$-	\$-		Yes			
H	SUGAR LAND GRP - REUSE INFRASTRUCTURE	2030	PROJECT SPONSOR(S): SUGAR LAND			\$59,317,522.00		Yes			
H	SUGAR LAND SURFACE WATER TREATMENT EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND			\$75,916,240.00					
H	SUGAR LAND TRANSMISSION EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND			\$13,417,202.00					
H	TRA TO COH TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON; TRINITY RIVER AUTHORITY		\$-	\$-					
H	WATER LOSS REDUCTION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN			\$6,399,090.00					
H	WATER LOSS REDUCTION, AMES	2020	PROJECT SPONSOR(S): AMES			\$744,620.00					
H	WATER LOSS REDUCTION, ANAHUAC	2020	PROJECT SPONSOR(S): ANAHUAC			\$838,860.00					
H	WATER LOSS REDUCTION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON			\$2,049,340.00					
H	WATER LOSS REDUCTION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA			\$388,880.00					
H	WATER LOSS REDUCTION, BACLIFF MUD	2020	PROJECT SPONSOR(S): BACLIFF MUD			\$172,150.00					
H	WATER LOSS REDUCTION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE			\$99,980.00					
H	WATER LOSS REDUCTION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN			\$12,036,000.00					
H	WATER LOSS REDUCTION, BEASLEY	2060	PROJECT SPONSOR(S): BEASLEY			\$11,160.00					
H	WATER LOSS REDUCTION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY			\$516,540.00					
H	WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	2020	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD			\$344,410.00					
H	WATER LOSS REDUCTION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA			\$422,190.00					

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H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2		\$6,050,140.00						
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3		\$633,170.00						
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6		\$749,760.00						
H	WATER LOSS REDUCTION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE		\$377,860.00						
H	WATER LOSS REDUCTION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE		\$1,416,370.00						
H	WATER LOSS REDUCTION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD		\$1,333,020.00						
H	WATER LOSS REDUCTION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES		\$560,890.00						
H	WATER LOSS REDUCTION, CLEVELAND	2020	PROJECT SPONSOR(S): CLEVELAND		\$4,778,020.00						
H	WATER LOSS REDUCTION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE		\$1,710,670.00						
H	WATER LOSS REDUCTION, COLDSRING	2020	PROJECT SPONSOR(S): COLDSRING		\$233,360.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$9,243,570.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)		\$1,355,490.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - LIBERTY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)		\$11,983,960.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - MADISON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)		\$1,988,320.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - POLK COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (POLK)		\$8,417,580.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - TRINITY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (TRINITY)		\$711,180.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - WALKER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALKER)		\$4,427,460.00						
H	WATER LOSS REDUCTION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)		\$11,542,260.00						
H	WATER LOSS REDUCTION, COVE	2020	PROJECT SPONSOR(S): COVE		\$172,290.00						

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H	WATER LOSS REDUCTION, CROSBY MUD	2020	PROJECT SPONSOR(S): CROSBY MUD			\$216,590.00					
H	WATER LOSS REDUCTION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT			\$111,080.00					
H	WATER LOSS REDUCTION, DAISSETTA	2020	PROJECT SPONSOR(S): DAISSETTA			\$983,520.00					
H	WATER LOSS REDUCTION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY			\$183,280.00					
H	WATER LOSS REDUCTION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK			\$7,478,720.00					
H	WATER LOSS REDUCTION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON			\$2,577,000.00					
H	WATER LOSS REDUCTION, DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			\$1,744,800.00					
H	WATER LOSS REDUCTION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD			\$522,270.00					
H	WATER LOSS REDUCTION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO			\$216,590.00					
H	WATER LOSS REDUCTION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS			\$105,520.00					
H	WATER LOSS REDUCTION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			\$1,022,160.00					
H	WATER LOSS REDUCTION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION			\$122,180.00					
H	WATER LOSS REDUCTION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			\$1,688,510.00					
H	WATER LOSS REDUCTION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK			\$899,780.00					
H	WATER LOSS REDUCTION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON			\$18,538,930.00					
H	WATER LOSS REDUCTION, GROVETON	2020	PROJECT SPONSOR(S): GROVETON			\$166,690.00					
H	WATER LOSS REDUCTION, HARDIN	2020	PROJECT SPONSOR(S): HARDIN			\$972,410.00					
H	WATER LOSS REDUCTION, HARDIN WSC	2020	PROJECT SPONSOR(S): HARDIN WSC			\$416,630.00					
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106			\$988,610.00					
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #11	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11			\$138,820.00					
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154			\$99,960.00					
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180			\$260,990.00					

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H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290		\$477,590.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345		\$99,960.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST		\$649,840.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49		\$338,820.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50		\$383,350.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96		\$338,840.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15		\$3,172,860.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1		\$516,480.00						
H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74		\$594,240.00						
H	WATER LOSS REDUCTION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD		\$3,451,010.00						
H	WATER LOSS REDUCTION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST		\$377,200.00						
H	WATER LOSS REDUCTION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK		\$1,144,110.00						
H	WATER LOSS REDUCTION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON		\$701,968,780.00						
H	WATER LOSS REDUCTION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE		\$7,656,740.00						
H	WATER LOSS REDUCTION, INDIAGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIAGO LAKE WATER SYSTEM		\$3,934,320.00						
H	WATER LOSS REDUCTION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY		\$472,200.00						
H	WATER LOSS REDUCTION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH		\$1,543,930.00						
H	WATER LOSS REDUCTION, KENEFICK	2020	PROJECT SPONSOR(S): KENEFICK		\$600,100.00						
H	WATER LOSS REDUCTION, KIRKMONT MUD	2020	PROJECT SPONSOR(S): KIRKMONT MUD		\$238,810.00						
H	WATER LOSS REDUCTION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE		\$3,265,450.00						
H	WATER LOSS REDUCTION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE		\$4,509,400.00						
H	WATER LOSS REDUCTION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON		\$8,745,830.00						

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H	WATER LOSS REDUCTION, LAKE LIVINGSTON WATER SUPPLY & SEWER SERVICE COMPANY	2020	PROJECT SPONSOR(S): LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE COMPANY			\$9,118,290.00					
H	WATER LOSS REDUCTION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			\$2,000,350.00					
H	WATER LOSS REDUCTION, LIBERTY	2020	PROJECT SPONSOR(S): LIBERTY			\$77,800.00					
H	WATER LOSS REDUCTION, MADISONVILLE	2020	PROJECT SPONSOR(S): MADISONVILLE			\$1,816,900.00					
H	WATER LOSS REDUCTION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA			\$1,505,770.00					
H	WATER LOSS REDUCTION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD			\$883,020.00					
H	WATER LOSS REDUCTION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE			\$605,390.00					
H	WATER LOSS REDUCTION, MONT BELVIEU	2020	PROJECT SPONSOR(S): MONT BELVIEU			\$5,122,750.00					
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19			\$266,580.00					
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89			\$405,500.00					
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1			\$327,730.00					
H	WATER LOSS REDUCTION, NASSAU BAY	2020	PROJECT SPONSOR(S): NASSAU BAY			\$772,000.00					
H	WATER LOSS REDUCTION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD			\$705,360.00					
H	WATER LOSS REDUCTION, NHCRWA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			\$132,740,570.00					
H	WATER LOSS REDUCTION, NORMANGEE	2040	PROJECT SPONSOR(S): NORMANGEE			\$22,210.00					
H	WATER LOSS REDUCTION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD			\$955,540.00					
H	WATER LOSS REDUCTION, OLD RIVER-WINFREE	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE			\$361,100.00					
H	WATER LOSS REDUCTION, ONALASKA	2020	PROJECT SPONSOR(S): ONALASKA			\$1,511,450.00					
H	WATER LOSS REDUCTION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK			\$283,260.00					
H	WATER LOSS REDUCTION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA			\$25,787,280.00					

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H	WATER LOSS REDUCTION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE			\$222,200.00					
H	WATER LOSS REDUCTION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND			\$17,157,380.00					
H	WATER LOSS REDUCTION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1			\$605,310.00					
H	WATER LOSS REDUCTION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD			\$544,420.00					
H	WATER LOSS REDUCTION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK			\$155,550.00					
H	WATER LOSS REDUCTION, PLUM GROVE	2020	PROJECT SPONSOR(S): PLUM GROVE			\$622,320.00					
H	WATER LOSS REDUCTION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD			\$433,280.00					
H	WATER LOSS REDUCTION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD			\$3,183,220.00					
H	WATER LOSS REDUCTION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD			\$438,810.00					
H	WATER LOSS REDUCTION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD			\$338,890.00					
H	WATER LOSS REDUCTION, RIVERSIDE	2020	PROJECT SPONSOR(S): RIVERSIDE			\$183,370.00					
H	WATER LOSS REDUCTION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST			\$444,390.00					
H	WATER LOSS REDUCTION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD			\$599,840.00					
H	WATER LOSS REDUCTION, SAN JACINTO SUD	2020	PROJECT SPONSOR(S): SAN JACINTO SUD			\$872,300.00					
H	WATER LOSS REDUCTION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD			\$488,770.00					
H	WATER LOSS REDUCTION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			\$1,710,530.00					
H	WATER LOSS REDUCTION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK			\$1,349,560.00					
H	WATER LOSS REDUCTION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH			\$2,071,810.00					
H	WATER LOSS REDUCTION, SHEPHERD	2020	PROJECT SPONSOR(S): SHEPHERD			\$1,189,020.00					
H	WATER LOSS REDUCTION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON			\$133,290.00					
H	WATER LOSS REDUCTION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON			\$4,594,760.00					
H	WATER LOSS REDUCTION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE			\$216,640.00					

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H	WATER LOSS REDUCTION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA			\$155,560.00					
H	WATER LOSS REDUCTION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY			\$572,120.00					
H	WATER LOSS REDUCTION, STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH			\$144,510.00					
H	WATER LOSS REDUCTION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND			\$2,188,230.00					
H	WATER LOSS REDUCTION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD			\$4,778,270.00					
H	WATER LOSS REDUCTION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY			\$572,040.00					
H	WATER LOSS REDUCTION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE			\$466,490.00					
H	WATER LOSS REDUCTION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY			\$7,964,350.00					
H	WATER LOSS REDUCTION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND			\$227,690.00					
H	WATER LOSS REDUCTION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL			\$2,560,310.00					
H	WATER LOSS REDUCTION, TRINITY	2020	PROJECT SPONSOR(S): TRINITY			\$1,055,570.00					
H	WATER LOSS REDUCTION, TRINITY BAY CONSERVATION DISTRICT	2020	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT			\$4,411,270.00					
H	WATER LOSS REDUCTION, TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC			\$2,372,330.00					
H	WATER LOSS REDUCTION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD			\$177,710.00					
H	WATER LOSS REDUCTION, WALLER	2020	PROJECT SPONSOR(S): WALLER			\$61,090.00					
H	WATER LOSS REDUCTION, WALLIS	2020	PROJECT SPONSOR(S): WALLIS			\$333,370.00					
H	WATER LOSS REDUCTION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA			\$133,280.00					
H	WATER LOSS REDUCTION, WEST HARDIN WSC	2020	PROJECT SPONSOR(S): WEST HARDIN WSC			\$194,420.00					
H	WATER LOSS REDUCTION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE			\$2,443,880.00					
H	WATER LOSS REDUCTION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH			\$166,670.00					
H	WATER LOSS REDUCTION, WOODLAND HILLS WATER COMPANY	2020	PROJECT SPONSOR(S): WOODLAND HILLS WATER COMPANY			\$6,102,020.00					

