

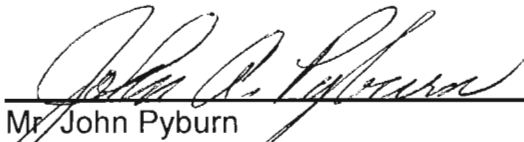
**Brazoria County Groundwater  
Conservation District  
Groundwater Management Plan**

November 13, 2008

# Brazoria County Groundwater Conservation District

## Groundwater Management Plan

Adopted November 13, 2008



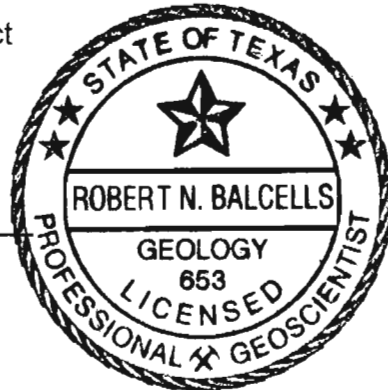
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# **Brazoria County Groundwater Conservation District**

## **Groundwater Management Plan**

November 13, 2008

### **I. District Mission**

The mission of the Brazoria County Groundwater Conservation District (BCGCD) is to maintain the quality and availability of Brazoria County's groundwater resources for current users and future generations.

Groundwater is one of Brazoria County's most precious resources and represents an important contributor to the county's water supply. Because it is such a valuable resource, groundwater must be protected to ensure that it will always be available to residential, agricultural, municipal, and industrial water users.

A groundwater conservation district such as the BCGCD plays a key role in protecting groundwater resources. The BCGD's five-member board will proactively work with groundwater users in the district to address issues such as how to most efficiently use groundwater, control and prevent waste, control and prevent subsidence, and address drought conditions.

### **II. Purpose of Management Plan**

In 1997 the 75<sup>th</sup> Texas Legislature established a statewide comprehensive regional water planning initiative with the enactment of Senate Bill 1 (SB1). Among the provisions of SB1 were amendments to Chapter 36 of the Texas Water Code requiring groundwater conservation districts to develop a groundwater management plan that is to be submitted to the Texas Water Development Board (TWDB) for approval as administratively complete. The groundwater management plan is specified to contain management goals for each district, estimates on the availability of groundwater in the District, and details of how the District would manage and conserve groundwater resources. In 2001 the 77<sup>th</sup> Texas Legislature further clarified the water planning and management provisions of SB1 with the enactment of Senate Bill 2 (SB2).

The Brazoria County Groundwater Management Plan fulfills all requirements for groundwater management plans in SB1, SB2, Chapter 36 Texas Water Code and administrative rules of the TWDB.

### **III. Time Period of Management Plan**

This plan shall be in effect for a period of five years from the date of approval by TWDB, unless a new or amended management plan is adopted by the District Board of Directors and certified by TWDB. In accordance with §356.3 of the Texas Administrative Code, the District Board must readopt, and the TWDB reapprove, the management plan every 5 years.

### **IV. District Information**

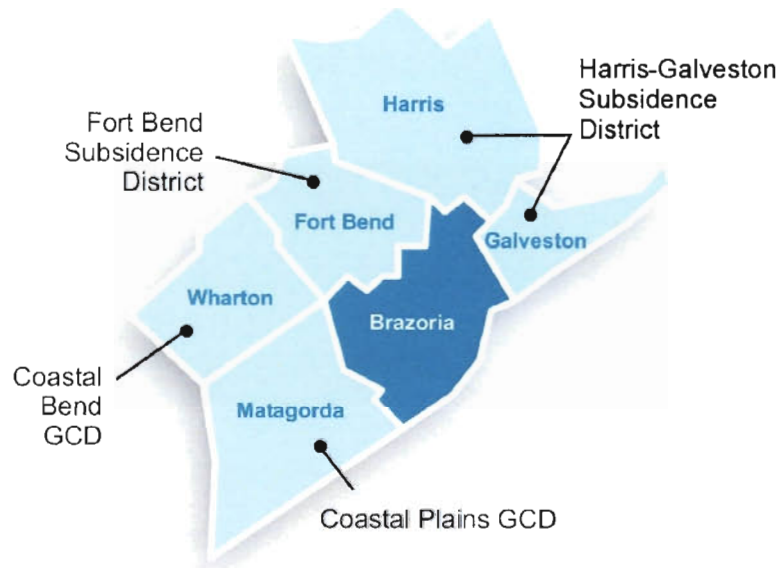
#### **IV.a Creation**

The District was created in September 2003 by the 78<sup>th</sup> Texas Legislature enacting HB 4114 (an amendment to HB 3602). This act is recorded in Section 2, Chapter 772, Acts of the 78<sup>th</sup> Texas Legislature. The District was confirmed by local election held in Brazoria County on November

8, 2005 with 56.35 percent of the voters in favor of the District.

#### IV.b Location and Extent

The District is located in Brazoria County, Texas. The District boundaries are the same as the area and extent of Brazoria County, Texas. The District comprises approximately 1,597 square miles. The District is bounded by Matagorda, Wharton, Fort Bend, Harris, and Galveston Counties. As of the plan date, confirmed groundwater conservation districts (GCD) or subsidence districts (SD) exist in all surrounding counties. The conservation or subsidence districts neighboring the District are: Coastal Plains GCD (Matagorda), Coastal Bend GCD (Wharton), Fort Bend SD (Fort Bend), and Harris-Galveston SD (Harris and Galveston).



**Figure 1. Neighboring Districts to the Brazoria Groundwater Conservation District**

The District is located in Groundwater Management Area (GMA) 14. Chapter 36 Texas Water Code authorizes the District to co-ordinate its management of groundwater with other GCDs in GMA 14. The other counties located in GMA 14 are shown in the following figure (Figure 2).



**Figure 2. Groundwater Management Areas in Texas. The District is in GMA 14**

**IV.c Organization of District**

The District Board of Directors is composed of five members elected to staggered four-year terms. Four directors are elected from county precincts and one director is elected at-large. The Board of Directors normally meets at the District offices at 111 E. Locust Street in Angleton, Texas, at 4 P.M. on the second Thursday of each month, unless otherwise posted. All meetings of the Board of Directors are public meetings, subject to public notice, and held in accordance with all public meeting requirements. The Board of Directors meetings are announced on the District website (<http://www.bcgroundwater.org>) along with information on District rules and fees, meeting minutes, District forms and other items of interest posted by the District.

**V. Authority and Regulatory Framework of the District**

The District derives its authority to manage groundwater within the District by virtue of the powers granted and authorized in the District’s enabling act, HB 4114 of the 78<sup>th</sup> Texas Legislature, and subsequent amendments. The District exercises the power that it was granted under the authority of the enabling legislation, and with voter approval, and assumes all the rights and responsibilities of a groundwater conservation district specified in Chapter 36 of the Texas Water Code. The authority and procedures to manage the groundwater resources in the District will be governed at all times by the due process specified in the District rules (Appendix B).

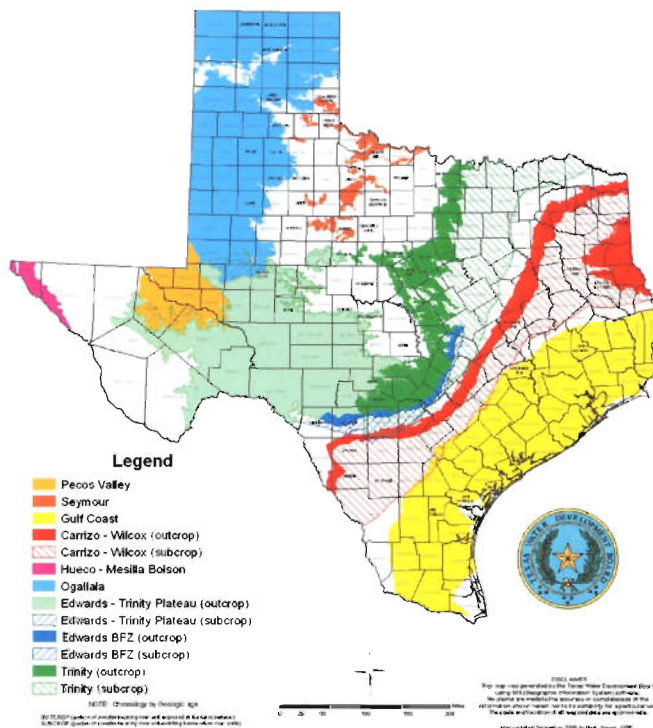
## VI. Groundwater Resources of Brazoria County

Brazoria County is located within the Gulf Coast Aquifer system that parallels the Gulf Coast. Except for the Quaternary alluvium, the geologic formations crop out in belts nearly parallel to the Gulf of Mexico. The formations dip toward the coast and younger formations crop out closer to the Gulf and older formations crop further inland. Faults are common and some of them have displacements of up to several hundred feet. The displacements tend to decrease upward and may not appear at the surface. Faulting generally does not disrupt regional hydraulic continuity.

### Chicot Aquifer

The Chicot aquifer, the main source of groundwater in Brazoria County, is composed of sediments of the Willis Formation, the Lissie Formation, the Beaumont Formation, and the overlying Holocene alluvium. It consists of all sediments from the ground surface down to the top of the Evangeline aquifer. The Chicot typically ranges between 600 ft to 1200 ft in thickness in Brazoria County and consists of discontinuous layers of sand and clay. Separation of the Chicot from the Evangeline aquifer is based on differences in lithology, permeability, water level, and stratigraphic positions (Sandeen and Wesselman, 1973). The Chicot is subdivided into an upper Chicot unit and a lower Chicot unit typically separated by clay. The Chicot aquifer contains mostly fresh water in Brazoria County, but total dissolved solids (TDS) increases towards the Gulf and becomes unusable near the coast. The transmissivity of the Chicot aquifer ranges from 1,000 ft<sup>2</sup>/d to 25,000 ft<sup>2</sup>/d (Kasmarek and Strom, 2002).

Figure 3. Major Aquifers of Texas



## Evangeline Aquifer

The Evangeline aquifer is composed of a sequence of alternating sands and clays of the Goliad Sand and the underlying Fleming Formation. These sediments thicken to more than 3,500 feet along the coast. Fresh water is typically found in the upper beds of the Evangeline aquifer, with TDS increasing towards the Gulf, as with the Chicot (Baker, 1979 and 1986).

## Burkeville Confining Layer

The Burkeville confining system consists of silt and clay. These fine-grained sediments are generally interbedded with sand lenses, which may contain fresh to slightly saline water. The relatively large percentage of silt and clay of the Burkeville confining system, when compared to the overlying Evangeline aquifer and the underlying Jasper aquifer, acts as a confining unit. The Burkeville ranges from 300 to 500 feet in thickness (Baker, 1979 and 1986).

System	Series	Stratigraphic Unit		Hydrologic Unit
Quaternary	Holocene	Alluvium		Chicot aquifer
	Pleistocene	Beaumont Clay		
		Montgomery Formation	Lissie Formation	
		Bentley Formation		
		Willis Sand		
Tertiary	Pliocene	Goliad Sand		Evangeline aquifer
	Miocene	Fleming Formation		Burkeville Confining Zone

**Figure 4. Geologic and Hydrologic Units of the Gulf Coast Aquifer in Brazoria County Modified from (Baker, 1979 and 1986; Aronow, 2004).**

## VII. Geography of the District

The District is located within the Gulf Coastal Plains region of Texas. Its highest altitude, Damon Mound, is 146 feet above sea level. The center of the county lies at approximately 29°10' north latitude and 95°26' west longitude, near the county seat, Angleton. Other principal towns include Alvin, Amsterdam, Brazoria, Damon, Pearland, Rosharon, West Columbia, Holiday Lake, Old Ocean, Bailey's Prairie, Iowa Colony, Bonney, Hillcrest Village, Brookside Village, Danbury, Liverpool, Manvel, and Sweeny; the towns that constitute Brazosport include Clute, Freeport, Quintana, Oyster Creek, Jones Creek, Lake Jackson, Richwood, and Surfside Beach. Key county roads include State highways 6, 35, 36, and 288. The county population in 2005 was 278,484 (71% urban, 29% rural; from: [http://www.city-data.com/county/Brazoria\\_County-TX.html](http://www.city-data.com/county/Brazoria_County-TX.html)).

The annual rainfall is fifty-two inches, and the mean annual temperature is 69° F. Soils in the county are chiefly alluvial loams and clays, and are highly productive, agriculturally, when well drained. The principal streams flowing through Brazoria County into the Gulf of Mexico include the Brazos and San Bernard rivers, Oyster Creek, Bastrop Bayou, and Chocolate Bayou. The



Gulf Intracoastal Waterway crosses Brazoria County near the coast. The Brazos River divides the county into two sections; the western one-third is covered by hardwoods, and the rest is generally prairieland (*Handbook of Texas – Online*).

The petrochemical industry and mineral resources including oil, gas, sulfur, salt, lime, sand, and gravel, concentrated in the Damon Mound-West Columbia-Freeport area, dominate the county economy. Additionally, agriculture is of primary economic importance in the District, and one of the main users of groundwater. Brazoria County produces rice, grain sorghum, soybeans, cotton, and other agricultural products (*Handbook of Texas – Online*).

**VIII. Estimate of the Amount of Groundwater Annually Used in the District - 31 TAC §356.5(a)(5)(B)**

The annual groundwater use within the District is estimated to be 32,000 acre-feet per year. This estimate is derived from the Region H water demand values adopted for use in the 2007 Regional Water Plan. The Texas Water Development Board estimate for groundwater use is shown in Table 1 for the years 1980 and 1984 to 2003. In general, the amount of groundwater use in the District has decreased (see below), whereas the use of surface water is currently on an increase (see Appendix C).

**Table 1. Amount of Groundwater Used by Year (acre feet per year)  
From: TWDB Water Use Survey Database**

Year	Aquifer	Municipal	Manufact.	Steam Electric	Irrigation	Mining	Livestock	Total
1980	Gulf Coast	20,254	5,088	0	22,498	1,101	730	49,671
1984	Gulf Coast	23,920	2,790	0	13,306	0	697	40,713
1985	Gulf Coast	24,824	3,239	0	13,587	157	715	42,522
1986	Gulf Coast	24,029	3,540	0	6,213	328	605	34,715
1987	Gulf Coast	24,554	3,523	0	5,207	315	665	34,264
1988	Gulf Coast	22,990	2,821	0	7,213	272	737	34,033
1989	Gulf Coast	17,836	2,616	0	6,109	218	767	27,546
1990	Gulf Coast	18,477	3,406	0	4,979	218	757	27,837
1991	Gulf Coast	18,304	3,900	0	4,756	220	773	27,953
1992	Gulf Coast	20,812	3,690	0	5,088	707	639	30,936
1993	Gulf Coast	20,161	1,947	0	10,352	701	618	33,779
1994	Gulf Coast	21,022	2,267	0	6,070	700	774	30,833
1995	Gulf Coast	19,135	2,154	0	10,902	699	662	33,552
1996	Gulf Coast	22,636	2,756	0	7,430	699	1,102	34,623
1997	Gulf Coast	21,105	1,760	0	7,192	824	721	31,602
1998	Gulf Coast	23,494	597	0	8,711	680	888	34,370
1999	Gulf Coast	24,349	2,331	0	7,230	857	959	35,726
2000	Gulf Coast	23,636	522	0	7,022	794	968	32,942
2001	Gulf Coast	26,210	976	0	3,915	789	968	32,858
2002	Gulf Coast	25,857	1,313	0	3,625	368	875	32,038
2003	Gulf Coast	26,491	1,202	0	2,706	318	1,270	31,987

\* The 1992 "Manufact." (Manufacturing) and total values were reported as 36,905 and 64,151 acre-feet, respectively. The Manufacturing value, which is suspected to be in error, was amended by a factor of ten to better approximate historical usage. The revised total for 1992 of 30,936 acre-feet, is therefore, an estimate.

The estimate presented above was developed by the TWDB (<http://www.twdb.state.tx.us/wushistorical/DesktopDefault.aspx?PageID=2>).

**IX. Estimate of the Amount of Recharge, Discharge, and Groundwater Flow in the District - 31 TAC §356.5(a)(5)(C) & (D) & (E)**

The groundwater availability model (GAM) for the northern part of the Gulf Coast Aquifer was run by the TWDB (Chowdhury, 2008) to estimate recharge, inflow and outflow of groundwater to the district, and inter-aquifer flow. The GAM uses MODFLOW's General Head Boundary Package to simulate groundwater recharge and groundwater to surface water interaction. The general head boundary was assigned over the outcrop areas of the Chicot, Evangeline, and the Jasper aquifers and the Burkeville Confining System. The results of the GAM Run 08-31 modeling (Chowdhury, 2008) are presented below.

