

# Texas Water Development Board

## PROJECT FUNDING REQUEST

BOARD DATE: July 23, 2015

TEAM MANAGER: Nancy Richards

<b>APPLICANT</b>	Central Harris County Regional Water Authority
<b>TYPE OF ASSISTANCE</b>	\$22,655,000 Northeast Water Purification Plant Expansion \$9,460,000 Second Source Transmission Line Phase I (108-inch) \$9,515,000 Second Source Transmission Line Phase II (84-inch)
<b>LEGAL PLEDGE</b>	Water System Revenue Bonds

### STAFF RECOMMENDATION

Approve       No Action

### ACTION REQUESTED

Approve, by resolution, a request from **Central Harris County Regional Water Authority (Harris County)** for a \$41,630,000 multi-year loan commitment from the State Water Implementation Revenue Fund for Texas to finance the planning, acquisition, design and construction of the Northeast Water Purification Plant expansion and the Second Source Phases I and II water transmission lines.

### BACKGROUND

Passed by the 83<sup>rd</sup> Legislature and approved by Texas voters through a constitutional amendment the State Water Implementation Fund for Texas (SWIFT) and, the State Water Implementation Revenue Fund for Texas (SWIRFT) were created to provide affordable, alternative financing options to develop projects that are recommended water management strategies in the State Water Plan. The program, referred to as SWIFT, provides financing through low-interest loans, deferral of loan repayments, and incremental repurchase terms for projects with state ownership aspects. All SWIFT projects presented for consideration have been prioritized based on criteria outlined in Texas Administrative Code Title 31 §363.1304 and are included on the prioritized list of projects approved by the Board on May 6, 2015.

Multi-Year Commitment	Expiration Date
\$5,510,000 Series 2015A	December 31, 2015
\$3,625,000 Series 2015B	December 31, 2015
\$1,670,000 Series 2015C	December 31, 2015
\$2,395,000 Series 2016	December 31, 2016
\$21,650,000 Series 2017	December 31, 2017
\$1,685,000 Series 2018	December 31, 2018
\$1,535,000 Series 2019	December 31, 2019
\$3,560,000 Series 2020	December 31, 2020

*Project: Northeast Water Purification Plant Expansion*  
*Project Number 51023*

Groundwater subsidence in the greater Houston area coupled with increasing water demands requires that the Central Harris County Regional Water Authority (Authority) and its four regional partners expand the existing Northeast Water Purification Plant (Plant). The Authority will co-fund the expansion of the Plant to increase the water treatment capacity from 80 million gallons per day (MGD) to 400 MGD. The expansion will provide the participants with additional surface water supply to help meet the regulatory requirements of the Harris-Galveston Subsidence District and the Fort Bend Subsidence District. The Authority will own approximately 2% of the expansion capacity. The City of Houston will manage the project. The regional partners have all submitted applications for their proposed shares which will be presented for consideration in tandem with this request.

**NORTHEAST WATER PURIFICATION PLANT REGIONAL PARTNERS**

ENTITY	APPROXIMATE % SHARE OF PROJECT CAPACITY	AMOUNT
<b>NORTH FORT BEND WA</b>	<b>21%</b>	<b>\$251,845,000</b>
<b>CENTRAL HARRIS CO. RWA</b>	<b>2%</b>	<b>\$22,655,000</b>
<b>NORTH HARRIS CO. RWA</b>	<b>35%</b>	<b>\$551,760,000</b>
<b>WEST HARRIS CO. RWA</b>	<b>26%</b>	<b>\$306,200,000</b>
<b>CITY OF HOUSTON</b>	<b>16%</b>	<b>\$183,635,000</b>
<b>TOTAL</b>	<b>100%</b>	<b>\$1,316,095,000</b>

*Project: Second Source Transmission Line Phase I(108-inch line)*  
*Project Number 51021*

The project consists of a 108-inch transmission pipeline jointly shared by Central Harris County Regional Water Authority, the City of Houston, and the North Harris County Regional Water Authority. The line will convey treated surface water approximately 17 miles east from the Plant to the City's Acres Homes Pump Station, terminating just west of IH-45. The City will manage the project.