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H	WEST HARRIS COUNTY GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		\$-	\$-					
H	WHCRWA 2025 DISTRIBUTION EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		\$288,680,000.00						
H	WHCRWA 2035 DISTRIBUTION EXPANSION	2040	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		\$4,610,000.00						
H	WHCRWA/NBWA TRANSMISSION LINE	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY; WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		\$642,986,052.00						
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)		\$4,869,074.00						
H	WUG INFRASTRUCTURE EXPANSION - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON		\$2,234,028.00						
H	WUG INFRASTRUCTURE EXPANSION - ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA		\$7,391,747.00						
H	WUG INFRASTRUCTURE EXPANSION - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM		\$35,813,718.00						
H	WUG INFRASTRUCTURE EXPANSION - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA		\$1,929,724.00						
H	WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY		\$6,818,382.00						
H	WUG INFRASTRUCTURE EXPANSION - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES		\$1,944,980.00						
H	WUG INFRASTRUCTURE EXPANSION - CLUTE	2020	PROJECT SPONSOR(S): CLUTE		\$2,173,265.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$4,231,936.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2040	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$4,377,741.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (FORT BEND MUD #149)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$2,151,333.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$31,278,412.00						

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H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$31,429,588.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$12,067,164.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$4,295,425.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$18,480,477.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)		\$23,737,275.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 1)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$10,822,195.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 2)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$1,742,658.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RIVERSTONE)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$2,400,905.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)		\$4,295,425.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)		\$2,755,904.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)		\$4,295,425.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)		\$2,423,803.00						
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)		\$186,580,030.00						

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H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			\$390,977,830.00					
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY (SIRA GRP PARTICIPANTS)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			\$8,629,118.00					
H	WUG INFRASTRUCTURE EXPANSION - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD			\$4,295,425.00					
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #116	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116			\$2,162,299.00					
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 1	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			\$1,985,675.00					
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 2	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			\$1,951,873.00					
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121			\$1,742,658.00					
H	WUG INFRASTRUCTURE EXPANSION - FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			\$2,271,959.00					
H	WUG INFRASTRUCTURE EXPANSION - FULSHEAR	2030	PROJECT SPONSOR(S): FULSHEAR			\$2,184,231.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #106	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106			\$2,256,405.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #132	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132			\$2,200,481.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #151	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151			\$2,227,101.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #152	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152			\$2,238,628.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #290	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290			\$2,167,782.00					
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #46	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46			\$2,167,782.00					
H	WUG INFRASTRUCTURE EXPANSION - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			\$25,231,336.00					

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H	WUG INFRASTRUCTURE EXPANSION - IRRIGATION, FORT BEND (RICHMOND GRP)	2030	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)			\$1,742,658.00					
H	WUG INFRASTRUCTURE EXPANSION - KEMAH	2020	PROJECT SPONSOR(S): KEMAH			\$2,227,101.00					
H	WUG INFRASTRUCTURE EXPANSION - LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE			\$2,015,167.00					
H	WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON			\$2,405,484.00					
H	WUG INFRASTRUCTURE EXPANSION - LAKE WINDCREST WATER SYSTEM	2030	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			\$2,530,465.00					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			\$8,634,738.00					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (SJ)	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			\$16,692,792.00					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (SJB)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			\$11,875,167.00					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)		\$-	\$-					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SJB)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)			\$2,195,157.00					
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	2070	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)			\$2,254,183.00					
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 1	2030	PROJECT SPONSOR(S): MANVEL			\$20,417,139.00					
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 2	2060	PROJECT SPONSOR(S): MANVEL			\$21,911,200.00					
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)			\$7,239,977.00					
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)			\$8,226,091.00					

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H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)		\$12,434,070.00						
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)		\$7,847,058.00						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (S)	2020	PROJECT SPONSOR(S): MINING (HARRIS)		\$2,657,274.00						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (HARRIS)		\$1,938,087.00						
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TS)	2020	PROJECT SPONSOR(S): MINING (HARRIS)		\$1,921,361.00						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #18	2030	PROJECT SPONSOR(S): MONTGOMERY		\$16,692,792.00						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #19	2070	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18		\$7,924,776.00						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #19	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19		\$1,944,980.00						
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #89	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89		\$2,000,421.00						
H	WUG INFRASTRUCTURE EXPANSION - NBWA DISTRICTS	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY		\$72,301,920.00						
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$106,821,318.00						
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY		\$83,858,688.00						
H	WUG INFRASTRUCTURE EXPANSION - OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK		\$1,832,010.00						
H	WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): PANORAMA VILLAGE		\$6,493,814.00						
H	WUG INFRASTRUCTURE EXPANSION - RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD		\$1,938,087.00						
H	WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): RIVER PLANTATION MUD		\$4,295,425.00						
H	WUG INFRASTRUCTURE EXPANSION - ROSENBERG GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)		\$7,434,116.00						

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H	WUG INFRASTRUCTURE EXPANSION - SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			\$2,167,782.00					
H	WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	2030	PROJECT SPONSOR(S): SHENANDOAH			\$8,002,495.00					
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION			\$2,069,409.00					
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION			\$2,069,409.00					
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION			\$2,272,237.00					
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION			\$2,273,906.00					
H	WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	2030	PROJECT SPONSOR(S): SPRING CREEK UD			\$2,184,231.00					
H	WUG INFRASTRUCTURE EXPANSION - STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH			\$6,787,364.00					
H	WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): STANLEY LAKE MUD			\$8,157,931.00					
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (FORT BEND); NRG			\$15,009,606.00					
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ) - PHASE 1	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			\$10,446,894.00					
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ) - PHASE 2	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			\$11,235,906.00					
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			\$2,558,644.00					
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MONTGOMERY)		\$-	\$-					
H	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	2030	PROJECT SPONSOR(S): THE WOODLANDS			\$2,558,644.00					
H	WUG INFRASTRUCTURE EXPANSION - TOMBALL	2030	PROJECT SPONSOR(S): TOMBALL			\$2,713,634.00					

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H	WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	2030	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD		\$2,231,719.00						
H	WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	2030	PROJECT SPONSOR(S): WESTWOOD NORTH WSC		\$2,069,409.00						
H	WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY		\$93,497,740.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 1	2020	PROJECT SPONSOR(S): BEACH CITY		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 2	2040	PROJECT SPONSOR(S): BEACH CITY		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 3	2060	PROJECT SPONSOR(S): BEACH CITY		\$1,324,405.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BENDERS LANDING WATER SYSTEM	2030	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM		\$8,909,765.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY COMPANY	2030	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY		\$2,009,915.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)		\$2,719,145.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 3	2070	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)		\$20,845,805.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			\$82,138,146.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, LIBERTY COUNTY (SJ)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)			\$1,914,339.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MADISON COUNTY (B)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)			\$837,894.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY COUNTY	2060	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			\$65,596,630.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	2050	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			\$2,165,802.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY (B) - PHASE 2	2070	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			\$1,962,127.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			\$8,926,839.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - EL DORADO UD	2030	PROJECT SPONSOR(S): EL DORADO UD			\$1,202,685.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD #23	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23			\$2,165,802.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREATWOOD	2030	PROJECT SPONSOR(S): GREATWOOD			\$2,111,753.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	2030	PROJECT SPONSOR(S): GREEN TRAILS MUD			\$1,791,874.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #11	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11			\$1,446,124.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #119	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119			\$1,642,520.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #153	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153			\$2,258,026.00					

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #154	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154		\$2,009,915.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #180	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180		\$1,791,874.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #189	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #221	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221		\$1,717,197.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #278	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278		\$2,534,697.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #345	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345		\$2,009,915.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #400 - WEST	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST		\$2,111,753.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #14		\$1,202,685.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY UD #14		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #15	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #15		\$1,717,197.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133		\$1,866,551.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #74	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74		\$2,057,703.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD	2060	PROJECT SPONSOR(S): HEMPSTEAD		\$1,866,551.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - INDIGO LAKE WATER SYSTEM	2030	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM		\$7,117,027.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)		\$10,840,044.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (S)	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)		\$2,370,720.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	2030	PROJECT SPONSOR(S): KATY		\$10,005,218.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KINGS MANOR MUD	2030	PROJECT SPONSOR(S): KINGS MANOR MUD		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, CHAMBERS COUNTY (TSJ)	2060	PROJECT SPONSOR(S): LIVESTOCK (CHAMBERS)		\$325,222.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)		\$325,222.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)		\$325,222.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (S)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)		\$325,222.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)		\$544,575.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)		\$325,222.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	2030	PROJECT SPONSOR(S): LONGHORN TOWN UD		\$1,324,405.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA	2040	PROJECT SPONSOR(S): MAGNOLIA		\$3,726,230.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING (AUSTIN)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)		\$1,717,197.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)		\$1,717,197.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)		\$1,324,405.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (LEON)		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (LEON)		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (LEON)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (N)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)		\$1,202,685.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (S)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MANUFACTURING (MADISON)		\$1,080,966.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY, BRAZOS	2030	PROJECT SPONSOR(S): MANUFACTURING (WALLER)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	2030	PROJECT SPONSOR(S): MASON CREEK UD		\$2,211,914.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)		\$1,324,405.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): MINING (CHAMBERS)		\$1,202,685.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (LEON)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (LEON)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (S)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 2	2070	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)		\$1,080,966.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (MADISON)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (MADISON)		\$1,866,551.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, SAN JACINTO COUNTY (T)	2040	PROJECT SPONSOR(S): MINING (SAN JACINTO)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, TRINITY COUNTY (T)	2020	PROJECT SPONSOR(S): MINING (TRINITY)		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	2040	PROJECT SPONSOR(S): MONT BELVIEU		\$2,534,697.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	2060	PROJECT SPONSOR(S): MONT BELVIEU		\$4,109,144.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #15	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15		\$2,211,914.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #94	2040	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94		\$1,446,124.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 1	2030	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD		\$2,009,915.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 2	2050	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD		\$1,080,966.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	2050	PROJECT SPONSOR(S): NEW CANEY MUD		\$1,791,874.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH BELT UD	2030	PROJECT SPONSOR(S): NORTH BELT UD		\$1,446,124.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH GREEN MUD	2030	PROJECT SPONSOR(S): NORTH GREEN MUD		\$1,567,843.00						
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST PARK MUD	2030	PROJECT SPONSOR(S): NORTHWEST PARK MUD		\$5,130,247.00						