Estimated Annual Amount of Recharge from Precipitation to the District (Chowdhury, 2008) - (31 TAC § 356(a)(5)(C)):

Chicot Aquifer	16,182 ac/ft
Evangeline Aquifer	0 ac/ft
Burkeville Confining System	0 ac/ft
Jasper Aquifer	0 ac/ft

Estimated Annual Amount of Water that Discharges from the Aquifer to Any Surface Water Including Lakes, Streams, and Rivers (Chowdhury, 2008) - (31 TAC § 356(a)(5)(D)):

Chicot Aquifer	0 ac/ft
Evangeline Aquifer	0 ac/ft
Burkeville Confining System	0 ac/ft
Jasper Aquifer	0 ac/ft

Estimated Annual Volume of Groundwater Flow into the District within each Aquifer Unit (Chowdhury, 2008) - (31 TAC § 356(a)(5)(E)):

Chicot Aquifer	45,567 ac/ft
Evangeline Aquifer	34,235 ac/ft
Burkeville Confining System	0 ac/ft
Jasper Aquifer	0 ac/ft

Estimated Annual Volume of Groundwater Flow out of the District within each Aquifer Unit (Chowdhury, 2008) - (31 TAC § 356(a)(5)(E)):

Chicot Aquifer	39,586 ac/ft
Evangeline Aquifer	35,598 ac/ft
Burkeville Confining System	0 ac/ft
Jasper Aquifer	0 ac/ft

Estimated Net Annual Volume of Groundwater Flow Between each Aquifer Unit (Chowdhury, 2008) - (31 TAC § 356(a)(5)(E)):

Evangeline to Chicot Aquifer	3,959 ac/ft
Evangeline Aquifer to Burkeville Confining System	0 ac/ft
Burkeville Confining System to the Jasper Aquifer	0 ac/ft

**X. Estimate of the Projected Surface Water Supply of the District – 31 TAC § 356(a)(5)(F)**

The estimate of projected surface water and groundwater supplies within the District in the year 2010 is approximately 217,225 acre-feet based on the data available in the State Water Plan data base (TWDB, 2008). This number is expected to increase to 313,434 by 2060 (see below). As the District has been in operation for a limited period of time, these numbers will have to be refined as more data is gathered and evaluated in coming years.

**Table 2. 2007 State Water Plan Projected Surface Water Supplies for Brazoria County**

RWPG	Water User Group	County	River Basin	Source Name	2000	2010	2020	2030	2040	2050	2060
H	Angleton	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	1,815	1,815	1,815	1,815	1,815	1,815	1,815
H	Brazoria	Brazoria	Brazos	Brazos River Run-of-River	101	82	82	82	82	82	82
H	Brazoria	Brazoria	Brazos - Colorado	Brazos River Run-of-River	235	254	254	254	254	254	254
H	Clute	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	1,120	1,120	1,120	1,120	1,120	1,120	1,120
H	Freeport	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	1,306	1,763	1,787	1,803	1,814	1,824	1,832
H	Freeport	Brazoria	Brazos	Brazos River Run-of-River	243	141	117	101	90	80	72
H	Lake Jackson	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	2,128	2,240	2,240	2,240	2,240	2,240	2,240
H	Oyster Creek	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	106	106	106	106	106	106	106
H	Pearland	Brazoria	San Jacinto - Brazos	Livingston-Wallisville Lake/Reservoir System	0	540	541	542	542	543	543
H	Pearland	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	0	9,597	9,624	9,636	9,642	9,649	9,656
H	Richwood	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	263	263	263	263	263	263	263
H	County Other	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	349	196	196	196	196	196	196
H	County Other	Brazoria	Brazos - Colorado	Brazos River Run-of-River	129	224	224	224	224	224	224
H	Manufacturing	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	25,827	14,665	14,665	14,665	14,665	14,665	14,665
H	Manufacturing	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	531	250	250	250	251	271	251
H	Manufacturing	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	0	31,719	31,719	31,719	31,719	31,719	31,719
H	Manufacturing	Brazoria	Brazos	Brazos River Run-of-River	7	288	288	288	287	267	287
H	Manufacturing	Brazoria	Brazos	Brazos River Run-of-River	164,281	148,061	148,061	148,061	148,061	148,061	148,061
H	Manufacturing	Brazoria	Brazos	Brazos River Authority Main Stem System	0	16,000	16,000	16,000	16,000	16,000	16,000
H	Manufacturing	Brazoria	Brazos - Colorado	San Bernard River Run-of-River	0	3,500	3,500	3,500	3,500	3,500	3,500
H	Mining	Brazoria	San Jacinto - Brazos	Other Local Supply	0	305	305	305	305	305	305
H	Mining	Brazoria	Brazos	Other Local Supply	0	190	190	190	190	190	190
H	Mining	Brazoria	Brazos - Colorado	Other Local Supply	0	1,124	1,124	1,124	1,124	1,124	1,124
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	2,935	2,935	2,935	2,935	2,935	2,935
H	Irrigation	Brazoria	San Jacinto - Brazos	Brazos River Run-of-River	18,382	63,812	63,812	63,812	63,812	63,812	63,812
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	558	558	558	558	558	558
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	1,025	1,025	1,025	1,025	1,025	1,025
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	711	711	711	711	711	711
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	962	962	962	962	962	962
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	1,360	1,360	1,360	1,360	1,360	1,360
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	3,347	3,347	3,347	3,347	3,347	3,347
H	Irrigation	Brazoria	San Jacinto - Brazos	San Jacinto-Brazos River Run-of-River	0	766	766	766	766	766	766
H	Irrigation	Brazoria	Brazos	Brazos River Run-of-River	402	1,800	1,800	1,800	1,800	1,800	1,800
H	Irrigation	Brazoria	Brazos	Brazos River Authority Main Stem System	0	500	500	500	500	500	500
H	Livestock	Brazoria	San Jacinto - Brazos	Livestock Local Supply	0	545	505	547	591	643	690
H	Livestock	Brazoria	Brazos	Livestock Local Supply	0	220	228	232	235	236	238
H	Livestock	Brazoria	Brazos - Colorado	Livestock Local Supply	0	200	202	206	210	217	225
<b>Total Projected Surface Water Supplies (acre-feet per year) =</b>					<b>217,225</b>	<b>313,184</b>	<b>313,182</b>	<b>313,245</b>	<b>313,302</b>	<b>313,370</b>	<b>313,434</b>

**XI. Estimate of the Total Projected Water Demand within the District – 31 TAC § 356(a)(5)(G)**

Estimates of projected water demand, presented below, are based on anticipated patterns of population growth based on the 2000 census. Preliminary results for the 2005 census indicate that the county growth, particularly in the Pearland area, is faster than anticipated (U.S. Census Bureau). Therefore, projected water demands presented on Table 3 below, may underestimate long-term county needs.

**Table 3. 2007 Water Plan Projected Surface Water and Groundwater Demand for Brazoria County (Volume 3, 2007 State Water Planning Database)**

RWPG	Water User Group	River Basin	2000	2010	2020	2030	2040	2050	2060
H	Alvin	San Jacinto - Brazos	2,974	3,227	3,490	3,741	3,973	4,219	4,476
H	Angleton	San Jacinto - Brazos	2,071	2,165	2,263	2,356	2,442	2,534	2,629
H	Bailey's Prairie	San Jacinto - Brazos	72	77	83	88	93	98	103
H	Bailey's Prairie	Brazos	14	15	16	17	18	19	20
H	Brazoria	Brazos	70	71	73	74	76	77	79
H	Brazoria	Brazos - Colorado	217	222	227	231	235	240	244
H	Brookside Village	San Jacinto - Brazos	239	279	320	359	395	433	473
H	Clute	San Jacinto - Brazos	1,133	1,219	1,309	1,394	1,474	1,558	1,645
H	Danbury	San Jacinto - Brazos	202	219	237	254	269	286	303
H	Freeport	San Jacinto - Brazos	1,447	1,834	2,237	2,623	2,979	3,356	3,749
H	Freeport	Brazos	147	147	147	147	147	147	147
H	Hillcrest	San Jacinto - Brazos	124	128	131	135	139	143	147
H	Holiday Lakes	San Jacinto - Brazos	93	97	101	105	109	113	117
H	Iowa Colony	San Jacinto - Brazos	100	113	127	140	153	165	179
H	Jones Creek	Brazos - Colorado	105	105	105	105	105	105	105
H	Lake Jackson	San Jacinto - Brazos	3,754	4,180	4,624	5,048	5,440	5,855	6,289
H	Manvel	San Jacinto - Brazos	365	365	365	365	365	365	365
H	Oyster Creek	San Jacinto - Brazos	146	174	203	232	258	285	314
H	Pearland	San Jacinto - Brazos	5,358	9,559	12,111	14,435	16,580	18,850	21,218
H	Richwood	San Jacinto - Brazos	304	327	351	375	396	419	443
H	Surfside Beach	Brazos	148	172	198	222	245	268	293
H	Sweeny	Brazos - Colorado	580	624	669	712	752	794	839
H	West Columbia	Brazos	480	469	458	447	437	426	415
H	West Columbia	Brazos - Colorado	92	90	88	85	84	82	79
H	Brazoria Co. MUD #1	San Jacinto - Brazos	479	876	1,289	1,684	2,049	2,435	2,839
H	Brazoria Co. MUD #2	Brazos	664	1,137	1,629	2,100	2,534	2,995	3,475
H	Brazoria Co. MUD #3	San Jacinto - Brazos	345	631	929	1,214	1,477	1,756	2,046
H	Brazoria Co. MUD #4	San Jacinto - Brazos	593	593	593	593	593	593	593
H	Brazoria Co. MUD #5	San Jacinto - Brazos	707	707	707	707	707	707	707
H	Orbit Sytems Inc.	Brazos - Colorado	40	50	61	71	81	91	102
H	Orbit Sytems Inc.	San Jacinto - Brazos	325	409	497	581	659	741	826
H	Southwest Utilities	San Jacinto - Brazos	70	74	79	83	86	90	95
H	Varner Creek UD	Brazos	294	372	454	531	603	679	759
H	County Other	San Jacinto - Brazos	12,245	10,891	12,523	14,289	15,909	17,632	19,437
H	County Other	Brazos	125	135	146	155	164	174	184
H	County Other	Brazos - Colorado	4,005	4,319	4,645	4,958	5,246	5,551	5,870
H	Manufacturing	San Jacinto - Brazos	36,014	42,231	46,501	50,280	54,094	57,461	61,541
H	Manufacturing	Brazos	184,906	216,824	238,749	258,151	277,737	295,021	315,974
H	Manufacturing	Brazos - Colorado	1,010	1,184	1,304	1,410	1,517	1,611	1,726
H	Mining	San Jacinto - Brazos	767	945	1,037	1,091	1,145	1,198	1,248
H	Mining	Brazos	249	307	337	354	372	389	405
H	Mining	Brazos - Colorado	2,314	2,852	3,128	3,292	3,452	3,614	3,766
H	Irrigation	San Jacinto - Brazos	138,447	125,311	114,251	110,009	107,452	107,452	107,452
H	Irrigation	Brazos	4,624	4,186	3,816	3,675	3,589	3,589	3,589
H	Irrigation	Brazos - Colorado	6,117	5,536	5,048	4,860	4,747	4,747	4,747
H	Livestock	San Jacinto - Brazos	968	968	968	968	968	968	968
H	Livestock	Brazos	242	242	242	242	242	242	242
H	Livestock	Brazos - Colorado	404	404	404	404	404	404	404
<b>Total Projected Water Demands (acre-feet/yr) =</b>			<b>416,189</b>	<b>447,062</b>	<b>469,270</b>	<b>495,392</b>	<b>522,991</b>	<b>550,977</b>	<b>583,666</b>



**XII. Estimate of the Water Supply Needs within the District – 31 TAC § 356.5(a)(7)**

Estimates of projected water needs within the District as projected by the Region H Regional Water Planning Group for the 2007 Water Plans are presented below. Note that “needs” are projected water demands in excess of existing supplies that would be available during a repeat of the drought of record.

**Table 4. 2007 State Water Plan Projected Water Supply Needs Brazoria County (Volume 3, 2007 State Water Planning Database)**

RWPG	WUG	County	River Basin	2010	2020	2030	2040	2050	2060
H	Alvin	Brazoria	San Jacinto-Brazos	149	319	466	583	769	996
H	Angleton	Brazoria	San Jacinto-Brazos	192	198	215	221	276	358
H	Bailey's Prairie	Brazoria	San Jacinto-Brazos	3	6	8	10	13	18
H	Brazoria	Brazoria	Brazos	0	0	0	0	0	0
H	Brazoria	Brazoria	Brazos-Colorado	0	0	0	0	0	0
H	Brookside Village	Brazoria	San Jacinto-Brazos	27	57	84	109	139	174
H	Clute	Brazoria	San Jacinto-Brazos	56	89	140	166	224	300
H	Danbury	Brazoria	San Jacinto-Brazos	9	20	29	36	48	63
H	Freeport	Brazoria	San Jacinto-Brazos	0	270	563	819	1,112	1,449
H	Freeport	Brazoria	Brazos	0	18	31	40	49	57
H	Hillcrest	Brazoria	San Jacinto-Brazos	1	2	2	3	6	9
H	Holiday Lakes	Brazoria	San Jacinto-Brazos	0	0	0	0	0	1
H	Iowa Colony	Brazoria	San Jacinto-Brazos	8	18	26	35	45	56
H	Jones Creek	Brazoria	Brazos-Colorado	0	0	0	0	0	0
H	Lake Jackson	Brazoria	San Jacinto-Brazos	1,216	1,533	1,812	2,084	2,411	2,796
H	Manvel	Brazoria	San Jacinto-Brazos	0	0	0	0	0	0
H	Oyster Creek	Brazoria	San Jacinto-Brazos	45	67	89	108	130	156
H	Pearland	Brazoria	San Jacinto-Brazos	0	1,314	3,287	5,159	7,251	9,435
H	Richwood	Brazoria	San Jacinto-Brazos	35	46	55	61	76	96
H	Surfside Beach	Brazoria	Brazos	20	41	61	80	100	123
H	Sweeny	Brazoria	Brazos-Colorado	26	56	83	104	137	177
H	West Columbia	Brazoria	Brazos	0	0	0	0	0	0
H	West Columbia	Brazoria	Brazos-Colorado	0	0	0	0	0	0
H	County Other	Brazoria	San Jacinto-Brazos	6,050	7,486	9,069	10,410	11,963	13,663
H	County Other	Brazoria	Brazos	121	133	143	151	160	170
H	County Other	Brazoria	Brazos-Colorado	2,074	2,332	2,591	2,797	3,061	3,361
H	Manufacturing	Brazoria	San Jacinto-Brazos	0	0	3,646	7,459	10,806	14,906
H	Manufacturing	Brazoria	Brazos	47,629	69,994	89,878	109,912	127,719	149,191
H	Manufacturing	Brazoria	Brazos-Colorado	0	0	0	0	0	0
H	Mining	Brazoria	San Jacinto-Brazos	178	270	324	378	431	481
H	Mining	Brazoria	Brazos	89	127	149	171	190	208
H	Mining	Brazoria	Brazos-Colorado	538	814	978	1,138	1,300	1,452
H	Irrigation	Brazoria	San Jacinto-Brazos	28,057	20,212	19,503	19,511	21,232	22,789
H	Irrigation	Brazoria	Brazos	1,712	1,426	1,317	1,249	1,260	1,268
H	Irrigation	Brazoria	Brazos-Colorado	2,742	2,520	2,478	2,471	2,553	2,639
H	Livestock	Brazoria	San Jacinto-Brazos	65	105	63	19	0	0
H	Livestock	Brazoria	Brazos	0	0	0	0	0	0
H	Livestock	Brazoria	Brazos-Colorado	0	0	0	0	0	0
H	Bailey's Prairie	Brazoria	Brazos	1	1	1	2	3	3
H	Brazoria County MUD #1	Brazoria	San Jacinto-Brazos	363	735	1,108	1,432	1,792	2,169
H	Brazoria County MUD #2	Brazoria	Brazos	451	926	1,386	1,798	2,245	2,712
H	Brazoria County MUD #3	Brazoria	San Jacinto-Brazos	258	527	794	1,027	1,286	1,557
H	Brazoria County MUD #4	Brazoria	San Jacinto-Brazos	0	0	0	0	0	0
H	Brazoria County MUD #5	Brazoria	San Jacinto-Brazos	0	0	0	0	0	0
H	Orbit Systems Inc.	Brazoria	Brazos-Colorado	7	15	23	31	39	48
H	Orbit Systems Inc.	Brazoria	San Jacinto-Brazos	61	126	189	250	313	387
H	Southwest Utilities	Brazoria	San Jacinto-Brazos	1	3	5	7	9	13
H	Varner Creek UD	Brazoria	Brazos	65	134	200	262	328	400
<b>Total Projected Water Needs (acre-feet per year) =</b>				<b>92,249</b>	<b>111,940</b>	<b>140,796</b>	<b>170,093</b>	<b>199,476</b>	<b>233,681</b>

### XIII. Water Management Strategies to Meet Needs of Water User Groups – 31 TAC § 356.5(a)(7)

The projected water supplies and demand totals for the District given in Tables 2 and 3 above indicate projected demands exceed existing supplies. To meet the needs of water user groups in the District, Region H adopted water management strategies to develop additional supplies, as presented below.