**SECOND SOURCE TRANSMISSION LINE PHASE I REGIONAL PARTNERS**

ENTITY	APPROXIMATE % SHARE OF PROJECT CAPACITY	AMOUNT
<b>CITY OF HOUSTON</b>	<b>43%</b>	<b>\$112,490,000</b>
<b>CENTRAL HARRIS CO. RWA</b>	<b>2%</b>	<b>\$9,460,000</b>
<b>NORTH HARRIS CO. RWA</b>	<b>55%</b>	<b>\$222,135,000</b>
<b>TOTAL</b>	<b>100%</b>	<b>\$344,085,000</b>

*Project: Second Source Transmission Line Phase II (84-inch line)*  
*Project Number 51009*

The project consists of 84-inch transmission pipeline jointly shared by the Authority and North Harris County Regional Water Authority. The transmission pipeline continues the 108-inch transmission pipeline from the Northeast Water Purification Plant, west from IH-45 to the North

Harris County Regional Water Authority 249 pump station. The North Harris County Regional Water Authority will manage the project.

#### SECOND SOURCE TRANSMISSION LINE PHASE II REGIONAL PARTNERS

ENTITY	APPROXIMATE % SHARE OF PROJECT CAPACITY	AMOUNT
<b>CENTRAL HARRIS CO. RWA</b>	<b>15%</b>	<b>\$9,515,000</b>
<b>NORTH HARRIS CO. RWA</b>	<b>85%</b>	<b>\$135,385,000</b>
<b>TOTAL</b>	<b>100%</b>	<b>\$144,900,000</b>

#### FINANCIAL

##### Key Issues

The Authority received \$22,050,000 in loans from the Water Infrastructure Fund (WIF) to purchase raw and treated surface water capacity from the City and install a series of surface water transmission lines, to participate in a re-pump station that was constructed by the North Harris County Regional Water Authority, and for construction of a secondary surface water transmission system.

The SWIFT program has the ability to offer applicants multi-year funding. This flexibility allows the TWDB to manage program demands while allowing the applicant to fund large projects over time. Each annual commitment installment will have its own expiration date and the applicable subsidy rate will be applied for up to five years only.

The Authority has requested a multi-year commitment over a period of six years, 2015 through 2020. The subsidy rate of 22% will be applied to loans closing before 2020.

##### Pledge and Repayment

The Authority is pledging water system revenues to repay the proposed debt. The Authority will generate net revenues and surplus revenues sufficient to pay and provide for the timely payment of the Bonds through pumpage fees and service fees assessed pursuant to the Authority's rules and regulations. Effective July 1, 2015, the Authority increased its GRP (pumpage) fee, Water Transportation Fee and Surface Water fee by \$0.70 per 1,000 gallons. The Authority has proposed additional rate increases of \$0.60 and \$0.40 per 1,000 gallons over its current rates on January 1, 2018 and 2020, respectively with the sale of the 2016 through 2020 SWIFT bonds. The Authority will review its revenues on an annual basis to ensure that the necessary rates and charges are in place to repay the proposed debt service. In providing service to many different contracting parties, the Authority has continued to increase its contact revenues over last the five years.

##### Cost Savings

Based on a 30-year maturity schedule and current interest rates, the Authority could save approximately \$1,198,861 over the life of the \$10,805,000 Series (A, B & C) 2015 loans by utilizing TWDB funding.

Internal Risk Score

Staff assigns a risk score of 2B to the Authority, which means that the applicant's repayment capacity is strong. The applicant's earnings trends and coverage ratios, while sound, may be more susceptible to adverse effects of changes in circumstances and economic conditions than the higher rated obligations. The Authority does not have retail customers, but derives its revenues from charging its member districts pumpage fees and service fees pursuant to the Authority's Rules and Regulations.

**LEGAL**

Key Issues

None.

Conditions

Standard SWIFT, tax-exempt, and net revenue conditions and further conditioned as follows:

- Attachments:
1. Project Data Summary
  2. Debt Service Schedules
  3. Total Project Budget
  4. Engineering/Environmental Review/Budget-Plant
  5. Engineering/Environmental Review/Budget-108 inch line
  6. Engineering/Environmental Review/Budget-84 inch line
  7. Resolution (15- )
  8. Water Conservation Review
  9. Location Map