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 1	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 2	2070	PROJECT SPONSOR(S): OLD RIVER-WINFREE			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PATTON VILLAGE	2030	PROJECT SPONSOR(S): PATTON VILLAGE			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 1	2020	PROJECT SPONSOR(S): PINE ISLAND			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 2	2070	PROJECT SPONSOR(S): PINE ISLAND			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	2030	PROJECT SPONSOR(S): PLANTATION MUD			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLEAK	2020	PROJECT SPONSOR(S): PLEAK		\$-	\$-					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	2060	PROJECT SPONSOR(S): POINT AQUARIUS MUD			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST	2040	PROJECT SPONSOR(S): ROMAN FOREST			\$1,446,124.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			\$3,608,056.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 2	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 1	2020	PROJECT SPONSOR(S): SAN FELIPE			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 2	2050	PROJECT SPONSOR(S): SAN FELIPE			\$1,324,405.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SIRA GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (MONTGOMERY)			\$18,541,717.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 1	2030	PROJECT SPONSOR(S): SPRING VALLEY			\$2,350,250.00					

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	Current water supply project yield (ac ft/yr)	Funds expended to date (\$)	Project Cost (\$)	Year the project is online?*	Is this a phased project?*	(Phased) Ultimate volume (ac ft/yr)	(Phased) Ultimate project cost (\$)	Year project reaches maximum capacity?*
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 2	2050	PROJECT SPONSOR(S): SPRING VALLEY			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			\$1,866,551.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 3	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			\$1,324,405.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUGAR LAND GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			\$3,364,617.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY INC	2030	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC			\$1,567,843.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE CONSOLIDATED WSC	2020	PROJECT SPONSOR(S): THE CONSOLIDATED WSC			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD #6	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6			\$1,446,124.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	2040	PROJECT SPONSOR(S): WILLIS			\$2,009,915.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODBRANCH	2040	PROJECT SPONSOR(S): WOODBRANCH			\$1,080,966.00					
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK MUD	2030	PROJECT SPONSOR(S): WOODCREEK MUD			\$1,324,405.00					

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Table 11-A3 – Summary of Funding Mechanism and Other Factors

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefitting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	ALLENS CREEK RESERVOIR	2030	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; HOUSTON			Yes	No	No	
H	BRAZOS SALT WATER BARRIER	2030	PROJECT SPONSOR(S): DOW CHEMICAL USA			Yes	No	No	
H	BWA BRACKISH GROUNDWATER DEVELOPMENT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY	TWDB - SWIFT		Yes	No	No	
H	BWA CONVENTIONAL TREATMENT EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY	TWDB - Other	Drinking Water State Revolving Fund	Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	CHCRWA GRP	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	CHCRWA TRANSMISSION AND INTERNAL DISTRIBUTION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	CITY OF CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): CONROE			No			Reuse permit has been approved by TCEQ.
H	CITY OF HOUSTON GRP	2020	PROJECT SPONSOR(S): HOUSTON			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	CITY OF HOUSTON REUSE	2040	PROJECT SPONSOR(S): HOUSTON			No			
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 1	2040	PROJECT SPONSOR(S): HOUSTON			No			
H	CITY OF HOUSTON TREATMENT EXPANSION - PHASE 2	2060	PROJECT SPONSOR(S): HOUSTON			No			
H	CLOND WEST CHAMBERS SYSTEM	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	COH NORTHEAST WATER PURIFICATION PLANT EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY; CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH FORT BEND WATER AUTHORITY; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	COH, NHCRA, AND CHCRA SHARED TRANSMISSION	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY; HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	CONROE BRACKISH GROUNDWATER DESALINATION	2030	PROJECT SPONSOR(S): CONROE			No			
H	CONSERVATION - FLO COMMUNITY WSC	2050	WUG REDUCING DEMAND; FLO COMMUNITY WSC			Yes			Region C Demand Reduction strategy for a split WUG
H	DOW RESERVOIR AND PUMP STATION EXPANSION	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; DOW CHEMICAL USA	TWDB - SWIFT		Yes	No	No	
H	EAST TEXAS TRANSFER	2040	PROJECT SPONSOR(S): HOUSTON; LOWER NECHES VALLEY AUTHORITY; SABINE RIVER AUTHORITY			Yes			
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: BEASLEY			No			This WMS no longer recommended for this WUG.
H	EXPANDED USE OF GROUNDWATER, FORT BEND COUNTY	UNKNOWN	WMS SUPPLY RECIPIENT: MINING; FORT BEND			No			This WMS no longer recommended for this WUG.
H	FORT BEND MUD 25 GRP	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.
H	FORT BEND WCID 2 GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): FORT BEND COUNTY WCID #2			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	FREPORT SEAWATER DESALINATION	2040	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY			Yes	No	No	
H	GCWA REUSE FROM COH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; HOUSTON			No			Sponsors are no longer pursuing this project.
H	GRAND LAKES RECLAIMED WATER SYSTEM	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	TWDB - Other	Clean Water State Revolving Fund	No			
H	GROVETON WELL DEVELOPMENT	2020	PROJECT SPONSOR(S): GROVETON	TWDB - Other	Drinking Water State Revolving Fund (included in 2019 Intended Use Plan; funds not committed)	Yes			
H	INDUSTRIAL CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (AUSTIN)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (GALVESTON)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (HARRIS)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, LEON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LEON)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, MADISON COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MADISON)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, SAN JACINTO COUNTY	2050	PROJECT SPONSOR(S): MANUFACTURING (SAN JACINTO)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	INDUSTRIAL CONSERVATION, WALKER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALKER)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	INDUSTRIAL CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): MANUFACTURING (WALLER)	Other	Private funding	No	No	No	Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, AUSTIN COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (AUSTIN)			Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (BRAZORIA)	TWDB - Other	Agricultural Water Conservation Grants Program	Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (CHAMBERS)	TWDB - Other	Agricultural Water Conservation Grants Program	Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, FORT BEND COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)			Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, GALVESTON COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (GALVESTON)	TWDB - Other	Agricultural Water Conservation Grants Program	Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, HARRIS COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (HARRIS)			Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, LIBERTY COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)	TWDB - Other	Agricultural Water Conservation Grants Program	Yes			Project being implemented as economically feasible to sponsors.
H	IRRIGATION CONSERVATION, WALLER COUNTY	2020	PROJECT SPONSOR(S): IRRIGATION (WALLER)			Yes			Project being implemented as economically feasible to sponsors.
H	LAKE LIVINGSTON TO SJRA TRANSFER	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			Studies in Raw Water Supply Master Plan
H	LNVA IRRIGATION SYSTEM EXPANSION	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS); IRRIGATION (LIBERTY)			Yes			
H	LUCE BAYOU TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON	TWDB - SWIFT		No			
H	MISSOURI CITY GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): MISSOURI CITY	TWDB - Other	Clean Water State Revolving Fund	Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MONTGOMERY COUNTY MUDDS #8 AND #9 REUSE	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8; MONTGOMERY COUNTY MUD #9			No			Some components of this project are included in the 2021 RWP as part of the project MONTGOMERY COUNTY MUDDS 8 AND 9 GRP INFRASTRUCTURE.
H	MUNICIPAL CONSERVATION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BACLIFF MUD	2020	PROJECT SPONSOR(S): BACLIFF MUD			Yes			
H	MUNICIPAL CONSERVATION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BAYOU VISTA	2020	PROJECT SPONSOR(S): BAYOU VISTA			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, BEASLEY	2030	PROJECT SPONSOR(S): BEASLEY			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BELLAIRE	2020	PROJECT SPONSOR(S): BELLAIRE			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, BELLVILLE	2020	PROJECT SPONSOR(S): BELLVILLE			Yes			
H	MUNICIPAL CONSERVATION, BENDERS LANDING WATER SYSTEM	2020	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY			Yes			
H	MUNICIPAL CONSERVATION, BOLIVAR PENINSULA SUD	2030	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD			No			
H	MUNICIPAL CONSERVATION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA			Yes			
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2			Yes			
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #21	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #21			Yes			
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3			Yes			
H	MUNICIPAL CONSERVATION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6			Yes			
H	MUNICIPAL CONSERVATION, BROOKSHIRE	2020	PROJECT SPONSOR(S): BROOKSHIRE			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MUNICIPAL CONSERVATION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, BUFFALO	2020	PROJECT SPONSOR(S): BUFFALO			Yes			
H	MUNICIPAL CONSERVATION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE			Yes			
H	MUNICIPAL CONSERVATION, CENTERVILLE	2030	PROJECT SPONSOR(S): CENTERVILLE			Yes			
H	MUNICIPAL CONSERVATION, CENTRAL-HARRIS COUNTY REGIONAL WATER AUTHORITY	2020	PROJECT SPONSOR(S): CENTRAL-HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, CHIMNEY HILL MUD	2020	PROJECT SPONSOR(S): CHIMNEY HILL MUD			Yes			
H	MUNICIPAL CONSERVATION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, CLEVELAND	2050	PROJECT SPONSOR(S): CLEVELAND			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, CONCORD-ROBBINS WSC	2030	PROJECT SPONSOR(S): CONCORD-ROBBINS WSC			Yes			
H	MUNICIPAL CONSERVATION, CONROE	2020	PROJECT SPONSOR(S): CONROE			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - AUSTIN COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - CHAMBERS COUNTY	2050	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - FORT BEND COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - GALVESTON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - HARRIS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - LEON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LEON)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			Yes			
H	MUNICIPAL CONSERVATION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			Yes			
H	MUNICIPAL CONSERVATION, CROSBY MUD	2020	PROJECT SPONSOR(S): CROSBY MUD			Yes			
H	MUNICIPAL CONSERVATION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT			Yes			
H	MUNICIPAL CONSERVATION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY			Yes			
H	MUNICIPAL CONSERVATION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			Yes			
H	MUNICIPAL CONSERVATION, EAST PLANTATION UD	2020	PROJECT SPONSOR(S): EAST PLANTATION UD			Yes			
H	MUNICIPAL CONSERVATION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD			Yes			
H	MUNICIPAL CONSERVATION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, FLO COMMUNITY WSC	2020	PROJECT SPONSOR(S): FLO COMMUNITY WSC			Yes			
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #116	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116			Yes			
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #121	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			Yes			
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #23	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MUNICIPAL CONSERVATION, FORT BEND COUNTY MUD #25	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, FRIENDSWOOD	2020	PROJECT SPONSOR(S): FRIENDSWOOD			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, FULSHEAR	2020	PROJECT SPONSOR(S): FULSHEAR			Yes			
H	MUNICIPAL CONSERVATION, G & W WSC	2020	PROJECT SPONSOR(S): G AND W WSC			Yes			
H	MUNICIPAL CONSERVATION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, GREATWOOD	2020	PROJECT SPONSOR(S): GREATWOOD			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later. Sponsor is now part of the SUGAR LAND WUG.
H	MUNICIPAL CONSERVATION, GREEN TRAILS MUD	2020	PROJECT SPONSOR(S): GREEN TRAILS MUD			Yes			
H	MUNICIPAL CONSERVATION, GREENWOOD UD	2020	PROJECT SPONSOR(S): GREENWOOD UD			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #111	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #111			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #119	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #132	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #148 - KINGSLAKE	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #148 - KINGSLAKE			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #151	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #152	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #153	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #158	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #158			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #189	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #221	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #278	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #46	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #5	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #5			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #55	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #55			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #8	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #8			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #14	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #14			No			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #133	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133			Yes			
H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74			Yes			