**Table 5. Totals of Groundwater Strategies Recommended for Brazoria County  
(Volume 3, 2007 State Water Planning Database)**

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source County	Source Name	2010	2020	2030	2040	2050	2060
H	Alvin	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	149	319	466	583	769	996
H	Angleton	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	145	145	147	147	151	156
H	Angleton	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	30	45	40	28	30	35
H	Bailey's Prairie	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	3	6	8	10	13	18
H	Bailey's Prairie	Brazoria	Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	1	1	1	2	3	3
H	Brazoria County MUD #1	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	363	735	1,108	1,432	1,792	2,169
H	Brazoria County MUD #2	Brazoria	Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	451	926	1,386	1,798	2,245	2,712
H	Brazoria County MUD #3	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	258	527	794	1,027	1,286	1,557
H	Brookside Village	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	27	57	84	109	139	174
H	Clute	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	22	40	58	62	72	83
H	Clute	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	34	49	82	89	93	98
H	County Other	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	594	674	761	836	922	1,017
H	County Other	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	138	1,264	1,433	1,343	1,065	753
H	County Other	Brazoria	San Jacinto - Brazos	New Contracts from Existing Sources	Brazoria	Brazos River Run-of-River	2,240	2,240	2,240	2,240	2,240	2,240
H	County Other	Brazoria	Brazos	New Contracts from Existing Sources	Brazoria	Brazos River Run-of-River	160	160	160	160	160	160
H	County Other	Brazoria	Brazos - Colorado	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	84	198	279	329	369	413
H	County Other	Brazoria	Brazos - Colorado	New Contracts from Existing Sources	Brazoria	Brazos River Run-of-River	2,641	2,641	2,641	2,641	2,641	2,641
H	Danbury	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	9	20	29	36	48	63
H	Freeport	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	0	113	230	306	362	406
H	Freeport	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	0	142	163	182	203	226
H	Freeport	Brazoria	Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	0	1	1	1	1	1
H	Hillcrest	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	1	2	2	3	6	9
H	Holiday Lakes	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	0	0	0	0	0	1
H	Iowa Colony	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	8	18	26	35	45	56
H	Irrigation	Brazoria	San Jacinto - Brazos	Irrigation Conservation	Brazoria	Conservation	17,439	17,439	17,439	17,439	17,439	17,439
H	Lake Jackson	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	217	442	473	471	439	405
H	Livestock	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	65	105	63	19	0	0
H	Manufacturing	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	0	0	1,587	2,908	3,631	4,282
H	Manufacturing	Brazoria	San Jacinto - Brazos	Allens Creek Reservoir	Austin	Allens Creek Lake/Reservoir	0	0	10,650	10,650	10,650	10,650
H	Manufacturing	Brazoria	Brazos	Allens Creek Reservoir	Austin	Allens Creek Lake/Reservoir	0	0	30,000	30,000	30,000	30,000
H	Mining	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	162	266	223	173	103	36
H	Mining	Brazoria	Brazos - Colorado	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	250	377	423	465	481	483
H	Orbit Systems Inc.	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	61	126	189	250	313	387
H	Orbit Systems Inc.	Brazoria	Brazos - Colorado	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	7	15	23	31	39	48

(Table 5 Continues Next Page)

**Table 5 (Continued). Totals of Groundwater Strategies Recommended for Brazoria County (Volume 3, 2007 State Water Planning Database)**

RWPG	WUG	WUG County	River Basin	Water Management Strategy	Source County	Source Name	2010	2020	2030	2040	2050	2060
H	Oyster Creek	Brazoria	San Jacinto - Brazos	Municipal Conservation - Small WUG	Brazoria	Conservation	9	10	12	13	14	15
H	Oyster Creek	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	11	24	30	33	34	34
H	Pearland	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	0	629	1,430	2,011	2,437	2,710
H	Pearland	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	0	685	929	1,058	1,203	1,354
H	Pearland	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Reservoir	Livingston-Wallisville Lake/Reservoir System	0	0	311	311	311	311
H	Pearland	Brazoria	San Jacinto - Brazos	Allens Creek Reservoir	Auslin	Allens Creek Lake/Reservoir	0	0	4,000	4,000	4,000	4,000
H	Richwood	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	7	14	15	15	16	17
H	Richwood	Brazoria	San Jacinto - Brazos	Municipal Conservation - Medium WUG	Brazoria	Conservation	19	19	20	20	21	22
H	Southwest Utilities	Brazoria	San Jacinto - Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	1	3	5	7	9	13
H	Surfside Beach	Brazoria	Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	20	41	61	80	100	123
H	Sweeny	Brazoria	Brazos - Colorado	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	26	56	83	104	137	177
H	Varner Creek UD	Brazoria	Brazos	New Groundwater Wells	Brazoria	Gulf Coast Aquifer	65	134	200	262	328	400
H	Angleton	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	170	170	170	170	170	170
H	Clute	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	0	0	0	120	120	120
H	County Other	Brazoria	Brazos	Municipal Conservation - Small WUG	Brazoria	Conservation	7	8	8	9	9	10
H	County Other	Brazoria	Brazos - Colorado	Municipal Conservation - Large WUG	Brazoria	Conservation	236	250	264	276	290	307
H	Freeport	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	0	820	820	820	820	820
H	Freeport	Brazoria	Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	0	9	9	9	9	9
H	Freeport	Brazoria	Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	0	50	50	50	50	50
H	Irrigation	Brazoria	Brazos	Irrigation Conservation	Brazoria	Conservation	582	582	582	582	582	582
H	Irrigation	Brazoria	Brazos - Colorado	Irrigation Conservation	Brazoria	Conservation	771	771	771	771	771	771
H	Lake Jackson	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	2,010	2,010	2,010	2,010	2,010	2,010
H	Manufacturing	Brazoria	Brazos	Contractual Transfers	Fort Bend	Brazos River Run-of-River	6,281	6,281	6,281	6,281	6,281	6,281
H	Irrigation	Brazoria	Brazos - Colorado	Contractual Transfers	Fort Bend	Brazos River Run-of-River	1,971	1,971	1,971	1,971	1,971	1,971
H	Manufacturing	Brazoria	Brazos	New Contracts from Existing Sources	Reservoir	Brazos River Authority Main Stem System	9,847	9,847	5,847	5,847	5,847	5,847
H	Mining	Brazoria	San Jacinto - Brazos	New Contracts from Existing Sources	Reservoir	Brazos River Authority Main Stem System	445	445	445	445	445	445
H	Mining	Brazoria	Brazos	New Contracts from Existing Sources	Reservoir	Brazos River Authority Main Stem System	208	208	208	208	208	208
H	Oyster Creek	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	110	110	110	110	110	110
H	Pearland	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Reservoir	Conroe Lake/Reservoir	0	0	1,184	1,184	1,184	1,184
H	Richwood	Brazoria	San Jacinto - Brazos	Increase Existing Contracts	Brazoria	Brazos River Run-of-River	60	60	60	60	60	60
H	Irrigation	Brazoria	San Jacinto - Brazos	Contractual Transfers	Fort Bend	Brazos River Run-of-River	10,618	10,618	10,618	10,618	10,618	10,618
H	Irrigation	Brazoria	Brazos	Contractual Transfers	Fort Bend	Brazos River Run-of-River	1,130	1,130	1,130	1,130	1,130	1,130
H	County Other	Brazoria	San Jacinto - Brazos	Freeport Desalination Plant	Reservoir	Gulf of Mexico Seawater	11,150	11,150	11,150	11,150	11,150	11,150
H	County Other	Brazoria	Brazos	Freeport Desalination Plant	Reservoir	Gulf of Mexico Seawater	50	50	50	50	50	50
H	Manufacturing	Brazoria	Brazos	Freeport Desalination Plant	Reservoir	Gulf of Mexico Seawater	0	0	0	0	11,200	16,800
H	Manufacturing	Brazoria	Brazos	BRA System Operations Permit	Reservoir	Brazos River Authority Main Stem System	70,000	70,000	70,000	70,000	70,000	70,000
H	Manufacturing	Brazoria	Brazos	Little River Reservoir, Off Channel	Reservoir	Little River Off-Channel Lake/Reservoir	0	0	0	0	24,110	24,110
H	Lake Jackson	Brazoria	San Jacinto - Brazos	Municipal Conservation - Large WUG	Brazoria	Conservation	277	299	318	337	359	386
H	Mining	Brazoria	Brazos - Colorado	Contractual Transfers	Brazoria	San Bernard River Run-of-River	288	437	555	673	819	969
<b>Total Projected Water Management Strategies (acre-feet per year) =</b>							<b>141,928</b>	<b>147,984</b>	<b>194,916</b>	<b>198,600</b>	<b>236,733</b>	<b>245,061</b>



#### **XIV. Details on How the District Might Increase the Natural or Artificial Recharge in the District**

Increasing the recharge of groundwater within the District may be difficult. A high percentage of the total amount of recharge is rejected by the aquifer (due to near-surface clays) and supports the base flow of streams. The natural or artificial recharge to the groundwater within the District might be feasibly increased by the construction of rainfall runoff retention structures on ephemeral streams.

#### **XV. Estimate of the Projected Surface Water and Groundwater Supplies of the District – 31 TAC § 356.5(a)(5)(D)**

Estimates of projected water supplies represent the estimated capacity of water supply systems, both surface water and groundwater, to provide water to meet user needs. Estimates of projected water supplies are compared with estimates of projected demand to determine if the existing infrastructure is capable of meeting the expected needs of the water users. The estimate of projected surface water and groundwater supplies within the District in the year 2010 is 3313,184 acre-feet based on Region H 2007 Water Plans. The projected surface water and groundwater supplies in the District for years 2000 through 2060 are presented in the table below.

**Table 6. Region H Estimates of Projected Water Supplies for Brazoria County (includes both groundwater and surface water)**

WATER USER NAME	SOURCE NAME	TYPE	2000	2010	2020	2030	2040	2050	2060
ALVIN	GULF COAST AQUIFER	GW	3290	2974	2974	2974	2974	2974	2974
ANGLETON	BRAZOS RIVER	SW	1815	1815	1815	1815	1815	1815	1815
ANGLETON	GULF COAST AQUIFER	GW	1800	95	95	95	95	95	95
BAILEY'S PRAIRIE	GULF COAST AQUIFER	GW	108	72	72	72	72	72	72
BRAZORIA	BRAZOS RIVER	SW	101	82	82	82	82	82	82
BRAZORIA	GULF COAST AQUIFER	GW	41	0	0	0	0	0	0
BRAZORIA	BRAZOS RIVER	SW	235	254	254	254	254	254	254
BRAZORIA	GULF COAST AQUIFER	GW	39	0	0	0	0	0	0
BROOKSIDE VILLAGE	GULF COAST AQUIFER	GW	283	239	239	239	239	239	239
CLUTE	BRAZOS RIVER	SW	1120	1120	1120	1120	1120	1120	1120
CLUTE	GULF COAST AQUIFER	GW	800	5	5	5	5	5	5
DANBURY	GULF COAST AQUIFER	GW	246	202	202	202	202	202	202
FREEPORT	BRAZOS RIVER	SW	1306	1763	1787	1803	1814	1824	1832
FREEPORT	GULF COAST AQUIFER	GW	670	0	0	0	0	0	0
FREEPORT	BRAZOS RIVER	SW	243	141	117	101	90	80	72
FREEPORT	GULF COAST AQUIFER	GW	123	0	0	0	0	0	0
HILL CREST	GULF COAST AQUIFER	GW	127	124	124	124	124	124	124
HOLIDAY LAKES	GULF COAST AQUIFER	GW	175	92	91	90	89	90	93
IOWA COLONY	GULF COAST AQUIFER	GW	123	100	100	100	100	100	100
JONES CREEK	GULF COAST AQUIFER	GW	343	98	91	84	76	72	72
LAKE JACKSON	BRAZOS RIVER	SW	2128	2240	2240	2240	2240	2240	2240
LAKE JACKSON	GULF COAST AQUIFER	GW	1425	559	559	559	559	559	559
MANVEL	GULF COAST AQUIFER	GW	710	355	345	334	324	317	317
OYSTER CREEK	BRAZOS RIVER	SW	106	106	106	106	106	106	106
OYSTER CREEK	GULF COAST AQUIFER	GW	90	15	15	15	15	15	15
PEARLAND	LIVINGSTON RESERVOIR	SW	0	540	541	542	542	543	543
PEARLAND	GULF COAST AQUIFER	GW	4458	0	0	0	0	0	0
PEARLAND	BRAZOS RIVER	SW	0	9597	9624	9636	9642	9649	9656
RICHWOOD	BRAZOS RIVER	SW	263	263	263	263	263	263	263
RICHWOOD	GULF COAST AQUIFER	GW	120	15	15	15	15	15	15
SURFSIDE BEACH	GULF COAST AQUIFER	GW	222	148	148	148	148	148	148
SWEENEY	GULF COAST AQUIFER	GW	457	580	580	580	580	580	580
WEST COLUMBIA	GULF COAST AQUIFER	GW	558	453	431	410	389	373	363
WEST COLUMBIA	GULF COAST AQUIFER	GW	186	87	83	78	75	71	70
COUNTY-OTHER	BRAZOS RIVER	SW	349	196	196	196	196	196	196
COUNTY-OTHER	GULF COAST AQUIFER	GW	7134	4450	4450	4450	4450	4450	4450
COUNTY-OTHER	GULF COAST AQUIFER	GW	891	12	8	6	5	4	3
COUNTY-OTHER	BRAZOS RIVER	SW	129	224	224	224	224	224	224
COUNTY-OTHER	GULF COAST AQUIFER	GW	2710	1944	1944	1944	1944	1944	1944
MANUFACTURING	BRAZOS RIVER	SW	25827	14665	14665	14665	14665	14665	14665
MANUFACTURING	BRAZOS RIVER	SW	531	250	250	250	251	271	251
MANUFACTURING	GULF COAST AQUIFER	GW	3312	0	0	0	0	0	0
MANUFACTURING	BRAZOS RIVER	SW	0	31719	31719	31719	31719	31719	31719
MANUFACTURING	BRAZOS RIVER	SW	7	288	288	288	287	267	287
MANUFACTURING	BRAZOS RIVER	SW	164281	148061	148061	148061	148061	148061	148061
MANUFACTURING	GULF COAST AQUIFER	GW	4568	4846	4406	3924	3477	2974	2435
MANUFACTURING	BRAZOS RIVER AUTHORITY	SW	0	16000	16000	16000	16000	16000	16000
MANUFACTURING	GULF COAST AQUIFER	GW	3541	0	0	0	0	0	0
MANUFACTURING	SAN BERNARD RIVER	SW	0	3500	3500	3500	3500	3500	3500
MINING	GULF COAST AQUIFER	GW	50	462	462	462	462	462	462
MINING	OTHER LOCAL SUPPLY	SW	0	305	305	305	305	305	305
MINING	GULF COAST AQUIFER	GW	113	28	20	15	11	9	7
MINING	OTHER LOCAL SUPPLY	SW	0	190	190	190	190	190	190
MINING	GULF COAST AQUIFER	GW	1046	1190	1190	1190	1190	1190	1190
MINING	OTHER LOCAL SUPPLY	SW	0	1124	1124	1124	1124	1124	1124
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	2935	2935	2935	2935	2935	2935
IRRIGATION	BRAZOS RIVER AUTHORITY	SW	18382	63812	63812	63812	63812	63812	63812
IRRIGATION	GULF COAST AQUIFER	GW	3949	21778	18563	15030	12465	10744	9187
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	558	558	558	558	558	558
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	1025	1025	1025	1025	1025	1025
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	711	711	711	711	711	711
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	962	962	962	962	962	962
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	1360	1360	1360	1360	1360	1360
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	3347	3347	3347	3347	3347	3347
IRRIGATION	SAN JACINTO-BRAZOS	SW	0	766	766	766	766	766	766
IRRIGATION	BRAZOS RIVER	SW	402	1800	1800	1800	1800	1800	1800
IRRIGATION	GULF COAST AQUIFER	GW	1102	174	90	58	40	29	21
IRRIGATION	BRAZOS RIVER AUTHORITY	SW	0	500	500	500	500	500	500
IRRIGATION	GULF COAST AQUIFER	GW	4008	2794	2528	2382	2276	2194	2108
LIVESTOCK	GULF COAST AQUIFER	GW	465	358	358	358	358	325	278
LIVESTOCK	LIVESTOCK LOCAL SUPPLY	SW	0	545	505	547	591	643	690
LIVESTOCK	GULF COAST AQUIFER	GW	120	22	14	10	7	6	4
LIVESTOCK	LIVESTOCK LOCAL SUPPLY	SW	0	220	228	232	235	236	238
LIVESTOCK	GULF COAST AQUIFER	GW	193	204	202	198	194	187	179
LIVESTOCK	LIVESTOCK LOCAL SUPPLY	SW	0	200	202	206	210	217	225
BAILEY'S PRAIRIE	GULF COAST AQUIFER	GW	0	14	14	14	14	14	14
BRAZORIA MUD #1	GULF COAST AQUIFER	GW	0	479	479	479	479	479	479
BRAZORIA MUD #2	GULF COAST AQUIFER	GW	0	664	664	664	664	664	664
BRAZORIA MUD #3	GULF COAST AQUIFER	GW	0	345	345	345	345	345	345
BRAZORIA MUD #4	GULF COAST AQUIFER	GW	0	578	570	562	558	558	558
BRAZORIA MUD #5	GULF COAST AQUIFER	GW	0	680	669	659	653	653	653
ORBIT SYSTEMS INC	GULF COAST AQUIFER	GW	0	40	40	40	40	40	40
ORBIT SYSTEMS INC	GULF COAST AQUIFER	GW	0	325	325	325	325	325	325
SOUTHWEST UTILITIES	GULF COAST AQUIFER	GW	0	70	70	70	70	70	70
VARNER CREEK UD	GULF COAST AQUIFER	GW	0	294	294	294	294	294	294
<b>Total Water Supply (acre-feet per year)</b>			<b>266,821</b>	<b>361,148</b>	<b>357,056</b>	<b>352,848</b>	<b>349,704</b>	<b>347,381</b>	<b>345,187</b>