<b>Responsible Authority</b>	Central Harris County Regional Water Authority	
<b>Program</b>	State Water Implementation Fund for Texas	
<b>Commitment Codes</b>	LM15026 LM17026 LM2026	Project No. 51023
	LM15021 LM18021 LM19021 LM20021	Project No. 51021
	LM15010 LM16010 LM17010	Project No. 51009
<b>Project Number</b>	51023 – Northeast Purification Plant Expansion 51021 – Second Source Phase I (108-inch) 51009 – Second Source Phase II (84-inch)	
<b>Intended Use Plan Year</b>	N/A	
<b>Fund Number</b>	361	
<b>Type of Pledge</b>	5	
<b>Revenue Pledge Level</b>	Second	
<b>Legal Description</b>	Central Harris County Regional Water Authority Revenue Bonds Proposed Series 2015	
<b>Tax-Exempt or Taxable</b>	Tax-Exempt	
<b>Refinance</b>	No	
<b>Outlay Requirement</b>	No	
<b>Disbursement Method</b>	Escrow	
<b>Outlay Type</b>	N/A	
<b>Population</b>	28,500	
<b>Rural</b>	No	
<b>Water Connections</b>	Wholesale Provider	
<b>Wastewater Connections</b>	N/A	
<b>Qualifies as Disadvantaged</b>	No	
<b>Disadvantaged Level</b>	9	
<b>Clean Water State Revolving Fund Type</b>	N/A	
<b>Financial, Managerial and Technical Review Complete?</b>	N/A	
<b>SWIFT Financing Type</b>	Low-Interest Loan	
<b>SWIFT Characteristic</b>	N/A	
<b>Phase Committing</b>	P, A, D, and C	
<b>Pre-Design</b>	Yes	
<b>Project Consistent with Water Plan</b>	Yes	
<b>Water Conservation Plan</b>	Adopted	
<b>Water Rights Certification Required</b>	N/A	
<b>Internal Risk Score</b>	2B	
<b>External Ratings</b>		
<b>Standard and Poor's</b>	N/A	
<b>Moody's</b>	N/A	

<b>Fitch</b>	N/A
<b>Special Issues</b>	Multi-year Funding Requested for SWIFT

**Project Team**

Team Manager	Nancy Richards
Financial Analyst	Charles R. Nichols
Engineering Reviewer	James Bronikowski
Environmental Reviewer	Jean Devlin
Attorney	Annette Mass

ISSUE BEING EVALUATED  
 FOR ILLUSTRATION PURPOSES ONLY  
 Central Harris County Regional Water Authority  
 Water Revenue Bonds Proposed Series 2015A

Attachment 2

**Dated Date:** 12/1/2015  
**Delivery Date:** 12/1/2015  
**First Interest:** 2/1/2016  
**First Principal:** 8/1/2016  
**Last Principal:** 8/1/2045  
**Fiscal Year End:** 12/31  
**Required Coverage:** 1.0

**Source:** SWIFT-LOW  
**Insurance:** No  
**Case:** Revenue  
**Admin.Fee:** \$ -  
**Admin. Fee Payment Date:** N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$5,510,000 ISSUE			TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT	TOTAL DEBT		
2016	2,293,230	1,410,278	185,000	0.35%	90,634	275,634	1,685,912	1.36	
2017	2,293,230	1,412,948	185,000	0.71%	135,296	320,296	1,733,244	1.32	
2018	2,293,230	1,413,741	185,000	0.92%	133,977	318,977	1,732,718	1.32	
2019	2,293,230	1,412,806	185,000	1.08%	132,284	317,284	1,730,090	1.33	
2020	2,293,230	1,415,196	185,000	1.28%	130,288	315,288	1,730,484	1.33	
2021	2,293,230	1,414,514	185,000	1.49%	127,916	312,916	1,727,430	1.33	
2022	2,293,230	1,411,886	185,000	1.71%	125,154	310,154	1,722,040	1.33	
2023	2,293,230	1,412,683	185,000	1.83%	121,989	306,989	1,719,672	1.33	
2024	2,293,230	1,411,822	185,000	1.92%	118,607	303,607	1,715,429	1.34	
2025	2,293,230	1,414,432	185,000	2.02%	115,051	300,051	1,714,483	1.34	
2026	2,293,230	1,410,502	185,000	2.55%	111,309	296,309	1,706,811	1.34	
2027	2,293,230	1,410,259	185,000	2.44%	106,591	291,591	1,701,850	1.35	
2028	2,293,230	1,413,585	185,000	2.59%	102,079	287,079	1,700,664	1.35	
2029	2,293,230	1,415,177	185,000	2.70%	97,288	282,288	1,697,465	1.35	
2030	2,293,230	-	185,000	2.80%	92,296	277,296	277,296	8.27	
2031	2,293,230	-	185,000	2.88%	87,120	272,120	272,120	8.43	
2032	2,293,230	-	185,000	2.95%	81,788	266,788	266,788	8.60	
2033	2,293,230	-	185,000	3.01%	76,329	261,329	261,329	8.78	
2034	2,293,230	-	185,000	3.06%	70,764	255,764	255,764	8.97	
2035	2,293,230	-	185,000	3.11%	65,103	250,103	250,103	9.17	
2036	2,293,230	-	185,000	3.15%	59,353	244,353	244,353	9.38	
2037	2,293,230	-	185,000	3.19%	53,524	238,524	238,524	9.61	
2038	2,293,230	-	185,000	3.22%	47,621	232,621	232,621	9.86	
2039	2,293,230	-	185,000	3.25%	41,658	226,658	226,658	10.12	
2040	2,293,230	-	185,000	3.28%	35,638	220,638	220,638	10.39	
2041	2,293,230	-	185,000	3.31%	29,567	214,567	214,567	10.69	
2042	2,293,230	-	185,000	3.33%	23,447	208,447	208,447	11.00	
2043	2,293,230	-	185,000	3.34%	17,288	202,288	202,288	11.34	
2044	2,293,230	-	185,000	3.36%	11,102	196,102	196,102	11.69	
2045	2,293,230	-	145,000	3.37%	4,889	149,889	149,889	15.30	
		\$ 19,779,829	\$ 5,510,000		\$ 2,445,952	\$ 7,955,952	\$ 27,735,781		