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H	MUNICIPAL CONSERVATION, HARRIS COUNTY WCID #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #96			Yes			
H	MUNICIPAL CONSERVATION, HEDWIG VILLAGE	2020	PROJECT SPONSOR(S): HEDWIG VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD			Yes			
H	MUNICIPAL CONSERVATION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST			Yes			
H	MUNICIPAL CONSERVATION, HILSHIRE VILLAGE	2020	PROJECT SPONSOR(S): HILSHIRE VILLAGE			Yes			
H	MUNICIPAL CONSERVATION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK			Yes			
H	MUNICIPAL CONSERVATION, HOLIDAY LAKES	2020	PROJECT SPONSOR(S): HOLIDAY LAKES			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, HUNTERS CREEK VILLAGE	2020	PROJECT SPONSOR(S): HUNTERS CREEK VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, INDIGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, JACINTO CITY	2020	PROJECT SPONSOR(S): JACINTO CITY			Yes			
H	MUNICIPAL CONSERVATION, JAMAICA BEACH	2020	PROJECT SPONSOR(S): JAMAICA BEACH			Yes			
H	MUNICIPAL CONSERVATION, JERSEY VILLAGE	2020	PROJECT SPONSOR(S): JERSEY VILLAGE			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, JEWETT	2020	PROJECT SPONSOR(S): JEWETT			Yes			
H	MUNICIPAL CONSERVATION, JONES CREEK	2020	PROJECT SPONSOR(S): JONES CREEK			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, KATY	2020	PROJECT SPONSOR(S): KATY			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, KINGS MANOR MUD	2020	PROJECT SPONSOR(S): KINGS MANOR MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, KIRK MOUNT MUD	2020	PROJECT SPONSOR(S): KIRK MOUNT MUD			Yes			

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H	MUNICIPAL CONSERVATION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, LEAGUE CITY	2020	PROJECT SPONSOR(S): LEAGUE CITY			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, LONGHORN TOWN UD	2020	PROJECT SPONSOR(S): LONGHORN TOWN UD			Yes			
H	MUNICIPAL CONSERVATION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, MANVEL	2020	PROJECT SPONSOR(S): MANVEL			Yes			
H	MUNICIPAL CONSERVATION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD			Yes			
H	MUNICIPAL CONSERVATION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE			Yes			
H	MUNICIPAL CONSERVATION, MISSOURI CITY	2020	PROJECT SPONSOR(S): MISSOURI CITY			Yes			
H	MUNICIPAL CONSERVATION, MONT BELVIEU	2020	PROJECT SPONSOR(S): MONT BELVIEU			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY	2020	PROJECT SPONSOR(S): MONTGOMERY			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #15	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #18	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #8	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #8			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #83	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #83			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #9	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #9			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY MUD #94	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #2	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #2			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #3	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #3			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY UD #4	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY UD #4			Yes			
H	MUNICIPAL CONSERVATION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1			Yes			
H	MUNICIPAL CONSERVATION, MOUNT HOUSTON ROAD MUD	2020	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD			Yes			
H	MUNICIPAL CONSERVATION, NASSAU BAY	2020	PROJECT SPONSOR(S): NASSAU BAY			Yes			
H	MUNICIPAL CONSERVATION, NEEDVILLE	2020	PROJECT SPONSOR(S): NEEDVILLE			Yes			
H	MUNICIPAL CONSERVATION, NEW CANEY MUD	2020	PROJECT SPONSOR(S): NEW CANEY MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, NHCRA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, NORMANGEE	2030	PROJECT SPONSOR(S): NORMANGEE			Yes			
H	MUNICIPAL CONSERVATION, NORTH BELT UD	2020	PROJECT SPONSOR(S): NORTH BELT UD			Yes			
H	MUNICIPAL CONSERVATION, NORTH CHANNEL WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH CHANNEL WATER AUTHORITY			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.

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H	MUNICIPAL CONSERVATION, NORTH FORT BEND WATER AUTHORITY	2020	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD			Yes			
H	MUNICIPAL CONSERVATION, NORTHWEST PARK MUD	2020	PROJECT SPONSOR(S): NORTHWEST PARK MUD			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, OAK RIDGE NORTH	2020	PROJECT SPONSOR(S): OAK RIDGE NORTH			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, OAKWOOD	2040	PROJECT SPONSOR(S): OAKWOOD			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK			Yes			
H	MUNICIPAL CONSERVATION, PANORAMA VILLAGE	2020	PROJECT SPONSOR(S): PANORAMA VILLAGE			Yes			
H	MUNICIPAL CONSERVATION, PARKWAY UD	2020	PROJECT SPONSOR(S): PARKWAY UD			Yes			
H	MUNICIPAL CONSERVATION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, PINE ISLAND	2030	PROJECT SPONSOR(S): PINE ISLAND			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, PINEY POINT VILLAGE	2020	PROJECT SPONSOR(S): PINEY POINT VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD			Yes			
H	MUNICIPAL CONSERVATION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD			No			

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H	MUNICIPAL CONSERVATION, PRAIRIE VIEW	2020	PROJECT SPONSOR(S): PRAIRIE VIEW			Yes			
H	MUNICIPAL CONSERVATION, RAYFORD ROAD MUD	2020	PROJECT SPONSOR(S): RAYFORD ROAD MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, RICHMOND	2020	PROJECT SPONSOR(S): RICHMOND			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD			Yes			
H	MUNICIPAL CONSERVATION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD			Yes			
H	MUNICIPAL CONSERVATION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later. Sponsor name updated to Roman Forest Consolidated MUD.
H	MUNICIPAL CONSERVATION, ROSENBERG	2020	PROJECT SPONSOR(S): ROSENBERG			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD			Yes			
H	MUNICIPAL CONSERVATION, SAN FELIPE	2020	PROJECT SPONSOR(S): SAN FELIPE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD			No			
H	MUNICIPAL CONSERVATION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, SEALY	2020	PROJECT SPONSOR(S): SEALY			Yes			
H	MUNICIPAL CONSERVATION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH			Yes			
H	MUNICIPAL CONSERVATION, SHOREACRES	2020	PROJECT SPONSOR(S): SHOREACRES			Yes			
H	MUNICIPAL CONSERVATION, SIENNA PLANTATION	2020	PROJECT SPONSOR(S): SIENNA PLANTATION			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON			No			Sponsor is no longer a WUG.

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H	MUNICIPAL CONSERVATION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, SOUTHERN MONTGOMERY COUNTY MUD	2020	PROJECT SPONSOR(S): SOUTHERN MONTGOMERY COUNTY MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE			Yes			
H	MUNICIPAL CONSERVATION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA			Yes			
H	MUNICIPAL CONSERVATION, SPRING CREEK UD	2020	PROJECT SPONSOR(S): SPRING CREEK UD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY			Yes			
H	MUNICIPAL CONSERVATION, STAFFORD	2020	PROJECT SPONSOR(S): STAFFORD			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, STAGECOACH	2020	PROJECT SPONSOR(S): STAGECOACH			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, STANLEY LAKE MUD	2020	PROJECT SPONSOR(S): STANLEY LAKE MUD			Yes			
H	MUNICIPAL CONSERVATION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY			Yes			
H	MUNICIPAL CONSERVATION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, THE COMMONS WATER SUPPLY INC	2020	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC			Yes			
H	MUNICIPAL CONSERVATION, THE WOODLANDS	2020	PROJECT SPONSOR(S): THE WOODLANDS			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	MUNICIPAL CONSERVATION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, TRAIL OF THE LAKES MUD	2020	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD			Yes			

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H	MUNICIPAL CONSERVATION, TRINITY BAY CONSERVATION DISTRICT	2040	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD			Yes			
H	MUNICIPAL CONSERVATION, WALLER	2020	PROJECT SPONSOR(S): WALLER			Yes			
H	MUNICIPAL CONSERVATION, WALLIS	2030	PROJECT SPONSOR(S): WALLIS			Yes			
H	MUNICIPAL CONSERVATION, WEBSTER	2020	PROJECT SPONSOR(S): WEBSTER			Yes			
H	MUNICIPAL CONSERVATION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA			Yes			
H	MUNICIPAL CONSERVATION, WEST HARRIS COUNTY MUD #6	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6			Yes			
H	MUNICIPAL CONSERVATION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE			Yes			West University Place has partnered with the Harris-Galveston Subside District to provide conservation education to school children through the sponsorship of 3,000 students annually in a regional program. The sponsor has also implemented a water conservation maintenance program involving automated metering infrastructure for all meters, metering of all city uses and providing the available resource of hourly consumption levels for our customers.
H	MUNICIPAL CONSERVATION, WESTON LAKES	2020	PROJECT SPONSOR(S): WESTON LAKES			No			Sponsor is no longer a WUG.
H	MUNICIPAL CONSERVATION, WESTWOOD NORTH WSC	2020	PROJECT SPONSOR(S): WESTWOOD NORTH WSC			Yes			
H	MUNICIPAL CONSERVATION, WHCRWA	2020	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			Required to submit a WCP.
H	MUNICIPAL CONSERVATION, WILLIS	2020	PROJECT SPONSOR(S): WILLIS			Yes			
H	MUNICIPAL CONSERVATION, WINDFERN FOREST UD	2020	PROJECT SPONSOR(S): WINDFERN FOREST UD			No			Sponsor is no longer a WUG.