## **XVI. How the District Has Addressed Water Supply Needs in a Manner Not in Conflict with the Approved Regional Water Plans**

In order to address water supply needs in a manner not in conflict with the TWDB approved regional water plan from Region H Regional Water, the District has adopted Region H water supply needs. The District will supplement the Region H numbers at such a time that it obtains site-specific data for the District.

## **XVII. Management of Groundwater Supplies within the District – 31 TAC § 356.5(a)(6)**

The District derives its authority to manage groundwater within the District by virtue of the powers granted and authorized in the District's enabling act, HB 4114 of the 78<sup>th</sup> Texas Legislature, and subsequent amendments, and Chapter 36 of the Texas Water Code. The authority and procedures to management the groundwater resources in the District will be governed at all times by the due process specified in the District rules (Appendix B).

The District will manage the supply of groundwater within the District in order to conserve the resource while maintaining the economic viability of all groundwater user groups. The District will identify and engage in such activities and practices, that if implemented would result in more efficient use of groundwater and preserve groundwater quality and availability for future generations. The District will make a regular assessment of water supply and groundwater storage conditions and will report those conditions to the Board and to the public. An observation network shall be established and maintained in order to monitor water levels and quality of groundwater within the District, if needed. The District will undertake and co-operate with investigations of the groundwater resources within the District and will make the results of investigations available to the public upon adoption by the Board, as needed and as District resources allow.

All new wells must comply with the spacing and location requirements promulgated by the Texas Department of Licensing and Regulation and set forth under Title 16, Texas Administrative Code Chapter 76, Water Well Drillers and Pump Installers Rules. The District may adopt rules to regulate groundwater withdrawals by means of spacing and production limits. In making a determination to deny a permit or limit groundwater withdrawals, the District will consider the public benefit against individual hardship after considering all appropriate testimony.

The District is committed to maintaining a sustainable, adequate, reliable, cost effective and high quality source of groundwater to promote the vitality, economy and environment of the District. In pursuit of the District's mission of protecting the resource, the District may regulate the spacing of water wells and the production of groundwater in order to minimize the drawdown of the water table or the reduction of artesian pressure, to control subsidence, to prevent interference between wells, to prevent degradation of water quality, or to prevent waste. The determination to seek action will be based on aquifer conditions observed by the District.

The District will enforce the terms and conditions of permits and the rules of the District by enjoining the permit holder in a court of competent jurisdiction as provided for in Texas Water Code Chapter 36.102.

The District will employ technical resources at its disposal to evaluate the resources available within the District and to determine the effectiveness of regulatory or conservation measures. A

public or private user may appeal to the Board for discretion in enforcement of the provisions of the water supply deficit contingency plan on grounds of adverse economic hardship or unique local conditions. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board.

### **XVIII. Estimate of Managed Available Groundwater**

The Desired Future Conditions for the aquifers located within the District boundaries and within Groundwater Management Area (GMA) 14 have not been established; therefore, an estimate of the managed available groundwater is not available at this time. The District is actively working with the other member districts within the GMA 14 towards determining the Desired Future Conditions for each aquifer located within the District. Once these are established an estimate of the managed available groundwater will be determined. The District will amend the management plan at that time.

### **XIX. Actions, Procedures, Performance and Avoidance Necessary to Effectuate the Plan – 31 TAC § 356.5(a)(4)**

The District will implement the provisions of this management plan and will utilize the objectives of the plan as a guide for District actions, operations and decision-making. The District will ensure that its planning efforts, activities and operations are consistent with the provisions of this plan.

The District has adopted rules in accordance with Chapter 36 of the Texas Water Code and all rules will be followed and enforced. The development of rules was based on the best scientific information and technical evidence available to the District.

The District will encourage cooperation and coordination in the implementation of this plan. All operations and activities will be performed in a manner that encourages the cooperation of the citizens of the District and with the appropriate water management entities at the state, regional and local level.

### **XX. Methodology for Tracking the District's Progress in Achieving Management Goals**

The general manager of the District will prepare and submit an annual report (Annual Report) to the District Board of Directors. The Annual Report will include an update on the District's performance in achieving the management goals contained in this plan. The general manager will present the Annual Report to the Board of Directors Within ninety (90) days following the completion of the District's Fiscal Year, beginning in the fiscal year starting on October 1, 2008. A copy of the annual audit of District financial records will be included in the Annual Report. The District will maintain a copy of the Annual Report on file for public inspection at the District offices, upon adoption by the Board of Directors.

## **XXI. Management Goals**

### **A. Providing the Most Efficient Use of Groundwater – 31 TAC § 356.5(a)(1)(A)**

- A.1. Objective** – Each year, the District will require all new exempt or permitted wells that are constructed within the boundaries of the District to be registered or permitted with the District in accordance with the District Rules.
- A.1. Performance Standard** – The number of exempt and permitted wells registered or permitted by the District for the year will be incorporated into the Annual Report submitted to the Board of Directors of the District.
- A.2. Objective** – Each year, the District will regulate the production of groundwater by maintaining a system of permitting the use and production of groundwater within the boundaries of the District in accordance with the District Rules.
- A.2. Performance Standard** – Each year the District will accept and process applications for the permitted use of groundwater in the District in accordance with the permitting process established by the District Rules. The number and type of applications made for the permitted use of groundwater in the District, and the number and type of permits issued by the District, will be included in the Annual Report given to the Board of Directors.
- A.3. Objective** – The District will conduct investigations to evaluate the aquifers of the district and the production of groundwater within the district in preparation of establishing a monitor well network within the boundaries of the District.
- A.3.1 Performance Standard** – Studies may be conducted on the hydrogeologic and geographic characteristics of the District, and may include, but not necessarily be limited to, amount of aquifer structure and extent, water use, water quality, and water-levels. This work will be an update of the work already conducted within the District.
- A.3.2 Performance Standard** – The District may utilize the monitor well network to take samples of water quality and to conduct regular measurements of the changing water levels in the aquifers of the District, as needed. A progress report on the work of the District regarding monitoring the water quality and water-levels of aquifers within the District will be included in the Annual Report of the District, if applicable.

### **B. Controlling and Preventing Waste of Groundwater – 31 TAC § 356.5(a)(1)(B)**

- B.1. Objective** – Each year, the District will make an evaluation of the District Rules to determine whether any amendments are recommended to decrease the amount of waste of groundwater within the District.

- B.1. **Performance Standard** – The District will include a discussion of the annual evaluation of the District Rules and the determination of whether any amendments to the rules are recommended to prevent the waste of groundwater in the Annual Report of the District provided to the Board of Directors.
- B.2. **Objective** – Each year, the District will apply a water use fee structure to the permitted use of groundwater in the District to encourage the elimination and reduction of waste of groundwater.
- B.2. **Performance Standard** – Each year, with the exception of wells exempt from permitting, the District will apply a water use fee to the permitted use of groundwater in the District pursuant to District rules. The amount of fees generated by the water use fee structure and the amount of water used for each type of permitted use of groundwater will be included in a section of the Annual Report given to the Board of Directors of the District.
- B.3. **Objective** – Each year, the District will provide information to the public on eliminating and reducing wasteful practices in the use of groundwater by including information on groundwater waste reduction on the District’s website.
- B.3. **Performance Standard** – Each year, a copy of the information provided on the groundwater waste reduction page of District’s website will be included in the District’s Annual Report to be given to the District’s Board of Directors.

**C. Controlling and Preventing Subsidence – 31 TAC § 356.5(a)(1)(C)**

- C.1. **Objective** – Each year, the District will hold a joint conference with the neighboring Groundwater Conservation or Subsidence Districts (e.g., Harris-Galveston Subsidence District and the Fort Bend Subsidence District) focused on sharing information regarding subsidence and the control and prevention of subsidence through the regulation of groundwater.
- C.1. **Performance Standard** – Each year, a summary of the joint conference on subsidence issues will be included in the Annual Report submitted to the Board of Directors of the District.
- C.2. **Objective** – Each year, the District will provide one article annually on the District’s website to educate the public on the subject of subsidence.
- C.2. **Performance Standard** – The Annual Report submitted to the Board of Directors will include a copy of the article posted on the District’s website.

**D. Conjunctive Surface Water Management Issues – 31 TAC § 356.5(a)(1)(D)**

- D.1. **Objective** – Each year, the District will participate in the regional planning process by attending, as able, the Region H – Regional Water Planning Group meetings to encourage the development of surface water supplies to meet the needs of water user groups in the District.

- D.1. **Performance Standard** – The attendance of a District representative in at least one Region H Regional Water Planning Group meeting will be noted in the Annual Report presented to the District Board of Directors.
  
- E. **Drought Conditions – 31 TAC § 356.5(a)(1)(F)**
  - E.1. **Objective** – Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map and check for the periodic updates to the Drought Preparedness Council Situation Report (Situation Report) posted on the Texas Water Information Network website [www.txwin.net](http://www.txwin.net).
  - E.1. **Performance Standard** – Quarterly, the District will make an assessment of the status of drought in the District and prepare a quarterly briefing to the Board of Directors. The downloaded PDSI maps and Situation Reports will be included with copies of the quarterly briefing in the District Annual Report to the Board of Directors.
  
- F. **Conservation – 31 TAC § 356.5(a)(1)(G)**
  - F.1. **Objective** – The District will annually submit an article regarding water conservation for publication to at least one newspaper of general circulation in Brazoria County.
  - F.1. **Performance Standard** – A copy of the article submitted by the District for publication to a newspaper of general circulation in Brazoria County regarding water conservation will be included in the Annual Report to the Board of Directors.
  - F.2. **Objective** – The District will develop or implement a pre-existing educational program for use in public or private schools in Brazoria County to educate students on the importance of water conservation by January 1, 2010.
  - F.2. **Performance Standard** – A description of the educational program developed or implemented by the District for use in Brazoria County public or private schools will be included in the Annual Report to the Board of Directors for the year 2010.
  - F.3. **Objective** – Each year, the District will include an informative flier on water conservation within at least one mail out to groundwater use permit holders distributed in the normal course of business for the District.
  - F.3. **Performance Standard** – The District’s Annual Report will include a copy of the informative flier distributed to groundwater use permit holders regarding water conservation and the number of fliers distributed.
  
- G. **Natural Resource Issues That Affect the Use and Availability of Groundwater or are affected by the Use of Groundwater - 31 TAC § 356.5(a)(1)(G)**
  - G.1 **Objective** – The District will inquire to the Texas Railroad Commission asking for the location of existing salt water or waste disposal injection wells permitted by the Texas Railroad Commission within the District by the end of fiscal year 2009.

- G.1 **Performance Standard** – A copy of the letter to the Texas Railroad Commission asking for the location of existing salt water or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District for fiscal year 2009.
- G.2 **Objective** – Each year the District will inquire to the Texas Railroad Commission asking whether any new salt water or waste disposal injection wells have been permitted by the Texas Railroad Commission to operate within the District.
- G.2 **Performance Standard** – Each year a copy of the letter to the Texas Railroad Commission asking for the location of any new salt water or waste disposal wells permitted to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.
- G.3 **Objective** – Each year the District will request the Texas Railroad Commission to provide a copy of the results of integrity tests performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District.
- G.3 **Performance Standard** – Each year a copy of the letter to the Texas Railroad Commission requesting the results of the integrity testing performed on salt water or waste disposal injection wells permitted by the Texas Railroad Commission to operate within the District will be included in the Annual Report submitted to the Board of Directors of the District.

**H. Brush Control – 31 TAC § 356.5(a)(1)(G)**

- H.1. **Objective** – The District will provide the public information regarding brush control through newspaper articles of general circulation.
- H.1. **Performance Standard** – Annually provide one article (or a link to the article) regarding brush control

**I. Rainwater Harvesting – 31 TAC § 356.5(a)(1)(G)**

- I.1. **Objective** – The District will provide the public information regarding rainwater harvesting through newspaper articles of general circulation.
- I.1. **Performance Standard** – Annually provide one article (or a link to the article) regarding rainwater harvesting.

**J. Recharge Enhancement – 31 TAC § 356.5(a)(1)(G)**

- J.1. **Objective** – The District will provide the public information regarding recharge enhancement through newspaper articles of general circulation.
- J.1. **Performance Standard** – Annually provide one article (or a link to the article) regarding recharge enhancement.



**K. Precipitation Enhancement – 31 TAC § 356.5(a)(1)(G)**

**K.1. Objective** – The District will provide the public information regarding precipitation enhancement through newspaper articles of general circulation.

**K.1. Performance Standard** – Annually provide one article (or a link to the article) regarding precipitation enhancement.

**L. Addressing in a Quantitative Manner the desired Future Condition of the Groundwater Resources – 31 TAC § 356.5(a)(1)(H)**

The Desired Future Conditions of the groundwater within the District have not yet been established in accordance with Chapter 36.108 of the Texas Water Code. The District is actively participating in the joint planning process and the development of a desired future condition for the portion of the aquifer(s) within the District. Therefore, this goal is not applicable to the District at this time.

**XXII. References**

Aronow, Saul, “Geomorphology and Surface Geology of Harris County, and Adjacent Parts of Brazoria, Fort Bend, Liberty, Montgomery, and Waller Counties, Texas.” [www.armandbayou.org/watersheds/pdf/ Aronow\\_Harris\\_geomorph.pdf](http://www.armandbayou.org/watersheds/pdf/Aronow_Harris_geomorph.pdf), 2004.

Baker, E. T. “Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas.” Texas Department of Water Resources, Report 236, 1979.

Baker, E. T. “Hydrology of the Jasper Aquifer in the Southeast Texas Coastal Plain.” Texas Water Development Board, Report 295, 1986.

Chowdhury, Ali H. 2008. *GAM Run 08-31*. Texas Water Development Board, Groundwater Availability Modeling Section. July 22, 2008.

Sandeen, W. M., and Wesselman, J. B. 1973. *Ground-Water Resources of Brazoria County, Texas*. Texas Water Development Board Report 163. February 1973.

Kasmarek, M. C. and Robinson, J. L. 2004. *Hydrogeology and Simulation of Ground-Water Flow and Land-Surface Subsidence in the Northern Part of the Gulf Coast Aquifer System Texas*. U. S. Geological Survey Scientific Investigation Report 2004-5102.

TWDB. 2008. *2007 State Water Planning Database*. Provided by the TWDB July 2008.

USGS. 2002. *Hydrogeology of the Texas Gulf Coast Aquifer Systems*. United States Geological Survey Professional Paper 1416-E. August 2001.