<b>AVERAGE (MATURITY) LIFE</b>	<b>15.06 YEARS</b>
<b>NET INTEREST RATE</b>	<b>2.947%</b>
<b>COST SAVINGS BASED ON 2015 SERIES AB&amp;C</b>	<b>\$1,198,861</b>
<b>AVERAGE ANNUAL REQUIREMENT</b>	<b>\$924,526</b>

ISSUE BEING EVALUATED  
 FOR ILLUSTRATION PURPOSES ONLY  
 Central Harris County Regional Water Authority  
 Water Revenue Bonds Proposed Series 2015B

**Dated Date:** 12/1/2015  
**Delivery Date:** 12/1/2015  
**First Interest:** 2/1/2016  
**First Principal:** 8/1/2016  
**Last Principal:** 8/1/2045  
**Fiscal Year End:** 12/31  
**Required Coverage:** 1.0

**Source:** SWIFT-LOW  
**Insurance:** No  
**Case:** Revenue  
**Admin.Fee:** \$ -  
**Admin. Fee Payment Date:** N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$3,625,000 ISSUE			TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT	TOTAL DEBT SERVICE		
2016	2,293,230	1,684,335	120,000	0.35%	59,699	179,699	1,864,034	1.23	
2017	2,293,230	1,730,879	120,000	0.71%	89,123	209,123	1,940,002	1.18	
2018	2,293,230	1,730,353	120,000	0.92%	88,268	208,268	1,938,621	1.18	
2019	2,293,230	1,727,725	120,000	1.08%	87,170	207,170	1,934,895	1.19	
2020	2,293,230	1,728,119	120,000	1.28%	85,875	205,875	1,933,994	1.19	
2021	2,293,230	1,727,430	120,000	1.49%	84,337	204,337	1,931,767	1.19	
2022	2,293,230	1,722,040	120,000	1.71%	82,545	202,545	1,924,585	1.19	
2023	2,293,230	1,719,672	120,000	1.83%	80,492	200,492	1,920,164	1.19	
2024	2,293,230	1,715,429	120,000	1.92%	78,298	198,298	1,913,727	1.20	
2025	2,293,230	1,714,483	120,000	2.02%	75,992	195,992	1,910,475	1.20	
2026	2,293,230	1,706,811	120,000	2.26%	73,564	193,564	1,900,375	1.21	
2027	2,293,230	1,701,850	120,000	2.44%	70,858	190,858	1,892,708	1.21	
2028	2,293,230	1,700,664	120,000	2.59%	67,931	187,931	1,888,595	1.21	
2029	2,293,230	1,697,465	120,000	2.70%	64,823	184,823	1,882,288	1.22	
2030	2,293,230	277,296	120,000	2.80%	61,586	181,586	458,882	5.00	
2031	2,293,230	272,120	120,000	2.88%	58,228	178,228	450,348	5.09	
2032	2,293,230	266,788	120,000	2.95%	54,770	174,770	441,558	5.19	
2033	2,293,230	261,329	120,000	3.01%	51,229	171,229	432,558	5.30	
2034	2,293,230	255,764	120,000	3.06%	47,619	167,619	423,383	5.42	
2035	2,293,230	250,103	120,000	3.11%	43,947	163,947	414,050	5.54	
2036	2,293,230	244,353	120,000	3.15%	40,217	160,217	404,570	5.67	
2037	2,293,230	238,524	120,000	3.19%	36,436	156,436	394,960	5.81	
2038	2,293,230	232,621	120,000	3.22%	32,607	152,607	385,228	5.95	
2039	2,293,230	226,658	120,000	3.25%	28,739	148,739	375,397	6.11	
2040	2,293,230	220,638	120,000	3.28%	24,835	144,835	365,473	6.27	
2041	2,293,230	214,567	120,000	3.31%	20,896	140,896	355,463	6.45	
2042	2,293,230	208,447	120,000	3.33%	16,927	136,927	345,374	6.64	
2043	2,293,230	202,288	120,000	3.34%	12,932	132,932	335,220	6.84	
2044	2,293,230	196,102	120,000	3.36%	8,919	128,919	325,021	7.06	
2045	2,293,230	149,889	145,000	3.37%	4,889	149,889	299,778	7.65	
		\$ 27,724,742	\$ 3,625,000		\$ 1,633,751	\$ 5,258,751	\$ 32,983,493		