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H	MUNICIPAL CONSERVATION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later. Sponsor name updated to WOOD BRANCH VILLAGE.
H	MUNICIPAL CONSERVATION, WOODCREEK MUD	2020	PROJECT SPONSOR(S): WOODCREEK MUD			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, BRAZORIA COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, CHCRWA	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, FORT BEND COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, HARRIS COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, MONTGOMERY COUNTY	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NFBWA	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	TWDB - Other	Clean Water State Revolving Fund	Yes			Early phases represented in 2021 RWP as NFBWA Member District Reuse; later phases as part of Wastewater Reclamation for Municipal Irrigation.
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, NHCRA	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	MUNICIPAL IRRIGATION REUSE DEVELOPMENT, WHCRWA	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	NEW / EXPANDED CONTRACT WITH BRA - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; COUNTY-OTHER (BRAZORIA)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH BRA.
H	NEW / EXPANDED CONTRACT WITH BRA - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MANUFACTURING (BRAZORIA)			No			
H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH BRA - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; MINING (BRAZORIA)			No			
H	NEW / EXPANDED CONTRACT WITH BRA - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): BRAZOS RIVER AUTHORITY; STEAM ELECTRIC POWER (FORT BEND); NRG			No			
H	NEW / EXPANDED CONTRACT WITH BWA - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON; BRAZOSPORT WATER AUTHORITY			No			
H	NEW / EXPANDED CONTRACT WITH BWA - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA; BRAZOSPORT WATER AUTHORITY			No			
H	NEW / EXPANDED CONTRACT WITH BWA - CLUTE	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; CLUTE			No			
H	NEW / EXPANDED CONTRACT WITH BWA - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SJB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH BWA.
H	NEW / EXPANDED CONTRACT WITH BWA - FREEPORT	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; FREEPORT			No			
H	NEW / EXPANDED CONTRACT WITH BWA - LAKE JACKSON	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; LAKE JACKSON			No			
H	NEW / EXPANDED CONTRACT WITH BWA - MANUFACTURING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; MANUFACTURING (BRAZORIA)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH BWA.
H	NEW / EXPANDED CONTRACT WITH BWA - OYSTER CREEK	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; OYSTER CREEK			No			
H	NEW / EXPANDED CONTRACT WITH BWA - RICHWOOD	2020	PROJECT SPONSOR(S): BRAZOSPORT WATER AUTHORITY; RICHWOOD			No			
H	NEW / EXPANDED CONTRACT WITH CLCND - COUNTY-OTHER, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): CHAMBERS-LIBERTY COUNTIES NAVIGATION DISTRICT; COUNTY-OTHER (CHAMBERS)			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH COH - COUNTY-OTHER, HARRIS COUNTY (TS)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS); HOUSTON			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH COH - FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION; HOUSTON			No			
H	NEW / EXPANDED CONTRACT WITH COH - KIRKMONT MUD	2070	PROJECT SPONSOR(S): HOUSTON; KIRKMONT MUD			No			
H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (SJ)	2050	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)			No			
H	NEW / EXPANDED CONTRACT WITH COH - MANUFACTURING, HARRIS COUNTY (SJB)	2030	PROJECT SPONSOR(S): HOUSTON; MANUFACTURING (HARRIS)			No			
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (SJ)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH COH - MINING, HARRIS COUNTY (TS)	2020	PROJECT SPONSOR(S): HOUSTON; MINING (HARRIS)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH COH - MISSOURI CITY, HARRIS COUNTY	2060	PROJECT SPONSOR(S): HOUSTON; MISSOURI CITY			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (SI)	2030	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH COH - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): HOUSTON; STEAM ELECTRIC POWER (HARRIS); NRG			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH CITY OF HOUSTON.
H	NEW / EXPANDED CONTRACT WITH GCWA - ARCOLA	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; ARCOLA			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; CLEAR LAKE SHORES			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (BRAZORIA)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (SI)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - COUNTY-OTHER, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; COUNTY-OTHER (GALVESTON)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - KEMAH	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; KEMAH			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - LA MARQUE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; LA MARQUE			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - MANUFACTURING, FORT BEND COUNTY (SIB)	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANUFACTURING (FORT BEND)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH GCWA.
H	NEW / EXPANDED CONTRACT WITH GCWA - MANVEL	2030	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MANVEL			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, BRAZORIA COUNTY (SJB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (BRAZORIA)			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - MINING, GALVESTON COUNTY (SJB)	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MINING (GALVESTON)			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - MISSOURI CITY	2050	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; MISSOURI CITY			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - SANTA FE	2020	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SANTA FE			No			
H	NEW / EXPANDED CONTRACT WITH GCWA - SIENNA PLANTATION	2070	PROJECT SPONSOR(S): GULF COAST WATER AUTHORITY; SIENNA PLANTATION			No			
H	NEW / EXPANDED CONTRACT WITH LNVA - COUNTY-OTHER, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; COUNTY-OTHER (GALVESTON)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH LNVA.
H	NEW / EXPANDED CONTRACT WITH LNVA - IRRIGATION, CHAMBERS COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (CHAMBERS)			No			
H	NEW / EXPANDED CONTRACT WITH LNVA - IRRIGATION, LIBERTY COUNTY	2040	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; IRRIGATION (LIBERTY)			No			
H	NEW / EXPANDED CONTRACT WITH LNVA - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): LOWER NECHES VALLEY AUTHORITY; MINING (GALVESTON)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH LNVA.
H	NEW / EXPANDED CONTRACT WITH SIRA - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; BENDERS LANDING WATER SYSTEM			No			
H	NEW / EXPANDED CONTRACT WITH SIRA - COUNTY-OTHER, MONTGOMERY COUNTY (SI)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; COUNTY-OTHER (MONTGOMERY)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH SIRA - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD; SAN JACINTO RIVER AUTHORITY			No			
H	NEW / EXPANDED CONTRACT WITH SIRA - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; INDIGO LAKE WATER SYSTEM			No			
H	NEW / EXPANDED CONTRACT WITH SIRA - MANUFACTURING, MONTGOMERY COUNTY (S)	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MANUFACTURING (MONTGOMERY)			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - MONTGOMERY	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - MONTGOMERY COUNTY MUD #18	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; MONTGOMERY COUNTY MUD #18			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; PANORAMA VILLAGE			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; RIVER PLANTATION MUD			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NEW / EXPANDED CONTRACT WITH SIRA - SHENANDOAH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; SHENANDOAH			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - STAGECOACH	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STAGECOACH			No			
H	NEW / EXPANDED CONTRACT WITH SIRA - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STANLEY LAKE MUD			No			Individual contracts no longer shown as projects due to zero cost. This contract / contract expansion is shown in the 2021 RWP as part of the WMS NEW / EXPANDED CONTRACT WITH SIRA.
H	NEW / EXPANDED CONTRACT WITH SIRA - STEAM ELECTRIC POWER, MONTGOMERY COUNTY (SJ)	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY; STEAM ELECTRIC POWER (MONTGOMERY)			No			
H	NEW / EXPANDED CONTRACT WITH SUGAR LAND - FORT BEND MUD 25	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #25; SUGAR LAND			No			
H	NFBWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	NFBWA PHASE 2 DISTRIBUTION SEGMENTS	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY	TWDB - SWIFT		Yes			
H	NHCRWA DISTRIBUTION EXPANSION - 2025 PHASE	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	NHCRWA DISTRIBUTION EXPANSION - 2035 PHASE	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	NHCRWA DISTRIBUTION EXPANSION - 2045 PHASE	2050	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	NHCRWA GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	NHCRWA TRANSMISSION LINES	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	OLD GALVESTON ROAD TRANSMISSION IMPROVEMENTS	2020	PROJECT SPONSOR(S): HOUSTON			Yes			Project renamed in 2021 RWP as Southeast Transmission Line.
H	PANORAMA AND SHENANDOAH GRP INFRASTRUCTURE	2040	PROJECT SPONSOR(S): PANORAMA VILLAGE; SHENANDOAH			No			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.
H	PEARLAND REUSE INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PEARLAND			Yes			
H	PEARLAND SURFACE WATER TREATMENT PLANT DEVELOPMENT	2030	PROJECT SPONSOR(S): PEARLAND	Other	Drinking Water State Revolving Fund; Impact fees; Revenue Bonds	Yes			
H	PORTER SUD GRP INFRASTRUCTURE	2020	PROJECT SPONSOR(S): PORTER SUD			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.
H	REALLOCATE EXISTING SUPPLY	2030	WMS SUPPLY RECIPIENT: MISSOURI CITY			No			
H	REALLOCATE EXISTING SUPPLY	2040	WMS SUPPLY RECIPIENT: MISSOURI CITY			No			
H	REGIONAL RETURN FLOWS DEVELOPMENT	2020	PROJECT SPONSOR(S): HOUSTON; NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY; SAN JACINTO RIVER AUTHORITY			Yes			Project is a zero-cost permit-based strategy and has been incorporated in the 2021 RWP as source development as part of other WMS.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	RICHMOND GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): RICHMOND			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.
H	RIVER PLANTATION REUSE EXPANSION	2030	PROJECT SPONSOR(S): EAST PLANTATION UD; RIVER PLANTATION MUD			No			
H	ROSENBERG GRP INFRASTRUCTURE	2030	PROJECT SPONSOR(S): ROSENBERG			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Contracts between GRP participants are already in place; infrastructure projects are in progress.
H	SIRA CATAHOULIA AQUIFER SUPPLIES	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			
H	SIRA CONROE REUSE PROJECT	2020	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			No			Reuse permit has been approved by TCEQ.
H	SIRA GROUNDWATER REDUCTION PLAN - 2025 PHASE	2030	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			
H	SIRA GROUNDWATER REDUCTION PLAN - 2035 PHASE	2040	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			
H	SIRA GROUNDWATER REDUCTION PLAN - 2045 PHASE	2050	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			
H	SIRA GROUNDWATER REDUCTION PLAN - 2055 PHASE	2060	PROJECT SPONSOR(S): SAN JACINTO RIVER AUTHORITY			Yes			
H	SUGAR LAND GRP	2030	PROJECT SPONSOR(S): SUGAR LAND			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	SUGAR LAND GRP - REUSE INFRASTRUCTURE	2030	PROJECT SPONSOR(S): SUGAR LAND			Yes			
H	SUGAR LAND SURFACE WATER TREATMENT EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND			Yes			
H	SUGAR LAND TRANSMISSION EXPANSION	2030	PROJECT SPONSOR(S): SUGAR LAND			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	TRA TO COH TRANSFER	2020	PROJECT SPONSOR(S): HOUSTON; TRINITY RIVER AUTHORITY			No			Project indicated a new water supply contract between TRA and COH. Contract has been executed.
H	WATER LOSS REDUCTION, ALVIN	2020	PROJECT SPONSOR(S): ALVIN			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, AMES	2020	PROJECT SPONSOR(S): AMES			No			
H	WATER LOSS REDUCTION, ANAHUAC	2020	PROJECT SPONSOR(S): ANAHUAC			Yes			
H	WATER LOSS REDUCTION, ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON			Yes			
H	WATER LOSS REDUCTION, ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA			No			
H	WATER LOSS REDUCTION, BACLIFF MUD	2020	PROJECT SPONSOR(S): BACLIFF MUD			No			
H	WATER LOSS REDUCTION, BAILEY'S PRAIRIE	2020	PROJECT SPONSOR(S): BAILEY'S PRAIRIE			No			
H	WATER LOSS REDUCTION, BAYTOWN	2020	PROJECT SPONSOR(S): BAYTOWN			Yes			
H	WATER LOSS REDUCTION, BEASLEY	2060	PROJECT SPONSOR(S): BEASLEY			No			
H	WATER LOSS REDUCTION, BLUE BELL MANOR UTILITY COMPANY	2020	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY			No			
H	WATER LOSS REDUCTION, BOLIVAR PENINSULA SUD	2020	PROJECT SPONSOR(S): BOLIVAR PENINSULA SUD			Yes			
H	WATER LOSS REDUCTION, BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA			No			
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #2	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #2			Yes			
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #3	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #3			No			
H	WATER LOSS REDUCTION, BRAZORIA COUNTY MUD #6	2020	PROJECT SPONSOR(S): BRAZORIA COUNTY MUD #6			No			
H	WATER LOSS REDUCTION, BROOKSIDE VILLAGE	2020	PROJECT SPONSOR(S): BROOKSIDE VILLAGE			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, BUNKER HILL VILLAGE	2020	PROJECT SPONSOR(S): BUNKER HILL VILLAGE			No			
H	WATER LOSS REDUCTION, CLEAR BROOK CITY MUD	2020	PROJECT SPONSOR(S): CLEAR BROOK CITY MUD			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES			No			Sponsor is no longer a WUG.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WATER LOSS REDUCTION, CLEVELAND	2020	PROJECT SPONSOR(S): CLEVELAND			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, CLUTE	2020	PROJECT SPONSOR(S): CLUTE			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, COLDSRING	2020	PROJECT SPONSOR(S): COLDSRING			No			
H	WATER LOSS REDUCTION, COUNTY-OTHER - BRAZORIA COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			No			
H	WATER LOSS REDUCTION, COUNTY-OTHER - CHAMBERS COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)			No			
H	WATER LOSS REDUCTION, COUNTY-OTHER - LIBERTY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)			Yes			
H	WATER LOSS REDUCTION, COUNTY-OTHER - MADISON COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)			Yes			
H	WATER LOSS REDUCTION, COUNTY-OTHER - POLK COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (POLK)			Yes			
H	WATER LOSS REDUCTION, COUNTY-OTHER - TRINITY COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (TRINITY)			No			
H	WATER LOSS REDUCTION, COUNTY-OTHER - WALKER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALKER)			No			
H	WATER LOSS REDUCTION, COUNTY-OTHER - WALLER COUNTY	2020	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			Yes			
H	WATER LOSS REDUCTION, COVE	2020	PROJECT SPONSOR(S): COVE			No			
H	WATER LOSS REDUCTION, CROSBY MUD	2020	PROJECT SPONSOR(S): CROSBY MUD			Yes			
H	WATER LOSS REDUCTION, CUT AND SHOOT	2020	PROJECT SPONSOR(S): CUT AND SHOOT			No			
H	WATER LOSS REDUCTION, DAISSETTA	2020	PROJECT SPONSOR(S): DAISSETTA			No			
H	WATER LOSS REDUCTION, DANBURY	2020	PROJECT SPONSOR(S): DANBURY			No			
H	WATER LOSS REDUCTION, DEER PARK	2020	PROJECT SPONSOR(S): DEER PARK			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, DICKINSON	2020	PROJECT SPONSOR(S): DICKINSON			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			No			