## **Appendix A**

**Evidence of the Administrative Processes  
Required For the Approval of the Groundwater  
Management Plan as Administratively Complete**

**THE STATE OF TEXAS  
COUNTY OF BRAZORIA**

Before me, the undersigned authority, on  
this day personally appeared

Bill Cornwell

who, after being duly sworn, did depose and  
say:

My name is Bill Cornwell

Publisher of The Facts, a daily news-

paper as that term is defined by Art. 28 a  
R.C.S. of Texas 1925, as amended, having a  
general circulation in Brazoria County and  
published in the City of Clute, County of  
Brazoria, State of Texas.

The attached printed matter is a true and  
correct copy of the publication of

Notice of Public Hearing

which was published and appeared in said  
newspaper, with publication being on the fol-  
lowing date(s): October 24, 2008

My fee is \$44.00.



Bill Cornwell

Given under my hand and seal of office on  
this 31st day of October, A.D. 2008.



Cassandra M. Brown  
Notary Public in and for  
Brazoria County, Texas.  
My commission expires 12/19/11.

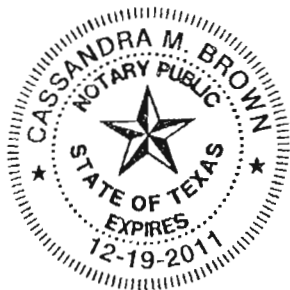
**NOTICE OF  
PUBLIC HEARING**

**BRAZORIA COUNTY  
GROUNDWATER  
CONSERVATION  
DISTRICT**

**GROUNDWATER  
MANAGEMENT PLAN**

Notice is hereby given  
that a public hearing be-  
fore the Board of Direc-  
tors for the Brazoria  
County Groundwater  
Conservation District is  
set for Thursday, No-  
vember 13, 2008, at 4:00  
p.m. at the District Office  
located at 451 N. Ve-  
lasco, Suite 140, Angie-  
ton, Texas, at which time  
the Board will deliberate,  
discuss, consider and /  
or take final action on the  
Brazoria County Ground-  
water Management Plan.

A draft of the Ground-  
water Management Plan  
may be viewed at  
[www.bcgroundwater.org](http://www.bcgroundwater.org)



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**MINUTES OF THE MEETING  
OF THE BOARD OF DIRECTORS OF THE  
BRAZORIA COUNTY GROUNDWATER CONSERVATION  
DISTRICT**

November 17, 2008

The Board of Directors of the Brazoria County Groundwater Conservation District met Thursday, the 13<sup>th</sup> day of November, 2008, at 4:00 p.m. in the Brazoria County Groundwater Conservation District Office, 451 N. Velasco Street, 1<sup>st</sup> Floor, Suite 140, Angleton, Texas, within the boundaries of the District and the roll was called of the duly constituted members of the Board, to wit:

Dennis R. Ferguson	President
John Pyburn	Vice President
Raymond Felder	Secretary
Donald R. Mudd	Assistant Secretary
Patrick O'Day	Director

All of said Directors were present with the exception of Directors Ferguson and O'Day, thus constituting a quorum.

Also present for all or part of the meeting were the following: Kent Burkett, Administrative Consultant for the District and Sherry Plentl, Administrative Assistant for the District, Commissioner Pct. 4 Mary Ruth Rhodenbaugh, Rob Balcells of URS Corporation and Steve Boykin of Shintech Inc. / and Brazosport Water Authority.

The meeting was called to order by Director Pyburn at 4:00 p.m.

The meeting was opened to receive public comments. There were no persons present wishing to speak.

**ORDER 08-11-01    APPROVE MINUTES:**

Motion by Director Pyburn, Seconded by Director Felder that the Minutes from the meeting on October 23, 2008 be approved as presented. Motion approved with all present voting aye.

**ORDER 08-11-02    APPROVE INVOICES FOR PAYMENT:**

Motion by Director Felder; Seconded by Director Mudd that the invoices presented be approved for payment. Motion approved with all present voting aye.

**FINANCIAL REPORT AND BUDGET SUMMARY:**

A financial status report as of November 13, 2008 was reviewed. No action was taken.

**ORDER 08-011-03 APPROVE STATEMENTS AND OATHS OF OFFICE FOR ELECTED DIRECTORS**

Motion by Director Felder; Seconded by Director Mudd that the Board approve the Oath of Office and Statement of Elected Officer for the elected Directors Patrick O'Day, Pct. 3 and John Pyburn, Pct. 2.

The motion was approved with all present voting aye.

**ORDER: 08-11-04 OPEN PUBLIC HEARING REGARDING THE BRAZORIA COUNTY GROUNDWATER MANAGEMENT PLAN**

Motion by Director Pyburn, Seconded by Director Mudd to **OPEN** a public hearing regarding the Brazoria County Groundwater Management Plan. Motion approved with all present voting aye.

**ORDER: 08-11-05 CLOSE PUBLIC HEARING REGARDING THE BRAZORIA COUNTY GROUNDWATER MANAGEMENT PLAN**

Motion by Director Pyburn, Seconded by Director Felder to **CLOSE** the public hearing regarding the Brazoria County Groundwater Management Plan. Motion approved with all present voting aye.

**ORDER: 08-11-06 APPROVE GROUNDWATER MANAGEMENT PLAN**

Motion by Director Mudd, Seconded by Director Felder that the Brazoria County Groundwater Management Plan be approved as presented. Motion approved with all present voting aye.

**ORDER 08-11-07 OPEN PUBLIC HEARING REGARDING PERMIT AND RENEWAL APPLICATIONS:**

Motion by Director Felder; Seconded by Director Pyburn that the Board **OPEN** the public hearing regarding applications for permits/renewals received and declared administratively complete.

Motion approved with all present voting aye.

**ORDER 08-11-08 CLOSE PUBLIC HEARING REGARDING PERMIT AND RENEWAL APPLICATIONS:**

Motion by Director Felder; Seconded by Director Pyburn that the public hearing regarding applications for permits/renewals received be **CLOSED**. Motion approved with all present voting aye.

**ORDER 08-11-09 APPROVE PERMIT AND RENEWAL APPLICATIONS:**

Motion by Director Mudd; Seconded by Director Felder that the permit applications as presented be approved.

Motion approved with all present voting aye.

**ORDER 08-11-10 SET HEARING DATE FOR PERMIT APPLICATIONS:**

Motion by Director Pyburn; Seconded by Director Felder that a public hearing to consider approval of permit and renewal applications be set for the next meeting of the Board of Directors on **Thursday, December 11, 2008 at 4:00 p.m.** in the District Office and that the applicants be duly notified. Motion approved with all present voting aye.

**ORDER 08-11-11 ADJOURN:**

As there were no further matters to be had, the motion to adjourn was made by Director Felder and seconded by Director Pyburn. All present voting aye. The meeting was adjourned at 4:41 p.m.



Approved this 11<sup>th</sup> day of December, 2008

*Raymond D. Felder*

Raymond D. Felder, Secretary  
Board of Directors

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# BRAZORIA COUNTY GROUNDWATER CONSERVATION DISTRICT



451 N. Velasco Street, Suite 140, Angleton, Texas 77515

Mailing Address: 111 E. Locust, Bldg. A-29, Suite 140, Angleton, Texas 77515

---

November 17, 2008

Mr. Landon Roberts  
Brazosport Water Authority  
P.O. Box 816  
Lake Jackson, TX 77566-0816

**Re: Brazoria County Groundwater Conservation District Groundwater Management Plan**

Dear Mr. Roberts:

In 1997 the 75<sup>th</sup> Texas Legislature established a statewide comprehensive regional water planning initiative with the enactment of Senate Bill 1 (SB1). Among the provisions of SB1 were amendments to Chapter 36 of the Texas Water Code requiring groundwater conservation districts to develop a groundwater management plan that is to be submitted to the Texas Water Development Board (TWDB). The groundwater management plan is specified to contain management goals for each district, estimates on the availability of groundwater in the District, and details of how the District would manage and conserve groundwater resources.

The Brazoria County Groundwater Conservation District ("District") has completed its Groundwater Management Plan (attached), which has undergone a preliminary review and approval by the TWDB.

One of the requirements as part of formal submittal of the groundwater management plan to the TWDB is that evidence be provided that following notice and public hearing, the District coordinated with all surface water management entities [31TAC §356.6(a)(4)]. Therefore, attached you will find the Brazoria Groundwater Management Plan for your review.

Should you have any questions, please give me a call at (979) 864-1078.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kent Burkett', is written over a horizontal line.

Kent Burkett  
General Manager  
Brazoria County Groundwater Conservation District

*Our mission is to maintain the quality and availability of Brazoria County's groundwater resources  
for current users and future generations.*

(979) 864-1078 \* (979) 388-1078 \* (281) 756-1078  
Website: [www.bcgroundwater.org](http://www.bcgroundwater.org).

FAX: (979) 864-1079\* (979) 388-1079 \* (281) 756-1079  
E-mail: [sherryvp@brazoria-county.com](mailto:sherryvp@brazoria-county.com)

# BRAZORIA COUNTY GROUNDWATER CONSERVATION DISTRICT



451 N. Velasco Street, Suite 140, Angleton, Texas 77515

Mailing Address: 111 E. Locust, Bldg. A-29, Suite 140, Angleton, Texas 77515

November 17, 2008

Mr. Phil Ford  
General Manager/CEO  
Brazos River Authority  
P.O. Box 7555  
Waco, Texas 76714

## Re: Brazoria County Groundwater Conservation District Groundwater Management Plan

Dear Mr. Ford:

In 1997 the 75<sup>th</sup> Texas Legislature established a statewide comprehensive regional water planning initiative with the enactment of Senate Bill 1 (SB1). Among the provisions of SB1 were amendments to Chapter 36 of the Texas Water Code requiring groundwater conservation districts to develop a groundwater management plan that is to be submitted to the Texas Water Development Board (TWDB). The groundwater management plan is specified to contain management goals for each district, estimates on the availability of groundwater in the District, and details of how the District would manage and conserve groundwater resources.

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# BRAZORIA COUNTY GROUNDWATER CONSERVATION DISTRICT



451 N. Velasco Street, Suite 140, Angleton, Texas 77515

Mailing Address: 111 E. Locust, Bldg. A-29, Suite 140, Angleton, Texas 77515

November 17, 2008

General Manager  
Gulf Coast Water Authority  
3630 Highway 1765  
Texas City, TX 77591

**Re: Brazoria County Groundwater Conservation District Groundwater Management Plan**

Dear Sir or Madam:

In 1997 the 75<sup>th</sup> Texas Legislature established a statewide comprehensive regional water planning initiative with the enactment of Senate Bill 1 (SB1). Among the provisions of SB1 were amendments to Chapter 36 of the Texas Water Code requiring groundwater conservation districts to develop a groundwater management plan that is to be submitted to the Texas Water Development Board (TWDB). The groundwater management plan is specified to contain management goals for each district, estimates on the availability of groundwater in the District, and details of how the District would manage and conserve groundwater resources.

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General Manager  
Brazoria County Groundwater Conservation District

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**Appendix B**

**Rules of the District**

**BRAZORIA COUNTY  
GROUNDWATER CONSERVATION DISTRICT**

**ADOPTED ON:  
MAY 8, 2008**

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**RULES OF THE  
BRAZORIA COUNTY  
GROUNDWATER CONSERVATION DISTRICT**

**ADOPTED ON:  
May 8, 2008**

**RULES OF THE  
BRAZORIA COUNTY  
GROUNDWATER CONSERVATION DISTRICT**

**Board of Directors**

**Dennis Ferguson – President**

**John Pyburn – Vice President**

**Raymond Felder – Secretary**

**Donald Mudd – Asst. Secretary**

**Dr. Glenn Garrison - Director**

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## **CHAPTER 1. GENERAL PROVISIONS**

### **SUBCHAPTER A: GENERAL**

#### **§1.1 PURPOSE OF RULES.**

The purpose of the District Rules of the Brazoria County Groundwater Conservation District (the “District Rules”) is to implement the powers and duties of the District under its enabling Act as amended, Texas Water Code Chapter 36, and other applicable laws and to establish the general policies and procedures of the District.

#### **§1.2 USE AND EFFECT OF RULES.**

- (a) The District Rules shall not be construed as a limitation or restriction on the exercise of any discretion, where it exists; nor shall they be construed to deprive the District or Board of the exercise of any powers, duties or jurisdiction conferred by law; nor shall they be construed to limit or restrict the amount and character of data or information that may be required to be collected for the proper administration of the Act as amended.
- (b) Except as otherwise specified, the District Rules are effective on the date of adoption by the Board of Directors. References to Texas Water Code Chapter 36 include subsequent revisions and are effective upon the effective date of the District Rules or upon the effective date of subsequent amendments to Texas Water Code Chapter 36.

#### **§1.3 AMENDING RULES.**

The Board may, following notice and hearing, amend the District Rules or adopt new rules from time to time.

#### **§1.4 HEADINGS AND CAPTIONS.**

The section and other headings and captions contained in the District Rules are for reference purposes only and shall not affect in any way the meaning or interpretation of the District Rules.

#### **§1.5 CONSTRUCTION OF RULES.**

- (a) Unless otherwise expressly provided for in the District Rules, the past, present and future tense shall each include the other; the masculine, feminine and neuter gender shall each include the other; and the singular and plural number shall each include the other.
- (b) The verbs “may,” “can,” “might,” “should,” or “could” are used when an action is optional or may not apply in every case. The verbs “will,” “shall,” or “must” are

used when an action is required. The verb “cannot” is used when an action is not allowed or is unachievable.

**§1.6 SEVERABILITY.**

In case any one or more of the provisions contained in the District Rules shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other Rules, or provisions hereof, and the District Rules shall be construed as if such invalid, illegal, or unenforceable rule or provision had never been contained herein.

**§1.7 SAVINGS CLAUSE.**

If any section, sentence, paragraph, clause, or part of the District Rules should be held or declared invalid for any reason by a final judgment of the courts of this state or of the United States, such decision or holding shall not affect the validity of the remaining portions of the District Rules; and the Board does hereby declare that it would have adopted and promulgated such remaining portions irrespective of the fact that any other sentence, section, paragraph, clause, or part thereof may be declared invalid.

**§1.8 COMPUTING TIME.**

In computing any period of time prescribed or allowed by the District Rules, by order of the Board, or by any applicable statute, the day of the act, event, or default from which the designated period of time begins to run, is not to be included, but the last day of the period so computed is to be included, unless it be a Saturday, Sunday, or legal holiday on which the District is closed, in which event the period runs until the end of the next day that is neither a Saturday, Sunday, or a legal holiday on which the District is closed.

**§1.9 TIME LIMITS.**

Applications, requests, or other papers or documents required or permitted to be filed under the District Rules must be received for filing at the District, within the time limit, if any, for such filing. The date of receipt and not the date of posting is determinative.

**§1.10 REGULATORY COMPLIANCE.**

Where District Rules and regulations are more stringent than those of other governmental entities, the District Rules and regulations shall control, provided the rules and regulations are within the scope of the District’s statutory authority and are not otherwise preempted by state or federal law.

## **SUBCHAPTER B: RULEMAKING PROCEDURES**

### **§1.20 PUBLIC HEARINGS ON PROPOSED RULES.**

The Board shall hold at least one public hearing on proposed rules prior to adoption of the proposed rules as final rules.

### **§1.21 NOTICE OF PUBLIC HEARINGS ON PROPOSED RULES.**

- (a) The Board will set a time and place for any public hearing on proposed rules of the District.
- (b) The Board shall give prior notice of the public hearing at least twenty (20) days before the public hearing by all of the following:
  - (1) posting the notice in the location where notices of the District's Board meetings are posted;
  - (2) providing notice to the Brazoria County Clerk;
  - (3) publishing notice in one or more newspapers of general circulation in Brazoria County; and
  - (4) providing notice by mail, facsimile, or electronic mail to any person who has requested notice.
- (c) The notice shall advise the public of the following:
  - (1) the time, date, and location of the rulemaking hearing;
  - (2) a brief explanation of the subject of the rulemaking hearing; and
  - (3) a location or Internet site at which a copy of the proposed rules may be reviewed or copied.

## **CHAPTER 2. DEFINITIONS**

### **§2.1 APPLICABILITY.**

- (a) The District employs two types of definitions. General definitions apply to all Rules of the District. Specific definitions apply only to the chapter in which they are located. Specific definitions applying only to a particular chapter are set out in that chapter.
- (b) The District follows the definitions of terms set forth in Texas Water Code Chapter 36 and other definitions as set forth herein.