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H	WATER LOSS REDUCTION, EL DORADO UD	2020	PROJECT SPONSOR(S): EL DORADO UD			Yes			
H	WATER LOSS REDUCTION, EL LAGO	2020	PROJECT SPONSOR(S): EL LAGO			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, FAIRCHILDS	2020	PROJECT SPONSOR(S): FAIRCHILDS			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, FORT BEND COUNTY MUD #129	2020	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			No			
H	WATER LOSS REDUCTION, FOUNTAINVIEW SUBDIVISION	2020	PROJECT SPONSOR(S): FOUNTAINVIEW SUBDIVISION			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, GALENA PARK	2020	PROJECT SPONSOR(S): GALENA PARK			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, GALVESTON	2020	PROJECT SPONSOR(S): GALVESTON			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, GROVETON	2020	PROJECT SPONSOR(S): GROVETON			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, HARDIN	2020	PROJECT SPONSOR(S): HARDIN			No			
H	WATER LOSS REDUCTION, HARDIN WSC	2020	PROJECT SPONSOR(S): HARDIN WSC			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #106	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106			Yes			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #11	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11			Yes			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #154	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #180	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180			Yes			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #290	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #345	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #400 - WEST	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #49	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #49			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #50	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #50			Yes			
H	WATER LOSS REDUCTION, HARRIS COUNTY MUD #96	2020	PROJECT SPONSOR(S): HARRIS COUNTY MUD #96			No			
H	WATER LOSS REDUCTION, HARRIS COUNTY UD #15	2020	PROJECT SPONSOR(S): HARRIS COUNTY UD #15			No			

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H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #1	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #1			Yes			
H	WATER LOSS REDUCTION, HARRIS COUNTY WCID #74	2020	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74			No			
H	WATER LOSS REDUCTION, HEMPSTEAD	2020	PROJECT SPONSOR(S): HEMPSTEAD			No			
H	WATER LOSS REDUCTION, HILLCREST	2020	PROJECT SPONSOR(S): HILLCREST			Yes			
H	WATER LOSS REDUCTION, HITCHCOCK	2020	PROJECT SPONSOR(S): HITCHCOCK			No			
H	WATER LOSS REDUCTION, HOUSTON	2020	PROJECT SPONSOR(S): HOUSTON			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, HUMBLE	2020	PROJECT SPONSOR(S): HUMBLE			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, INDIGO LAKE WATER SYSTEM	2020	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			No			
H	WATER LOSS REDUCTION, IOWA COLONY	2020	PROJECT SPONSOR(S): IOWA COLONY			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, KEMAH	2020	PROJECT SPONSOR(S): KEMAH			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, KENEFICK	2020	PROJECT SPONSOR(S): KENEFICK			No			
H	WATER LOSS REDUCTION, KIRKMONT/MIUD	2020	PROJECT SPONSOR(S): KIRKMONT/MIUD			No			
H	WATER LOSS REDUCTION, LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, LA PORTE	2020	PROJECT SPONSOR(S): LA PORTE			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, LAKE LIVINGSTON WATER SUPPLY & SEWER SERVICE COMPANY	2020	PROJECT SPONSOR(S): LAKE LIVINGSTON WATER SUPPLY AND SEWER SERVICE COMPANY			Yes			
H	WATER LOSS REDUCTION, LAKE WINDCREST WATER SYSTEM	2020	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			No			
H	WATER LOSS REDUCTION, LIBERTY	2020	PROJECT SPONSOR(S): LIBERTY			Yes			
H	WATER LOSS REDUCTION, MADISONVILLE	2020	PROJECT SPONSOR(S): MADISONVILLE			Yes			
H	WATER LOSS REDUCTION, MAGNOLIA	2020	PROJECT SPONSOR(S): MAGNOLIA			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.

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H	WATER LOSS REDUCTION, MASON CREEK UD	2020	PROJECT SPONSOR(S): MASON CREEK UD			No			
H	WATER LOSS REDUCTION, MEADOWS PLACE	2020	PROJECT SPONSOR(S): MEADOWS PLACE			No			
H	WATER LOSS REDUCTION, MONT BELVIEU	2020	PROJECT SPONSOR(S): MONT BELVIEU			No			
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #19	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY MUD #89	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, MONTGOMERY COUNTY WCID #1	2020	PROJECT SPONSOR(S): MONTGOMERY COUNTY WCID #1			No			
H	WATER LOSS REDUCTION, MASSAU BAY	2020	PROJECT SPONSOR(S): MASSAU BAY			Yes			
H	WATER LOSS REDUCTION, NEWPORT MUD	2020	PROJECT SPONSOR(S): NEWPORT MUD			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, NHCRA	2020	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			No			
H	WATER LOSS REDUCTION, NORMANGEE	2040	PROJECT SPONSOR(S):			No			
H	WATER LOSS REDUCTION, NORTH GREEN MUD	2020	PROJECT SPONSOR(S): NORTH GREEN MUD			No			
H	WATER LOSS REDUCTION, OLD RIVER-WINFREE	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE			No			
H	WATER LOSS REDUCTION, ONALASKA	2020	PROJECT SPONSOR(S): ONALASKA			Yes			
H	WATER LOSS REDUCTION, OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK			No			
H	WATER LOSS REDUCTION, PASADENA	2020	PROJECT SPONSOR(S): PASADENA			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, PATTON VILLAGE	2020	PROJECT SPONSOR(S): PATTON VILLAGE			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, PEARLAND	2020	PROJECT SPONSOR(S): PEARLAND			Yes			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.

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H	WATER LOSS REDUCTION, PECAN GROVE MUD #1	2020	PROJECT SPONSOR(S): PECAN GROVE MUD #1			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, PLANTATION MUD	2020	PROJECT SPONSOR(S): PLANTATION MUD			No			
H	WATER LOSS REDUCTION, PLEAK	2020	PROJECT SPONSOR(S): PLEAK			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, PLUM GROVE	2020	PROJECT SPONSOR(S): PLUM GROVE			No			
H	WATER LOSS REDUCTION, POINT AQUARIUS MUD	2020	PROJECT SPONSOR(S): POINT AQUARIUS MUD			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later.
H	WATER LOSS REDUCTION, PORTER SUD	2020	PROJECT SPONSOR(S): PORTER SUD			No			
H	WATER LOSS REDUCTION, RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD			Yes			
H	WATER LOSS REDUCTION, RIVER PLANTATION MUD	2020	PROJECT SPONSOR(S): RIVER PLANTATION MUD			No			
H	WATER LOSS REDUCTION, RIVERSIDE	2020	PROJECT SPONSOR(S): RIVERSIDE			No			
H	WATER LOSS REDUCTION, ROMAN FOREST	2020	PROJECT SPONSOR(S): ROMAN FOREST			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later. Sponsor name updated to Roman Forest Consolidated MUD.
H	WATER LOSS REDUCTION, SAGEMEADOW UD	2020	PROJECT SPONSOR(S): SAGEMEADOW UD			No			
H	WATER LOSS REDUCTION, SAN JACINTO SUD	2020	PROJECT SPONSOR(S): SAN JACINTO SUD			No			
H	WATER LOSS REDUCTION, SAN LEON MUD	2020	PROJECT SPONSOR(S): SAN LEON MUD			No			
H	WATER LOSS REDUCTION, SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, SEABROOK	2020	PROJECT SPONSOR(S): SEABROOK			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, SHENANDOAH	2020	PROJECT SPONSOR(S): SHENANDOAH			No			
H	WATER LOSS REDUCTION, SHEPHERD	2020	PROJECT SPONSOR(S): SHEPHERD			No			
H	WATER LOSS REDUCTION, SIMONTON	2020	PROJECT SPONSOR(S): SIMONTON			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, SOUTH HOUSTON	2020	PROJECT SPONSOR(S): SOUTH HOUSTON			Yes			Required to submit a WCP.