## §2.2 DEFINITIONS.

Unless the context clearly indicates a contrary meaning, the following words and terms shall have the following meanings in the District Rules:

- (1) “**Abandoned Well**” - a well that has not been used for six consecutive months. A well is considered to be in use in the following cases: (a) a non-deteriorated well which contains the casing, pump, and pump column in good condition; (b) a non-deteriorated relief well; or (c) a non-deteriorated well which has been capped.
- (2) “**Acre Foot**” - the volume of water necessary to cover one acre of land one foot deep or 325,851 gallons.
- (3) “**Act**” - the District's enabling legislation H.B. No. 3602 of the 78th Texas Legislature, as amended by H.B. No. 4114 of the 80<sup>th</sup> Texas Legislature, in conjunction with Texas Water Code Chapter 36, as amended.
- (4) “**Agricultural Use**” - any use or activity involving agriculture, including irrigation, as defined in Texas Water Code Section 36.001(2). including but not limited to aquaculture; irrigation to cultivate the soil to produce crops; the practice of floriculture, viticulture, silviculture, and horticulture, including nursery grower operations; raising, feeding, or keeping animals for breeding or production of food or fiber or other products with a tangible commercial value; planting cover crops, wildlife management; or raising or keeping equine animals.
- (5) “**Agriculture**” - cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers; the practice of floriculture, viticulture, silviculture, and horticulture, the cultivation of plants in containers or non-soil media, by a nursery grower; raising, feeding, or keeping animals for breeding or production of food or fiber or other products with a tangible commercial value; planting cover crops; wildlife management; or raising or keeping equine animals, as defined in Texas Water Code Section 36.001(19).
- (6) “**Annular Space**” - the space between two cylindrical objects, one of which surrounds the other, such as the space between the walls of a drilled hole and the installed casing.
- (7) “**AWWA**” - American Water Works Association.
- (8) “**Board**” - the Board of Directors of the Brazoria County Groundwater Conservation District.
- (9) “**Capped**” – with respect to a water well, means a well that is closed or capped with a covering capable of preventing surface pollutants from entering the well and sustaining weight of at least 400 pounds and constructed in such a way that the covering cannot be easily removed by hand.

- (10) “**Casing**” – a watertight pipe which is installed in an excavated or drilled hole, temporarily or permanently, to maintain the hole sidewalls against caving, advance the borehole, and in conjunction with cementing and/or bentonite grouting, to confine the groundwaters to their respective zones or origin, or to prevent surface contaminant infiltration.
- (11) “**Cement Grout**” - a mixture of water and cement, which may also include a bentonite clay component.
- (12) “**Commission**” - means the Texas Commission on Environmental Quality or its successor agency.
- (13) “**Dewatering Well**” – a well used to produce groundwater to lower or control the level of the water table in the area of the well.
- (14) “**Director**” - an elected or appointed member of the Board of Directors of the Brazoria County Groundwater Conservation District.
- (15) “**Discharge**” - the volume of water that passes a given point within a given period of time.
- (16) “**District**” - the Brazoria County Groundwater Conservation District.
- (17) “**District Rules**” - standards and regulations promulgated by the District.
- (18) “**Domestic Use**” - the use of water by an individual, or a single family unit, or household for drinking, cooking, laundering, sanitation, and other personal comforts and necessities; obtained directly by an individual or single family unit, not supplied by a water company, water district, or municipality.
- (19) “**Drill**” - drilling, equipping, completing wells, or modifying the size of wells or well pumps/motors (resulting in an increase in pumpage volume) whereby a drilling or service rig must be on location to perform the activity.
- (20) “**Existing Well**” – any well in the District that was drilled and completed prior to the adoption of the District Rules.
- (21) “**Export**” – the transfer of groundwater out of the District.
- (22) “**Fees**” - charges imposed by the District pursuant to rule, order, or the Act.
- (23) “**Groundwater**” - water located beneath the earth's surface but does not include water produced with oil and gas production or water that is discharged from a relief well or associated piezometer.
- (24) “**Groundwater Reservoir**” - a specific subsurface water-bearing reservoir having ascertainable boundaries and containing groundwater.

- (25) **“Incidental Use”** - a beneficial use of water which is of a minor nature. Transport of water outside the District by a permittee which totals 5% or less, but in no case more than 5,000,000 gallons, of the permittee’s annual estimated pumpage is considered incidental use (15.34 acre foot).
- (26) **“Industrial Use”** – including, but not limited to, the use of water integral to the production of primary goods and/or services provided by industrial, manufacturing or commercial facilities and used primarily in the building, production, manufacturing, or alteration of a product or goods, or a well used to wash, cleanse, cool, or heat such goods or products; does not include agricultural use.
- (27) **“Meter”** – a water flow measurement device which meets AWWA standards for the applicable line size, pressures and flows and which is properly installed according to the manufacturer’s specifications.
- (28) **“Modify”** - to alter the physical or mechanical characteristics of a well, its equipment, or production capabilities. This does not include repair of equipment, well houses or enclosures, or replacement with comparable equipment.
- (29) **“Monitoring Well”** - a well constructed to measure or monitor water quality and/or quantity and movement. Included within this definition are environmental soil borings, piezometer wells, observation wells, and recovery wells.
- (30) **“Municipal Use”** - the use of water for a public water system for residential, commercial, or public and institutional uses, including the application of potable water for irrigation of golf courses, parks and recreational uses; it does not include water for industrial uses even when industrial users are receiving potable water.
- (31) **“New Well”** – any well that is not an existing well as defined in the District Rules.
- (32) **“Open or Uncovered Well”** - an artificial excavation at least 10 feet deep and not more than six feet in diameter, that is dug or drilled for the purpose of producing the groundwater, or for injection, monitoring, or de-watering purposes, and is not capped or covered as required by the District.
- (33) **“Operate or Operations”** - to produce or cause to produce water from a well or to use a well for injection or closed loop heat exchange purposes.
- (34) **“Person”** - includes a corporation, individual, organization, cooperative, government or governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.
- (35) **“Plug”** - to close a well permanently in accordance with approved District standards.

- (36) **“Potable Water”** – water which is safe for human consumption in that it is free from impurities in amounts sufficient to cause disease or harmful physiological effects.
- (37) **“Public Water System:** - As defined by Texas Administrative Code, Title 30, Chapter 290, a system for the provision to the public of water for human consumption through pipes or other constructed conveyances.. Such a system must have at least 15 service connections or serve at least 25 individuals at least 60 days out of the year. This term includes; any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system, and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Two or more systems with each having a potential to serve less than 15 connections or less than 25 individuals but owned by the same person, firm, or corporation and located on adjacent land will be considered a public water system when the total potential service connections in the combined systems are 15 or greater or if the total number of individuals served by the combined systems total 25 or greater at least 60 days out of the year. Without excluding other meanings of the terms "individual" or "served," an individual shall be deemed to be served by a water system if he lives in, uses as his place of employment, or works in a place to which drinking water is supplied from the system.
- (38) **“Pumpage”** - all groundwater withdrawn from the ground, measured at the wellhead.
- (39) **“Permit”** - an authorization issued by the District allowing the withdrawal of groundwater from a nonexempt well for a designated period of time and/or a specific amount of groundwater from a nonexempt well for a designated period of time, generally in the form of gallons or acre-feet per year.
- (40) **“Permit Amendment”** - a minor or major change in the permit.
- (41) **“Recreational Use”** – the use of water for fishing, swimming, water skiing, boating, hunting, and other forms of water recreation, including aquatic and wildlife enjoyment, and aesthetic land enhancement of a subdivision, golf course or similar development.
- (42) **“Red Tag”** - an official seal, tag, or label placed on a well or its equipment, or the act of placing the tag or label, to indicate that further pumping of groundwater, or operation of the well, or continuing with other District regulated activities is not permitted by the District, will be in violation of District Rules, and may subject the well owner and operator to civil suit and/or penalties.
- (43) **“Relief Well”** – an artesian well and associated piezometers used to maintain the structural integrity of a reservoir embankment system or other similar structures.



- (44) **“Remediation Well”**- means a well used to clean up, treat, or prevent contamination of underground sources of water.
- (45) **“Salt Dome”** - geologic structure resulting from the upward movement of a salt mass caused by gravitational instability of a low density salt layer overlain by a high density layer.
- (46) **“Seal”** - the impermeable material, such as cement grout, bentonite, or puddling clay, placed in the annular space between the borehole wall and the casing to prevent the downhole movement of surface water or the vertical mixing of groundwater.
- (47) **“Special Provisions”** - conditions or requirements added to a permit which may be more or less restrictive than the District Rules as a result of circumstances unique to a particular situation.
- (48) **“Spring”** - a point(s) of natural discharge from an aquifer.
- (49) **“Stratum”** - a layer of rock having a similar composition throughout.
- (50) **“Subsidence”** – sinking of a portion of the land surface resulting from removal of fluids from subsurface reservoirs such as oil and gas deposits, groundwater, or salt domes.
- (51) **“User”** - a person who produces, distributes, or uses water from the aquifer(s).
- (52) **“Water Table”** - the upper boundary of the saturated zone in an unconfined aquifer.
- (53) **“Well”** - any artificial excavation or borehole constructed for the purposes of exploring for or producing groundwater, or for injection, monitoring, or de-watering purposes.
- (54) **“Well Log”** - an accurately kept record made during the process of drilling on forms prescribed by the Texas Department of Licensing and Registration (TDLR), showing the depth of the well bore, thickness of the formations, character of casing installed, together with any other data or information required by the Water Well Drillers Team; or any other special purpose well log that may be available for a given well, such as a gamma ray log, a temperature log, an electric log, or a caliper log.
- (55) **“Well Pumps and Equipment”** - devices and materials used to obtain water from a well, including the seals and safeguards necessary to protect the water from contamination.
- (56) **“Well Registration”** - the creation of a record of the well by use and a well identification number for purposes of registering the well as to its geographic

location and for notification to the well owner in cases of spills or accidents, data collection, record keeping and for future planning purposes.

- (57) “**Withdraw or Withdrawal**” - the act of extracting groundwater by pumping or any other method, other than the discharge of natural springs.

## **CHAPTER 3. REGISTRATION, PERMITS, FEES, AND OTHER REQUIREMENTS**

### **SUBCHAPTER A: SCOPE AND APPLICABILITY**

#### **§3.1 REGISTRATION REQUIRED.**

- (a) The Board has determined that registration of wells within the District benefits the public and supports the preservation and protection of groundwater within the District by providing detailed information regarding the size and location of wells located within the District.
- (b) Except as provided herein, all permanent production wells within the District, whether exempt or non-exempt from permitting, are required to be registered with the District and a State Well Report must be submitted to the District within sixty (60) days of the drilling of a well. If the State Well Report is not submitted to the District within sixty (60) days of the drilling of a well, the continued operation of the well is a violation of District Rules and is subject to fines and fees in accordance with Section 10.9 of the Rules.
- (c) The following types of wells are not required to be registered with the District:
- a. Non-production monitoring wells; and
  - b. Temporary dewatering wells; and
  - c. Remediation wells.

#### **§3.2 REGISTRATION OF WELLS.**

- (a) Except as provided in Section 3.1, all new wells must be registered by the well owner, the well driller, or other authorized agent of the well owner prior to the well being drilled, equipped or completed.
- (b) Registration of existing wells that are exempt from permitting by the District:

All existing exempt wells having an inside diameter measuring greater than 4.5 inches must be registered by the well owner or the agent of the well owner by December 31, 2006. All existing exempt wells having an inside diameter measuring between 3.5 inches and 4.5 inches must be registered by the well owner or the agent of the well owner by December 31, 2007. All existing exempt

wells having an inside diameter measuring less than 3.5 inches may be registered by the well owner or the agent of the well owner on a voluntary basis.

- (c) Registration of existing wells that are non-exempt from permitting by the District:  
  
All existing non-exempt wells must be fully compliant with the registration requirements of this section prior to December 31, 2007.
- (d) The well owner, the well driller or the authorized agent of the well owner shall register the well by completing a District registration form and submitting the form to the District.
- (e) It is a violation of the District's Rules to drill, equip, complete, or produce groundwater from a new well, or to operate an existing well after December 31, 2006, without submitting a complete District registration form to the District. A violation begins on the first day of such drilling, equipping, completion, production of groundwater or operation and continues each day thereafter until a complete District registration form is submitted to the District.
- (f) A registration for a new well will expire and be considered null and void by the District if the well is not drilled within one year of the date the complete District registration form is submitted to the District. The registrant must submit a new and complete District registration form to the District before drilling may commence on the new well.

**NO FEE, TAX OR OTHER ASSESSMENT WILL BE COLLECTED FOR WELL REGISTRATION.**

**§3.3 PERMIT REQUIREMENTS.**

- (a) Except as otherwise provided herein, a permit from the District is required prior to drilling, equipping, completing, operating, or producing groundwater from any non-exempt well within the District. It is a violation of the District Rules for a well owner, well operator, well driller, or any other person acting on behalf of the well owner to drill, equip, complete, operate, or produce groundwater from a non-exempt well within the District without first obtaining the proper permit or permit amendment.
- (b) A well must remain properly permitted unless and until the power source is disconnected or the well casing or discharge pipe is capped or plugged.
- (c) An application for a permit, permit amendment, or permit renewal shall be submitted in accordance with Subchapter B of this Chapter.
- (d) The owner or operator of an existing well must be fully compliant with the permitting requirements of this section by prior to December 31, 2006. An

applicant for a new well must be fully compliant with the permitting requirements of this section prior to drilling, equipping, completing, operating, or producing groundwater from the well.

### §3.4 EXEMPTIONS FROM PERMITTING.

- (a) The following wells are not required to have a permit from the District:
  - (1) a well that is exempt from registration under Section 3.1(c):
    - i. Non-production monitoring wells; and
    - ii. Temporary dewatering wells; and
    - iii. Remediation wells; and
  - (2) **A NEW OR EXISTING WATER WELL ON PRIVATE PROPERTY THAT SERVES ONLY A SINGLE-FAMILY DWELLING USED ONLY FOR DOMESTIC PURPOSES; AND**
  - (3) **A NEW OR EXISTING WATER WELL USED ONLY FOR AGRICULTURE; AND**
  - (4) a well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by the Railroad Commission of Texas provided that the person holding the Railroad Commission permit is responsible for drilling and operating the water well and the well is located on the same lease or field associated with the drilling rig; and
- (g) a water well authorized under a permit issued by the Railroad Commission of Texas under Natural Resources Code Chapter 134, provided the withdrawals are no greater than the amount necessary for mining activities specified in the Railroad Commission permit; and
- (b) A well exempt under Subsection (a) will lose its exempt status and must be permitted if the well is subsequently used for a purpose or in a manner that is not exempt under Subsection (a).

## SUBCHAPTER B: APPLICATION REQUIREMENTS AND PROCESSING

### §3.10 PREPARATION OF AN APPLICATION.

- (a) Form of Application. Application for a well registration, permit, permit amendment, or permit renewal shall be made on District forms. Applications shall be in writing and sworn to.

- (b) Proper Registrant, Applicant, or Declarant. The application must be submitted and signed by the well owner or a Water Well Driller licensed by the State of Texas or an authorized agent of the owner. The authorized agent may be required to provide the District with a notarized authorization from the landowner.
- (c) Completeness of an Application. An application shall be considered administratively complete if it includes all information required to be included in the application; is signed and includes any maps, documents, or supplementary information requested by the Board or staff. A determination of administrative completeness will be made by the District's designee.
- (d) Action on Incomplete Applications. The District will not take action on an application which is not administratively complete or which has not proceeded in a manner consistent with District Rules. An application may be rejected as not administratively complete if the District finds that substantive information required by the application or District staff is missing, false, or incorrect. Applicants submitting incomplete applications will be notified by the District in writing.

### **§3.11 REQUIREMENTS FOR APPLICATIONS.**

- (a) A separate application is required for each well.
- (b) Content Requirements. An application must contain the following information in sufficient detail to be acceptable to the District:
  - (1) Minimum Requirements. All applications shall include the following:
    - (A) the name, mailing address, and phone number of the applicant and the owner of the property on which the well is or will be located; and
    - (B) if the applicant is other than the owner of the property, or a Water Well Driller licensed by the State of Texas, or an authorized agent for the owner of the property, documentation establishing the applicable authority to construct and operate a well for the proposed use; and
    - (C) a detailed statement of the nature and purpose of the proposed groundwater usage and the amount of groundwater proposed to be used for each purpose; and
    - (D) the location of the well and the estimated rate at which water will be withdrawn from the well; and
    - (E) the proposed location(s) of use of the water from the well; and

- (F) the proposed casing size and pump capacity; and
- (G) a statement by the applicant that the water withdrawn under the permit will be put to a beneficial, non-wasteful use at all times and that the applicant will comply with all District Rules, orders, and permit provisions; and
- (H) a water well closure plan or a declaration that the applicant will comply with well plugging and capping guidelines set forth in the District Rules and will report well closures to the District; and
- (I) any other information deemed necessary for the evaluation of the application by the Board or the District's designee.

**§3.12 SCHEDULING AND NOTICE OF HEARING ON AN APPLICATION.**

- (a) Scheduling of Hearing. Unless the District Rules specifically provide that a hearing is not required for an application, once an application has been declared administratively complete by the District's designee, the Board will schedule the application for a hearing at a regular or special meeting of the Board.
- (b) Notice of Hearings. Not later than the 10<sup>th</sup> day before the date of the hearing, the Board shall give notice of all hearings involving permit applications in the following manner:
  - (1) post notice in a place readily accessible to the public at the District office; and
  - (2) provide notice to the Brazoria County Clerk; and
  - (3) provide notice by regular mail to the applicant or an authorized agent.
- (c) Contents of Notice. The notice shall include:
  - (1) the name of the applicant; and
  - (2) the date, time, and location of the hearing; and
  - (3) the address or approximate location of the well or proposed well; and
  - (4) a brief explanation of the proposed permit or permit amendment, and
  - (5) the purpose of the proposed use, and any change in use; and

- (6) any other information Board deems relevant or appropriate.

### **§3.13 HEARING PROCEDURES.**

- (a) General Provisions. Hearings on permit matters will be conducted by a quorum of the Board or an individual to whom the Board has delegated the responsibility to preside as a hearings examiner. The Board president, or another Board member designated by the president, or the hearings examiner shall serve as the presiding officer for the hearing.
- (b) Hearing Registration. The District may require each person who attends a hearing to submit a hearing registration form stating the person's name, address, whom the person represents, and whether the person wishes to testify.
- (c) Conduct of Hearings. The presiding officer may:
  - (1) convene the hearing at the time and place specified in the notice; and
  - (2) set any necessary additional hearing dates; and
  - (3) establish the order for presentation of evidence; and
  - (4) administer oaths to all persons presenting testimony; and
  - (5) examine persons presenting testimony; and
  - (6) ensure that information and testimony are introduced as conveniently and expeditiously as possible without prejudicing the rights of any party; and
  - (7) prescribe reasonable time limits for testimony and the presentation of evidence.
- (d) Continuance. The presiding officer may continue a hearing from time to time and from place to place without providing notice under the District Rules by announcing at the hearing the time, date, and location of the continued hearing.
- (e) Recording. The District shall prepare and keep a record of each hearing in the form of either minutes, or audio or video recording, or court reporter transcription, or the report described by Subsection (f) of this section. If a hearing is transcribed at the request of a party to the hearing, the presiding officer may assess the costs associated with producing the transcript to one or more parties. If a hearing involves a contested application, then the District shall keep a record of the hearing in the form of audio or video recording or a court reporter transcription.

- (f) Report. The presiding officer shall submit a report to the Board not later than the 30th day after the date a hearing is concluded, unless the hearing was conducted by a quorum of the Board. If the hearing was conducted by a quorum of the Board, the presiding officer shall determine at the presiding officer's discretion whether to prepare and submit a report to the Board under this section. The report must include:
- (1) a summary of the subject matter of the hearing; and
  - (2) a summary of the evidence or public comments received; and
  - (3) the presiding officer's recommendations for Board action on the subject matter of the hearing.

### **§3.14 ACTION ON APPLICATIONS.**

The Board shall act on a permit or permit amendment application not later than the 60th day after the date the final hearing on the application is concluded.

### **§3.15 TERM OF PERMITS.**

- (a) Each permit shall have an effective term in accordance with the District's Fee Schedule. The permit fee charged by the District shall be in accordance with the District's Fee Schedule.
- (b) A permit will be considered null and void by the District if the well is not drilled within twelve (12) months of the date the permit is issued.

### **§3.16 PERMIT TERMS AND CONDITIONS.**

All permits are granted subject to the District Rules, orders of the Board, and the laws of the State of Texas. In addition to any special provisions or other requirements incorporated into the permit, each permit issued shall be subject to the following terms and conditions:

- (a) The permit is granted in accordance with the provisions of H.B. No. 3602 of the 78th Texas Legislature, as amended by H.B. 4114 of the 80<sup>th</sup> Texas Legislature, in conjunction with Texas Water Code Chapter 36, and the rules and orders of the District, and acceptance of the permit constitutes an acknowledgment and agreement that the permittee will comply with all the terms, provisions, conditions, requirements, limitations, and restrictions embodied in the permit and with the rules and orders of the District.
- (b) The drilling and operation of the well for the authorized use shall be conducted in such a manner as to avoid waste, pollution, or harm to the aquifer.



- (c) The permittee shall maintain records indicating the amount of groundwater withdrawn each month, the purpose of the withdrawal, and the total amount of water exported, if any. The amount of groundwater withdrawn each month shall be recorded on a District form and reported to the District.
- (d) The permittee agrees to cooperate fully in any reasonable inspection of the well site and related monitoring or sampling by District representatives.
- (e) Driller's logs must be submitted to the District within sixty (60) days of the drilling of a well. Failure to submit a driller's log will be grounds for revocation of a permit.
- (f) Violation of the permit's terms, conditions, requirements, or special provisions is a violation of the District Rules and shall be punishable by civil penalties as provided by the Act and the District Rules.

### **§3.17 PERMIT RENEWAL.**

Well owners or operators shall make application to renew permits required under the District Rules prior to the expiration of the permit term. The well owner or operator shall indicate on the application form whether any changes to the well, well operations, purpose of use, or special conditions have occurred.

### **§3.18 PERMIT AMENDMENTS**

- (a) It is a violation of the District Rules for a permittee to violate any term, provision, or restriction contained in a permit issued by the District. A permittee must apply for and receive an amendment to their permit prior to changing any term, provision, or restriction in the permit.
- (b) An application for permit amendment shall be made on District forms and any applicable fee shall be paid in accordance with the District's fee schedule.

### **§3.19 PERMIT REVOCATION, CANCELLATION, OR MODIFICATION.**

- (a) A permit is not a vested right of the holder.
- (b) After notice and an opportunity for hearing, a permit may be revoked, suspended, terminated, canceled, modified, or amended in whole or in part for cause, including, but not limited to (i) violation of any terms or conditions of the permit, (ii) obtaining the permit by misrepresentation or failure to disclose relevant facts, or (iii) failure to comply with any applicable rules, regulations, fee schedule, special provisions, requirements, or orders of the District. The permittee shall furnish to the District upon request, and within a reasonable time, any information to determine whether cause exists for revoking, suspending, terminating, canceling, modifying, or amending a permit.

### **§3.20 REQUESTS FOR REHEARING.**

- (a) An applicant in a contested or uncontested hearing on an application or a party to a contested hearing may administratively appeal a decision of the Board on a permit or permit amendment application by requesting written findings and conclusions or a rehearing before the Board not later than the 20th day after the date of the Board's decision.
- (b) On receipt of a timely written request, the Board shall make written findings and conclusions regarding a decision of the Board on a permit or permit amendment application. The Board shall provide certified copies of the findings and conclusions to the person who requested them, and to each person who provided comments or each designated party, not later than the 35th day after the date the Board receives the request. A person who receives a certified copy of the findings and conclusions from the Board may request a rehearing before the Board not later than the 20th day after the date the Board issues the findings and conclusions.
- (c) A request for rehearing must be filed in the District office and must state the grounds for the request. If the original hearing was a contested hearing, the person requesting a rehearing must provide copies of the request to all parties to the hearing.
- (d) If the Board grants a request for rehearing, the Board shall schedule the rehearing not later than the 45th day after the date the request is granted.
- (e) The failure of the Board to grant or deny a request for rehearing before the 91st day after the date the request is submitted is a denial of the request.

### **§3.21 DECISION; WHEN FINAL.**

- (a) A decision by the Board on a permit or permit amendment application is final:
  - (1) if a request for rehearing is not filed on time, on the expiration of the period for filing a request for rehearing; or
  - (2) if a request for rehearing is filed on time, on the date:
    - (A) the Board denies the request for rehearing; or
    - (B) the Board renders a written decision after rehearing.

## **SUBCHAPTER C: REQUIREMENTS OF WELL OWNERS AND OPERATORS**

### **§3.30 REPORTS.**

- (a) Pumpage and Export Report.
  - (1) Each permit holder shall maintain records of monthly production from each permitted well as required by the District Rules.
  - (2) Each permit holder shall submit an “Annual Well Production Report” to the District on forms approved by the District within 30 days of the end of the District’s pumpage reporting period. Reports received after the 30-day deadline will be considered late. If it has not already been provided to the District, the report shall include the driller’s log, a description of the casing and pumping equipment, and the capacity of the well.
  - (3) A permit holder who transports groundwater for use outside of the District shall submit an “Annual Export Report” to the District on forms approved by the District within 30 days of the end of the District’s export reporting period. Reports received after the 30-day deadline will be considered late. If it has not already been provided to the District, the report shall include the total amount of groundwater transported outside of the District from each well during each month of the preceding period and the purposes for which the water was transported.
  
- (b) Water Quality Reports. All community water system permittees required by statute or regulation to conduct water quality analyses (including public water systems) shall, at the time of obtaining results of the analyses, submit to the District a duplicate copy of the report generated by such analysis, including Consumer Confidence Reports.

**§3.31 FEES AND PAYMENT OF FEES.**

- (a) Permit Application, Registration, and other Administrative Fees. The Board shall establish a schedule of administrative fees by resolution in accordance with H.B. No. 3602 of the 78th Texas Legislature, as amended by H.B. No. 4114 of the 80<sup>th</sup> Texas Legislature. The Board will attempt to set fees at an amount that does not unreasonably exceed the cost to the District of performing the function for which the fees are charged. Such costs may include maintenance of a fund balance for contingencies.
  
- (b) Export Fees. The Board shall establish a schedule of export fees by resolution in accordance with H.B. No. 3602 of the 78th Texas Legislature, as amended by H.B. No. 4114 of the 80<sup>th</sup> Texas Legislature. Export fees will not be applied to:
  - (1) the export of groundwater from the District for incidental use as defined in Chapter 2 of the District Rules;

- (2) the export of groundwater for an agricultural operation that overlaps or is adjacent to the District boundary; and
  - (3) the export of groundwater that occurs as a result of the distribution of water within a single, aggregate system of a retail public water system that overlaps the District boundary.
- (c) Production Fees. The Board shall establish a schedule of production fees by resolution in accordance with H.B. No. 3602 of the 78th Texas Legislature, as amended by H.B. No. 4114 of the 80<sup>th</sup> Texas Legislature.
  - (d) Payment of Fees. All administrative fees, Export fees, and Production fees shall be paid in accordance with the District's fee schedule. The validity of any permit is contingent upon payment of any applicable administrative fees, export fees, or production fees in accordance with the District's Fee Schedule. The Board, by resolution in accordance with the District's Fee Schedule, may establish procedures for the payment of production fees or export fees in installments and/or quarterly payments.
  - (e) **EXEMPTIONS. NO FEE OF ANY TYPE SHALL BE ASSESSED OR COLLECTED FROM A NEW OR EXISTING WATER WELL ON PRIVATE PROPERTY THAT SERVES ONLY A SINGLE-FAMILY DWELLING USED ONLY FOR DOMESTIC PURPOSES AND/OR A NEW OR EXISTING WATER WELL USED ONLY FOR AGRICULTURE.**

#### CHAPTER 4. MEASURING METHODS

##### §4.1 MEASUREMENT OF WATER USE BY PERMITTED WELLS.

- (a) **AN OWNER OR OPERATOR OF A NEW OR EXISTING WATER WELL ON PRIVATE PROPERTY THAT SERVES ONLY A SINGLE-FAMILY DWELLING USED ONLY FOR DOMESTIC PURPOSES AND/OR A NEW OR EXISTING WATER WELL USED ONLY FOR AGRICULTURE, IS EXEMPT FROM THE REQUIREMENTS OF THIS SECTION.**
- (b) Except as otherwise provided by the District Rules, each permitted well shall be equipped with a functioning water meter, meeting AWWA standards for line size, pressures, and flows.
- (c) Except as otherwise provided by the District Rules, each well owner or operator of each permitted well shall record on a District form and report the amount of groundwater withdrawn each month to the District. In addition, each well owner or operator of each permitted well shall record on a District form and report the following information annually to the District:
  - (1) the total amount of groundwater withdrawn each month; and

- (2) the quantity of water necessary for mining activities; and
- (1) the quantity of water withdrawn for other purposes.

**§4.2 VIOLATION OF METERING AND REPORTING REQUIREMENTS.**

False reporting or logging of water measurements or meter readings, intentionally tampering with or disabling a meter, or similar actions to avoid accurate reporting of groundwater use and pumpage shall constitute a violation of the District Rules and shall subject the person performing the action, as well as the well owner, and/or the operator who authorizes or allows that action, to such penalties as provided in the Act and the District Rules.

**CHAPTER 5. GENERAL PROVISIONS AND PROHIBITIONS**

**§5.1 GENERAL PROHIBITION.**

Groundwater produced from within the District shall not be used in such a manner or under such conditions as to constitute waste. No person shall intentionally or negligently commit waste.

**§5.2 SUBSURFACE POLLUTION.**

No person shall pollute or harmfully alter the character of the groundwater reservoirs of the District by operating any drilling activity and/or other activity in a manner that causes or allows the introduction of salt water pollutants or other deleterious matter from another stratum from the subsurface and/or the surface of the ground, or from the operation of any drilling activity and/or other activity.

**§5.3 SURFACE POLLUTION.**

No person shall pollute or harmfully alter the character of the groundwater reservoirs of the District by any activities on the surface of the ground which causes or allows pollutants to enter the groundwater reservoirs.

**§5.4 ORDERS TO PREVENT WASTE/POLLUTION.**

After providing notice to affected parties and opportunity for a hearing, the Board may adopt orders to prohibit or prevent waste or pollution. If the factual basis for the order is disputed, the Board shall direct that an evidentiary hearing be conducted prior to entry of the order. If the Board determines that an emergency exists, requiring the immediate entry of an order to prohibit waste or pollution and protect the public health, safety, and welfare, it may enter a temporary order without notice and hearing provided, however, the temporary order shall continue in effect for the lesser of fifteen (15) days or until a hearing can be conducted.

## **CHAPTER 6. REGULATION OF WELL SPACING AND PRODUCTION**

### **SUBCHAPTER A: GENERAL PROVISIONS**

#### **§6.1 PURPOSE.**

The purpose of this chapter is to achieve the District's statutory goals of conserving, preserving, protecting, and recharging the groundwater resources within the District by establishing aquifer management requirements consistent with Texas Water Code Chapter 36, and appropriate to the aquifer system.

#### **§6.2 APPLICABILITY.**

All wells are required to meet the well spacing regulations set forth under Title 16, Texas Administrative Code, Chapter 76, Water Well Drillers and Pump Installers Rules.

#### **§6.3 BASIS FOR LIMITATION OF WELL SPACING AND PRODUCTION.**

The requirements of this chapter are based on the District's statutory authority to regulate the spacing of water wells and the production of groundwater in order to minimize the drawdown of the water table or the reduction of artesian pressure, to control subsidence, to prevent interference between wells, to prevent degradation of water quality, or to prevent waste.

### **SUBCHAPTER B: SPACING REQUIREMENTS**

#### **§6.10 DRILLING WELLS AT UNAPPROVED LOCATIONS PROHIBITED.**

It is a violation of the District Rules for a well owner, well operator, or water well driller to drill a new well that does not comply with the spacing and location requirements of this subchapter.

#### **§6.11 MINIMUM SPACING APPLICABLE TO ALL NEW WELLS.**

All new wells must comply with the spacing and location requirements promulgated by the Texas Department of Licensing and Regulation and set forth under Title 16, Texas Administrative Code Chapter 76, Water Well Drillers and Pump Installers Rules. Any variance granted by the Texas Department of Licensing and Regulation shall be submitted with the Well Log.

#### **§6.12 ADDITIONAL STANDARDS.**

The Board may adopt additional spacing standards for wells drilled in the District. Approved well spacing standards will be made available to the public.

## **CHAPTER 7. DRILLING, EQUIPPING AND CONSTRUCTION**

### **§7.1 RECORDS.**

- (a) Complete records shall be kept and reports thereof made to the District concerning the drilling, equipping, and completion of all wells drilled in the District. Such records shall include an accurate driller's log, depth to water, any electric log that shall have been made, and such additional data concerning the description of the well, its discharge, and its equipment as may be required by the Board. Such records shall be filed with the District within sixty (60) days after drilling of the well.
- (b) No person shall operate any well drilled and equipped within the District, except operations necessary to the drilling and testing of such well and equipment, unless or until the District has been furnished an accurate driller's log, any special purpose log or data which have been generated during well development, and a registration of the well correctly furnishing all available information required on the forms

### **§7.2 DRILLING AND COMPLETION OF WELLS.**

- (a) Drilling and completion of wells must satisfy all applicable requirements of the Commission and the Texas Department of Licensing and Regulation, and any additional well construction standards adopted by the District.
- (b) All wells must be completed in accordance with the well completion standards set forth under the requirements promulgated by the Texas Department of Licensing and Regulation and set forth under Title 16, Texas Administrative Code Chapter 76, Water Well Drillers and Pump Installers Rules.
- (c) The Board of Directors may adopt additional well construction standards for wells drilled within the District. Approved well construction standards will be made available to the public.