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H	WATER LOSS REDUCTION, SOUTHSIDE PLACE	2020	PROJECT SPONSOR(S): SOUTHSIDE PLACE			No			
H	WATER LOSS REDUCTION, SPLENDORA	2020	PROJECT SPONSOR(S): SPLENDORA			Yes			
H	WATER LOSS REDUCTION, SPRING VALLEY	2020	PROJECT SPONSOR(S): SPRING VALLEY			No			
H	WATER LOSS REDUCTION, STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, SUGAR LAND	2020	PROJECT SPONSOR(S): SUGAR LAND			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, SUNBELT FWSD	2020	PROJECT SPONSOR(S): SUNBELT FWSD			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, SWEENEY	2020	PROJECT SPONSOR(S): SWEENEY			No			
H	WATER LOSS REDUCTION, TAYLOR LAKE VILLAGE	2020	PROJECT SPONSOR(S): TAYLOR LAKE VILLAGE			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, TEXAS CITY	2020	PROJECT SPONSOR(S): TEXAS CITY			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, TIKI ISLAND	2020	PROJECT SPONSOR(S): TIKI ISLAND			No			Sponsor is no longer a WUG.
H	WATER LOSS REDUCTION, TOMBALL	2020	PROJECT SPONSOR(S): TOMBALL			Yes			Required to submit a WCP.
H	WATER LOSS REDUCTION, TRINITY	2020	PROJECT SPONSOR(S): TRINITY			No			
H	WATER LOSS REDUCTION, TRINITY BAY CONSERVATION DISTRICT	2020	PROJECT SPONSOR(S): TRINITY BAY CONSERVATION DISTRICT			No			Required to submit a WCP.
H	WATER LOSS REDUCTION, TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC			Yes			
H	WATER LOSS REDUCTION, VARNER CREEK UD	2020	PROJECT SPONSOR(S): VARNER CREEK UD			Yes			
H	WATER LOSS REDUCTION, WALLER	2020	PROJECT SPONSOR(S): WALLER			Yes			
H	WATER LOSS REDUCTION, WALLIS	2020	PROJECT SPONSOR(S): WALLIS			Yes			
H	WATER LOSS REDUCTION, WEST COLUMBIA	2020	PROJECT SPONSOR(S): WEST COLUMBIA			No			
H	WATER LOSS REDUCTION, WEST HARDIN WSC	2020	PROJECT SPONSOR(S): WEST HARDIN WSC			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WATER LOSS REDUCTION, WEST UNIVERSITY PLACE	2020	PROJECT SPONSOR(S): WEST UNIVERSITY PLACE			No			West University Place has partnered with the Harris-Galveston Subsidence District to provide conservation education to school children through the sponsorship of 3,000 students annually in a regional program. The sponsor has also implemented a water conservation maintenance program involving automated metering infrastructure for all meters, metering of all city uses and providing the available resource of hourly consumption levels for our customers.
H	WATER LOSS REDUCTION, WOODBRANCH	2020	PROJECT SPONSOR(S): WOODBRANCH			No			Sponsor has adopted an updated Water Conservation Plan in 2015 or later. Sponsor name updated to WOOD BRANCH VILLAGE.
H	WATER LOSS REDUCTION, WOODLAND HILLS WATER COMPANY	2020	PROJECT SPONSOR(S): WOODLAND HILLS WATER COMPANY			No			
H	WEST HARRIS COUNTY GROUNDWATER REDUCTION PLAN	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			Groundwater Reduction Plan is an ongoing program and water management strategy. Zero-cost project in 2016 RWP represented contracts between GRP participants, which are already in place.
H	WHCRWA 2025 DISTRIBUTION EXPANSION	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	WHCRWA 2035 DISTRIBUTION EXPANSION	2040	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	WHCRWA/NBWA TRANSMISSION LINE	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY; WEST HARRIS COUNTY REGIONAL WATER AUTHORITY	TWDB - SWIFT		Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)			Yes			

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H	WUG INFRASTRUCTURE EXPANSION - ANGLETON	2020	PROJECT SPONSOR(S): ANGLETON			Yes			
H	WUG INFRASTRUCTURE EXPANSION - ARCOLA	2020	PROJECT SPONSOR(S): ARCOLA			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - BENDERS LANDING WATER SYSTEM	2060	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - BRAZORIA	2020	PROJECT SPONSOR(S): BRAZORIA			No			
H	WUG INFRASTRUCTURE EXPANSION - CHCRWA DISTRICTS	2030	PROJECT SPONSOR(S): CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	WUG INFRASTRUCTURE EXPANSION - CLEAR LAKE SHORES	2020	PROJECT SPONSOR(S): CLEAR LAKE SHORES			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - CLUTE	2020	PROJECT SPONSOR(S): CLUTE			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (BWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2040	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (FORT BEND WUD #149)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 1	2020	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), BRAZORIA COUNTY (SIB) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (S)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), FORT BEND COUNTY (SIB)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			No			

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H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (GCWA CUSTOMERS), GALVESTON COUNTY (SUB)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 1)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RICHMOND GRP - PHASE 2)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER (RIVERSTONE)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, BRAZORIA COUNTY (BC)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (BRAZORIA)			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (CHAMBERS)			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, GALVESTON COUNTY (NT)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (GALVESTON)			No			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, HARRIS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - COUNTY-OTHER, MONTGOMERY COUNTY (SIRA GRP PARTICIPANTS)	2030	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - EAST PLANTATION UD	2060	PROJECT SPONSOR(S): EAST PLANTATION UD			No			
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #116	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #116			No			
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 1	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD #129 - PHASE 2	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #129			Yes			
H	WUG INFRASTRUCTURE EXPANSION - FORT BEND COUNTY MUD 121	2050	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #121			Yes			
H	WUG INFRASTRUCTURE EXPANSION - FREEPORT	2020	PROJECT SPONSOR(S): FREEPORT			No			
H	WUG INFRASTRUCTURE EXPANSION - FULSHEAR	2030	PROJECT SPONSOR(S): FULSHEAR			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #106	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #106			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #132	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #132			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #151	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #151			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #152	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #152			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #290	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #290			Yes			
H	WUG INFRASTRUCTURE EXPANSION - HARRIS COUNTY MUD #46	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #46			Yes			
H	WUG INFRASTRUCTURE EXPANSION - INDIGO LAKE WATER SYSTEM	2070	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - IRRIGATION, FORT BEND (RICHMOND GRP)	2030	PROJECT SPONSOR(S): IRRIGATION (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION - KEMAH	2020	PROJECT SPONSOR(S): KEMAH			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - LA MARQUE	2020	PROJECT SPONSOR(S): LA MARQUE			Yes			
H	WUG INFRASTRUCTURE EXPANSION - LAKE JACKSON	2020	PROJECT SPONSOR(S): LAKE JACKSON			Yes			
H	WUG INFRASTRUCTURE EXPANSION - LAKE WINDCREST WATER SYSTEM	2030	PROJECT SPONSOR(S): LAKE WINDCREST WATER SYSTEM			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (SJ)	2020	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING (GCWA CUSTOMERS), FORT BEND COUNTY (SIB)	2030	PROJECT SPONSOR(S): MANUFACTURING (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): MANUFACTURING (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MANUFACTURING, MONTGOMERY COUNTY	2070	PROJECT SPONSOR(S): MANUFACTURING (MONTGOMERY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 1	2030	PROJECT SPONSOR(S): MANVEL			No			
H	WUG INFRASTRUCTURE EXPANSION - MANVEL - PHASE 2	2060	PROJECT SPONSOR(S): MANVEL			No			
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (B)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (BC)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, BRAZORIA COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (BRAZORIA)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, GALVESTON COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (GALVESTON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SJ)	2020	PROJECT SPONSOR(S): MINING (HARRIS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): MINING (HARRIS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MINING, HARRIS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): MINING (HARRIS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY	2030	PROJECT SPONSOR(S): MONTGOMERY			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #18	2070	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #18			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #19	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #19			Yes			
H	WUG INFRASTRUCTURE EXPANSION - MONTGOMERY COUNTY MUD #89	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #89			Yes			
H	WUG INFRASTRUCTURE EXPANSION - NIBWA DISTRICTS	2030	PROJECT SPONSOR(S): NORTH FORT BEND WATER AUTHORITY			Yes			
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2025	2030	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	WUG INFRASTRUCTURE EXPANSION - NHCRWA DISTRICTS 2035	2040	PROJECT SPONSOR(S): NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	WUG INFRASTRUCTURE EXPANSION - OYSTER CREEK	2020	PROJECT SPONSOR(S): OYSTER CREEK			No			
H	WUG INFRASTRUCTURE EXPANSION - PANORAMA VILLAGE	2030	PROJECT SPONSOR(S): PANORAMA VILLAGE			Yes			
H	WUG INFRASTRUCTURE EXPANSION - RICHWOOD	2020	PROJECT SPONSOR(S): RICHWOOD	TWDB - Other	Drinking Water State Revolving Fund (included in 2020 Intended Use Plan; funds not committed)	Yes			
H	WUG INFRASTRUCTURE EXPANSION - RIVER PLANTATION MUD	2070	PROJECT SPONSOR(S): RIVER PLANTATION MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION - ROSENBERG GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION - SANTA FE	2020	PROJECT SPONSOR(S): SANTA FE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - SHENANDOAH	2030	PROJECT SPONSOR(S): SHENANDOAH			Yes			
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION			Yes			
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (B) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION			No			
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 1	2040	PROJECT SPONSOR(S): SIENNA PLANTATION			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION - SIENNA PLANTATION (SIB) - PHASE 2	2060	PROJECT SPONSOR(S): SIENNA PLANTATION			No			
H	WUG INFRASTRUCTURE EXPANSION - SPRING CREEK UD	2030	PROJECT SPONSOR(S): SPRING CREEK UD			Yes			
H	WUG INFRASTRUCTURE EXPANSION - STAGECOACH	2030	PROJECT SPONSOR(S): STAGECOACH			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION - STANLEY LAKE MUD	2060	PROJECT SPONSOR(S): STANLEY LAKE MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, FORT BEND COUNTY (B)	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (FORT BEND); NRG			No			
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ) - PHASE 1	2030	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			Yes			
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SJ) - PHASE 2	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			Yes			
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, HARRIS COUNTY (SIB)	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (HARRIS); NRG			Yes			
H	WUG INFRASTRUCTURE EXPANSION - STEAM ELECTRIC POWER, MONTGOMERY COUNTY	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MONTGOMERY)			No			
H	WUG INFRASTRUCTURE EXPANSION - THE WOODLANDS, HARRIS COUNTY	2030	PROJECT SPONSOR(S): THE WOODLANDS			Yes			
H	WUG INFRASTRUCTURE EXPANSION - TOMBALL	2030	PROJECT SPONSOR(S): TOMBALL			Yes			
H	WUG INFRASTRUCTURE EXPANSION - TRAIL OF THE LAKES MUD	2030	PROJECT SPONSOR(S): TRAIL OF THE LAKES MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION - WESTWOOD NORTH WSC	2030	PROJECT SPONSOR(S): WESTWOOD NORTH WSC			Yes			
H	WUG INFRASTRUCTURE EXPANSION - WHCRWA DISTRICTS	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY REGIONAL WATER AUTHORITY			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 1	2020	PROJECT SPONSOR(S): BEACH CITY			No			Sponsor is no longer a WUG.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 2	2040	PROJECT SPONSOR(S): BEACH CITY			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BEACH CITY - PHASE 3	2060	PROJECT SPONSOR(S): BEACH CITY			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BENDERS LANDING WATER SYSTEM	2030	PROJECT SPONSOR(S): BENDERS LANDING WATER SYSTEM			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - BLUE BELL MANOR UTILITY COMPANY	2030	PROJECT SPONSOR(S): BLUE BELL MANOR UTILITY COMPANY			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (B)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 2	2050	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, AUSTIN COUNTY (BC) - PHASE 3	2070	PROJECT SPONSOR(S): COUNTY-OTHER (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, FORT BEND COUNTY (BC)	2050	PROJECT SPONSOR(S): COUNTY-OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, HARRIS COUNTY (SI)	2020	PROJECT SPONSOR(S): COUNTY-OTHER (HARRIS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, LIBERTY COUNTY (SI)	2060	PROJECT SPONSOR(S): COUNTY-OTHER (LIBERTY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MADISON COUNTY (B)	2070	PROJECT SPONSOR(S): COUNTY-OTHER (MADISON)			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, MONTGOMERY COUNTY	2060	PROJECT SPONSOR(S): COUNTY-OTHER (MONTGOMERY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 1	2050	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - COUNTY-OTHER, WALLER COUNTY (B) - PHASE 2	2070	PROJECT SPONSOR(S): COUNTY-OTHER (WALLER)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - DOBBIN-PLANTERSVILLE WSC	2020	PROJECT SPONSOR(S): DOBBIN-PLANTERSVILLE WSC			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - EL DORADO UD	2030	PROJECT SPONSOR(S): EL DORADO UD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - FORT BEND COUNTY MUD #23	2030	PROJECT SPONSOR(S): FORT BEND COUNTY MUD #23			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREATWOOD	2030	PROJECT SPONSOR(S): GREATWOOD			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - GREEN TRAILS MUD	2030	PROJECT SPONSOR(S): GREEN TRAILS MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #11	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #11			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #119	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #119			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #153	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #153			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #154	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #154			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #180	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #180			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #189	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #189			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #221	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #221			Yes			