## **CHAPTER 8. ABANDONED, OPEN AND UNCOVERED WELLS**

### **§8.1 REGISTRATION AND SEALING.**

- (a) Except as otherwise provided by the District Rules, any owner or lessee of land, on which an open or uncovered well, or an abandoned well is located, must register the well with the District.
- (b) Any well not registered with the District shall be classified as abandoned.

### **§8.2 MINIMUM STANDARDS.**

- (a) Capping of Open or Uncovered Wells.

- (1) At a minimum, open or uncovered wells must be capped in accordance with the District Rules and in accordance with the standards set forth in the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Chapter 76, Texas Administrative Code.
  - (2) A copy of any capping report required by the Texas Department of Licensing and Regulation shall be submitted to the District.
  - (3) The Board may adopt additional well capping standards for open or uncovered wells within the District. Approved well capping standards will be made available to the public.
- (b) Plugging of Abandoned Wells.
- (1) All abandoned wells must be plugged in accordance with standards set forth in the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Chapter 76, Texas Administrative Code.
  - (2) A copy of any plugging report required by Texas Department of Licensing and Regulation shall be submitted to the District.
  - (3) The Board of Directors may adopt additional well plugging standards for abandoned wells within the District. Approved well capping standards will be made available to the public.

### **§8.3 ENFORCEMENT.**

If the owner, lessee or operator of a well fails or refuses to cap or plug a well in compliance with this rule and District standards after being requested to do so in writing by an officer, agent, or employee of the District, then, upon Board approval, any person, firm or corporation employed by the District may go onto the land (pursuant to Texas Water Code Section 36.118) and plug or cap the well safely and securely. Reasonable expenses incurred by the District in plugging or capping a well will be assessed to the landowner and shall constitute a lien on the land on which the well is located.

### **§8.4 PENALTIES.**

Pursuant to the District Rules, penalties shall be applicable in cases of failure or refusal to plug abandoned wells or cap wells not currently in use.

## **CHAPTER 9. WATER CONSERVATION AND DROUGHT**

### **§9.1 CONSERVATION POLICY.**

The District may implement conservation policies through various programs initiatives and incentives including public education, technical assistance, special programs, through



grants and loans, from support by various local, state, and federal programs, industries, foundations, non profits, public and private individuals, corporations, partnerships, and other interest groups that will further the District's goals of cost-effective water conservation, pollution prevention, and waste prevention of the District's water resources.

## **§9.2 WATER CONSERVATION PLANS.**

Each permittee who is required to prepare, adopt, and implement a water conservation plan or drought contingency plan by another agency of the State of Texas or by any water wholesale provider shall submit a copy of such plan to the District for the District's files.

## **CHAPTER 10. ENFORCEMENT**

### **§10.1 NOTICE AND ACCESS.**

Pursuant to Texas Water Code Section 36.123, any authorized officer, agent, employee, or representative of the District, when carrying out technical and other investigations necessary to the implementation of the District Rules or the Act, and after reasonable notice to the owner or operator, may enter upon private property for the purpose of inspecting and investigating conditions relating to the withdrawal, waste, water quality, pollution, or contamination of groundwater or other acts covered by the District Rules or the Texas Water Code.

### **§10.2 SHOW CAUSE ORDERS AND COMPLAINTS.**

The Board, either on its own motion or upon receipt of sufficient written protest or complaint, may at any time, after due notice to all interested parties, cite any person owning or operating a well within the District, or any person in the District violating the Act, the District Rules, or an Order of the Board. Under the citation, that person is ordered to appear before the Board in a public hearing and require him to show cause why an enforcement action should not be initiated and/or why his procedure and/or operating authority and/or permit should not be suspended, cancelled, and/or otherwise restricted and limited, for failure to abide by the terms and provisions of the permit, and/or the District Rules, and/or the Act.

### **§10.3 CONDUCT OF INVESTIGATION.**

When investigations or inspections require entrance upon private property, such investigations and such inspections shall be conducted at reasonable times, and shall be consistent with all applicable rules and regulations concerning safety, internal security, and fire protection. The persons conducting such investigations shall identify themselves and present District identification upon request by the owner, operator, lessee, management in residence, or person in charge.

#### **§10.4 SEALING OF WELLS.**

- (a) The District may seal wells that are prohibited by the Act, Rules, or Board orders from withdrawing groundwater within the District when the Board, or its designated District employee, determines that such action is reasonably necessary to assure that a well is not operated in violation of the Act, Rules, or Board orders. This authorization to seal a well or to take other appropriate action to prohibit the withdrawal of groundwater extends to, but is not limited to, the following circumstances in which: (i) a permit has been granted, but the applicable fees have not been paid within the time period provided for payment; (ii) representations have been made by the well owner or operator that no groundwater is to be withdrawn from a well during a particular period; (iii) no application has been made for a permit to withdraw groundwater from an existing well that is not excluded or exempted from the requirement that a permit be obtained in order to lawfully withdraw groundwater; (iv) the Board has denied, cancelled, or revoked a permit; (v) permit conditions have not been met; or (vi) a threat of, or potential for, contamination to the aquifer exists.
- (b) The well may be physically sealed by the District, and if sealed by the District, the well shall then be red-tagged to indicate that the well has been sealed. Other appropriate action may be taken as necessary to preclude operation of the well or to identify unauthorized operation of the well.
- (c) Tampering with, altering, damaging, or removing the seal or red tag of a sealed or red tagged well, or in any other way violating the integrity of the seal or red tag, or the pumping of groundwater from a well that has been sealed or red tagged shall constitute a violation of the District Rules and shall subject the person performing that action, as well as any well owner and/or operator who authorizes or allows that action, to such penalties as provided by the Act and the District Rules.

#### **§10.5 REQUEST FOR INJUNCTIVE RELIEF.**

If it appears that a person has violated, is violating, or is threatening to violate any provision of the Act or any Rule, permit, Board order, or other order of the District, the Board may institute and conduct a suit in the name of the District for injunctive relief, for recovery of a civil penalty, or for both injunctive relief and penalty.

#### **§10.6 PENALTIES FOR LATE PAYMENT OF FEES.**

- (a) Failure to Make Production or Export Fee Payment. Failure to make the production or export fee payment within the time period specified in the District's fee schedule may constitute grounds for the District to declare the permit void.

- (b) Late Payment Penalties. Failure to make complete and timely payments of a fee may automatically result in a late payment penalty in accordance with the District's fee schedule.
- (c) Loss of Installment Payment Option. The option of making payment of a production or export fee in installments may be made available by the District in order to avoid causing cash flow problems for permittees. Any permittee who, two or more times during the permit term, makes late payment of fee installments, may be required to pay production or export fees during the following two (2) years as an annual payment upon permit issuance, without an installment payment option.
- (d) After failure to make payment of fees in accordance with the District's fee schedule, all enforcement mechanisms provided by this Rule, the District's fee schedule, and the Act, as amended, shall be available to prevent unauthorized use of the well, and may be initiated by the District's designee, without further authorization from the Board.

#### **§10.7 FAILURE TO REPORT PUMPAGE AND/OR EXPORTED VOLUMES.**

The accurate reporting and timely submission of pumpage and/or exported volumes is necessary for the proper management of water resources. Failure of the permittee to submit complete, accurate, and timely pumpage, export and water quality reports, as required by the District Rules, may result in forfeiture of the permit, civil penalties, or payment of increased meter reading and inspection fees as a result of District inspections to obtain current and accurate pumpage and/or exported volumes and water quality reports.

#### **§10.8 EMERGENCY ORDERS.**

The District will develop Emergency Contingency Plans to deal with water quality or water quantity emergencies. Public hearings on Emergency Contingency Plans shall be conducted by the Board prior to adoption. To implement Emergency Contingency Plans, the Board, or the District's designee, if specifically authorized by an Emergency Contingency Plan, may adopt emergency orders of either a mandatory or prohibitory nature, requiring remedial action by a permittee or other party responsible for the emergency condition.

#### **§10.9 CIVIL PENALTIES.**

- (a) The District may enforce the District Rules by injunction or other appropriate remedy in a court of competent jurisdiction.
- (b) Any person who violates any District Rule is subject to a civil penalty of up to \$10,000 for each violation and for each day of continuing violation. Each day a violation continues may be considered a separate violation.

(c) All civil penalties recovered by the District shall be paid to the Brazoria County Groundwater Conservation District.

A penalty under this section may be enforced by complaints filed in the appropriate court of jurisdiction in Br

## **Appendix C**

# **Historical Use of Groundwater and Surface Water in Brazoria County**

**Table C.1. Historical Use of Groundwater and Surface Water in Brazoria County. Illustrates decreasing reliance on groundwater through time.**

Year	Source	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
1974	GW	14,589	7,341	0	20,251	566	211	42,948
	SW	28	212,981	0	138,063	120	1,527	352,719
	<b>Total</b>	<b>14,617</b>	<b>220,322</b>	<b>0</b>	<b>158,314</b>	<b>676</b>	<b>1,738</b>	<b>395,667</b>
1980	GW	21,009	4,049	0	22,498	1,168	730	49,454
	SW	1,455	216,545	0	267,319	45	459	485,823
	<b>Total</b>	<b>22,464</b>	<b>220,594</b>	<b>0</b>	<b>289,817</b>	<b>1,213</b>	<b>1,189</b>	<b>535,277</b>
1984	GW	24,847	2,859	0	13,306	0	697	41,709
	SW	2,048	173,638	0	156,285	2,692	464	335,127
	<b>Total</b>	<b>26,895</b>	<b>176,497</b>	<b>0</b>	<b>169,591</b>	<b>2,692</b>	<b>1,161</b>	<b>376,836</b>
1985	GW	25,558	3,335	0	13,587	156	715	43,351
	SW	1,423	194,437	0	168,146	323	476	364,805
	<b>Total</b>	<b>26,981</b>	<b>197,772</b>	<b>0</b>	<b>181,733</b>	<b>479</b>	<b>1,191</b>	<b>408,156</b>
1986	GW	24,821	3,623	0	6,213	327	605	35,589
	SW	1,523	163,052	0	163,424	1,036	403	329,438
	<b>Total</b>	<b>26,344</b>	<b>166,675</b>	<b>0</b>	<b>169,637</b>	<b>1,363</b>	<b>1,008</b>	<b>365,027</b>
1987	GW	25,264	3,407	0	5,207	315	665	34,858
	SW	1,242	158,002	0	136,946	1,336	443	297,969
	<b>Total</b>	<b>26,506</b>	<b>161,409</b>	<b>0</b>	<b>142,153</b>	<b>1,651</b>	<b>1,108</b>	<b>332,827</b>
1988	GW	23,001	3,152	0	7,213	271	737	34,374
	SW	899	185,851	0	189,725	1,049	491	378,015
	<b>Total</b>	<b>23,900</b>	<b>189,003</b>	<b>0</b>	<b>196,938</b>	<b>1,320</b>	<b>1,228</b>	<b>412,389</b>
1989	GW	17,968	2,736	0	6,109	218	767	27,798
	SW	6,036	184,929	0	142,230	736	511	334,442
	<b>Total</b>	<b>24,004</b>	<b>187,665</b>	<b>0</b>	<b>148,339</b>	<b>954</b>	<b>1,278</b>	<b>362,240</b>
1990	GW	19,082	3,523	0	4,979	218	757	28,559
	SW	8,400	195,719	0	108,410	736	504	313,769
	<b>Total</b>	<b>27,482</b>	<b>199,242</b>	<b>0</b>	<b>113,389</b>	<b>954</b>	<b>1,261</b>	<b>342,328</b>
1991	GW	18,888	4,062	0	4,756	220	773	28,699
	SW	7,843	181,839	0	103,904	1,152	515	295,253
	<b>Total</b>	<b>26,731</b>	<b>185,901</b>	<b>0</b>	<b>108,660</b>	<b>1,372</b>	<b>1,288</b>	<b>323,952</b>
1992	GW	21,541	37,027	0	5,088	707	639	65,002
	SW	7,758	157,107	0	111,169	841	427	277,302
	<b>Total</b>	<b>29,299</b>	<b>194,134</b>	<b>0</b>	<b>116,257</b>	<b>1,548</b>	<b>1,066</b>	<b>342,304</b>
1993	GW	21,868	2,004	0	10,352	701	618	35,543
	SW	7,514	204,722	0	95,931	841	413	309,421
	<b>Total</b>	<b>29,382</b>	<b>206,726</b>	<b>0</b>	<b>106,283</b>	<b>1,542</b>	<b>1,031</b>	<b>344,964</b>
1994	GW	21,523	2,344	0	6,070	700	774	31,411
	SW	7,013	195,539	0	113,578	795	516	317,441
	<b>Total</b>	<b>28,536</b>	<b>197,883</b>	<b>0</b>	<b>119,648</b>	<b>1,495</b>	<b>1,290</b>	<b>348,852</b>
1995	GW	19,364	2,242	0	10,902	699	662	33,869
	SW	8,887	205,606	0	101,033	795	441	316,762
	<b>Total</b>	<b>28,251</b>	<b>207,848</b>	<b>0</b>	<b>111,935</b>	<b>1,494</b>	<b>1,103</b>	<b>350,631</b>
1996	GW	22,901	2,838	0	7,430	699	1,102	34,970
	SW	8,587	200,008	0	68,855	795	734	278,979
	<b>Total</b>	<b>31,488</b>	<b>202,846</b>	<b>0</b>	<b>76,285</b>	<b>1,494</b>	<b>1,836</b>	<b>313,949</b>
1997	GW	21,583	1,813	0	7,192	824	721	32,133
	SW	10,081	201,653	0	66,642	2,773	481	281,630
	<b>Total</b>	<b>31,664</b>	<b>203,466</b>	<b>0</b>	<b>73,834</b>	<b>3,597</b>	<b>1,202</b>	<b>313,763</b>
1998	GW	24,027	1,813	0	8,711	680	888	36,119
	SW	10,111	195,425	0	80,728	2,767	591	289,622
	<b>Total</b>	<b>34,138</b>	<b>197,238</b>	<b>0</b>	<b>89,439</b>	<b>3,447</b>	<b>1,479</b>	<b>325,741</b>
1999	GW	27,605	2,832	0	7,231	680	959	39,307
	SW	10,860	106,345	0	67,008	2,767	639	187,619
	<b>Total</b>	<b>38,465</b>	<b>109,177</b>	<b>0</b>	<b>74,239</b>	<b>3,447</b>	<b>1,598</b>	<b>226,926</b>
2000	GW	26,795	1,344	0	7,022	794	968	36,923
	SW	13,286	109,722	0	91,732	2,537	645	217,922
	<b>Total</b>	<b>40,081</b>	<b>111,066</b>	<b>0</b>	<b>98,754</b>	<b>3,331</b>	<b>1,613</b>	<b>254,845</b>
2001	GW	16,987	710	0	3,915	357	429	22,398
	SW	15,840	220,772	0	58,743	3,000	1,184	299,539
	<b>Total</b>	<b>32,827</b>	<b>221,482</b>	<b>0</b>	<b>62,658</b>	<b>3,357</b>	<b>1,613</b>	<b>321,937</b>
2002	GW	13,267	596	0	3,625	167	388	18,043
	SW	12,073	185,255	0	46,718	1,398	1,071	246,515
	<b>Total</b>	<b>25,340</b>	<b>185,851</b>	<b>0</b>	<b>50,343</b>	<b>1,565</b>	<b>1,459</b>	<b>264,558</b>
2003	GW	15,751	663	0	2,706	144	444	19,708
	SW	17,836	205,850	0	73,900	1,210	1,225	300,021
	<b>Total</b>	<b>33,587</b>	<b>206,513</b>	<b>0</b>	<b>76,606</b>	<b>1,354</b>	<b>1,669</b>	<b>319,729</b>
2004	GW	15,738	756	0	3,677	144	446	20,761
	SW	17,821	234,889	0	101,914	1,216	1,234	357,074
	<b>Total</b>	<b>33,559</b>	<b>235,645</b>	<b>0</b>	<b>105,591</b>	<b>1,360</b>	<b>1,680</b>	<b>377,835</b>