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #278	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #278			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #345	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #345			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY MUD #400 - WEST	2030	PROJECT SPONSOR(S): HARRIS COUNTY MUD #400 - WEST			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #14			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #14 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY UD #14			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY UD #15	2030	PROJECT SPONSOR(S): HARRIS COUNTY UD #15			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 1	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #133 - PHASE 2	2050	PROJECT SPONSOR(S): HARRIS COUNTY WCID #133			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HARRIS COUNTY WCID #74	2030	PROJECT SPONSOR(S): HARRIS COUNTY WCID #74			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - HEMPSTEAD	2060	PROJECT SPONSOR(S): HEMPSTEAD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - INDIGO LAKE WATER SYSTEM	2030	PROJECT SPONSOR(S): INDIGO LAKE WATER SYSTEM			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - IRRIGATION, LIBERTY COUNTY (S)	2020	PROJECT SPONSOR(S): IRRIGATION (LIBERTY)			Yes			

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H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KATY	2030	PROJECT SPONSOR(S): KATY			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - KINGS MANOR MUD	2030	PROJECT SPONSOR(S): KINGS MANOR MUD			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, CHAMBERS COUNTY (TSJ)	2060	PROJECT SPONSOR(S): LIVESTOCK (CHAMBERS)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (NT)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (SJ)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (T)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LIVESTOCK, LIBERTY COUNTY (TSJ)	2020	PROJECT SPONSOR(S): LIVESTOCK (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - LONGHORN TOWN UD	2030	PROJECT SPONSOR(S): LONGHORN TOWN UD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MAGNOLIA	2040	PROJECT SPONSOR(S): MAGNOLIA			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MANUFACTURING, AUSTIN COUNTY (AUSTIN)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, CHAMBERS COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (CHAMBERS)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 1	2030	PROJECT SPONSOR(S): MANUFACTURING (LEON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 2	2050	PROJECT SPONSOR(S): MANUFACTURING (LEON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LEON COUNTY (T) - PHASE 3	2070	PROJECT SPONSOR(S): MANUFACTURING (LEON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (N)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (S)	2030	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, LIBERTY COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): MANUFACTURING (LIBERTY)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MANUFACTURING (MADISON)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MANUFACTURING, WALLER COUNTY, BRAZOS	2030	PROJECT SPONSOR(S): MANUFACTURING (WALLER)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MASON CREEK UD	2030	PROJECT SPONSOR(S): MASON CREEK UD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (C)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)			Yes			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, AUSTIN COUNTY (BC)	2030	PROJECT SPONSOR(S): MINING (AUSTIN)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, CHAMBERS COUNTY (TSJ)	2020	PROJECT SPONSOR(S): MINING (CHAMBERS)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (LEON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LEON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (LEON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (N)	2020	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (NT)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (SJ)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (T) - PHASE 2	2070	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, LIBERTY COUNTY (TSJ)	2030	PROJECT SPONSOR(S): MINING (LIBERTY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (B)	2030	PROJECT SPONSOR(S): MINING (MADISON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, MADISON COUNTY (T)	2030	PROJECT SPONSOR(S): MINING (MADISON)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, SAN JACINTO COUNTY (T)	2040	PROJECT SPONSOR(S): MINING (SAN JACINTO)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MINING, TRINITY COUNTY (T)	2020	PROJECT SPONSOR(S): MINING (TRINITY)			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 1	2040	PROJECT SPONSOR(S): MONT BELVIEU			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONT BELVIEU - PHASE 2	2060	PROJECT SPONSOR(S): MONT BELVIEU			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #15	2030	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #15			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MONTGOMERY COUNTY MUD #94	2040	PROJECT SPONSOR(S): MONTGOMERY COUNTY MUD #94			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 1	2030	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - MOUNT HOUSTON ROAD MUD - PHASE 2	2050	PROJECT SPONSOR(S): MOUNT HOUSTON ROAD MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NEW CANEY MUD	2050	PROJECT SPONSOR(S): NEW CANEY MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH BELT UD	2030	PROJECT SPONSOR(S): NORTH BELT UD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTH GREEN MUD	2030	PROJECT SPONSOR(S): NORTH GREEN MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - NORTHWEST PARK MUD	2030	PROJECT SPONSOR(S): NORTHWEST PARK MUD			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 1	2020	PROJECT SPONSOR(S): OLD RIVER-WINFREE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - OLD RIVER-WINFREE - PHASE 2	2070	PROJECT SPONSOR(S): OLD RIVER-WINFREE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PATTON VILLAGE	2030	PROJECT SPONSOR(S): PATTON VILLAGE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 1	2020	PROJECT SPONSOR(S): PINE ISLAND			No			Sponsor is no longer a WUG.

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PINE ISLAND - PHASE 2	2070	PROJECT SPONSOR(S): PINE ISLAND			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLANTATION MUD	2030	PROJECT SPONSOR(S): PLANTATION MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - PLEAK	2020	PROJECT SPONSOR(S): PLEAK			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - POINT AQUARIUS MUD	2060	PROJECT SPONSOR(S): POINT AQUARIUS MUD			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROMAN FOREST	2040	PROJECT SPONSOR(S): ROMAN FOREST			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 1	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - ROSENBERG GRP PARTICIPANTS - PHASE 2	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 1	2020	PROJECT SPONSOR(S): SAN FELIPE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SAN FELIPE - PHASE 2	2050	PROJECT SPONSOR(S): SAN FELIPE			No			Sponsor is no longer a WUG.
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SIRA GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (MONTGOMERY)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 1	2030	PROJECT SPONSOR(S): SPRING VALLEY	TWDB - SWIFT		No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SPRING VALLEY - PHASE 2	2050	PROJECT SPONSOR(S): SPRING VALLEY			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 1	2020	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (T) - PHASE 2	2040	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			No			

Reg	WMS or WMS Project Name	Database Online Decade	Related Sponsor Entity and/or Benefiting WUGs	What is the project funding source(s)?*	Funding Mechanism if Other?	Included in 2021 plan?*	Does the project or WMS involve reallocation of flood control?*	Does the project or WMS provide any measurable flood risk reduction?*	Optional Comments
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - STEAM ELECTRIC POWER, MADISON COUNTY (1) - PHASE 3	2060	PROJECT SPONSOR(S): STEAM ELECTRIC POWER (MADISON)			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - SUGAR LAND GRP PARTICIPANTS	2030	PROJECT SPONSOR(S): COUNTY- OTHER (FORT BEND)			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE COMMONS WATER SUPPLY INC	2030	PROJECT SPONSOR(S): THE COMMONS WATER SUPPLY INC			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - THE CONSOLIDATED WSC	2020	PROJECT SPONSOR(S): THE CONSOLIDATED WSC			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - TRINITY RURAL WSC	2020	PROJECT SPONSOR(S): TRINITY RURAL WSC			No			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WEST HARRIS COUNTY MUD #6	2030	PROJECT SPONSOR(S): WEST HARRIS COUNTY MUD #6			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WILLIS	2040	PROJECT SPONSOR(S): WILLIS			Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODBRANCH	2040	PROJECT SPONSOR(S): WOODBRANCH	TWDB - Other	Drinking Water State Revolving Fund	Yes			
H	WUG INFRASTRUCTURE EXPANSION (GROUNDWATER) - WOODCREEK MUD	2030	PROJECT SPONSOR(S): WOODCREEK MUD			Yes			

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