<b>AVERAGE (MATURITY) LIFE</b>	<b>15.27 YEARS</b>
<b>NET INTEREST RATE</b>	<b>2.952%</b>
<b>COST SAVINGS BASED ON 2015 SERIES AB&amp;C</b>	<b>\$1,198,861</b>
<b>AVERAGE ANNUAL REQUIREMENT</b>	<b>\$1,099,450</b>

ISSUE BEING EVALUATED  
FOR ILLUSTRATION PURPOSES ONLY  
Central Harris County Regional Water Authority  
Water Revenue Bonds Proposed Series 2015C

**Dated Date:** 12/1/2015  
**Delivery Date:** 12/1/2015  
**First Interest:** 2/1/2016  
**First Principal:** 8/1/2016  
**Last Principal:** 8/1/2045  
**Fiscal Year End:** 12/31  
**Required Coverage:** 1.0

**Source:** SWIFT-LOW  
**Insurance:** No  
**Case:** Revenue  
**Admin.Fee:** \$ -  
**Admin. Fee Payment Date:** N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$1,670,000 ISSUE		TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT		
2016	2,293,230	1,864,034	55,000	0.35%	27,554	82,554	1,946,588	1.18
2017	2,293,230	1,940,002	55,000	0.71%	41,136	96,136	2,036,138	1.13
2018	2,293,230	1,938,621	55,000	0.92%	40,744	95,744	2,034,365	1.13
2019	2,293,230	1,934,895	55,000	1.08%	40,241	95,241	2,030,136	1.13
2020	2,293,230	1,933,994	55,000	1.28%	39,647	94,647	2,028,641	1.13
2021	2,293,230	1,931,767	55,000	1.49%	38,942	93,942	2,025,709	1.13
2022	2,293,230	1,924,585	55,000	1.71%	38,121	93,121	2,017,706	1.14
2023	2,293,230	1,920,164	55,000	1.83%	37,180	92,180	2,012,344	1.14
2024	2,293,230	1,913,727	55,000	1.92%	36,175	91,175	2,004,902	1.14
2025	2,293,230	1,910,475	55,000	2.02%	35,118	90,118	2,000,593	1.15
2026	2,293,230	1,900,375	55,000	2.26%	34,005	89,005	1,989,380	1.15
2027	2,293,230	1,892,708	55,000	2.44%	32,765	87,765	1,980,473	1.16
2028	2,293,230	1,888,595	55,000	2.59%	31,423	86,423	1,975,018	1.16
2029	2,293,230	1,882,288	55,000	2.70%	29,999	84,999	1,967,287	1.17
2030	2,293,230	458,882	55,000	2.80%	28,515	83,515	542,397	4.23
2031	2,293,230	450,348	55,000	2.88%	26,976	81,976	532,324	4.31
2032	2,293,230	441,558	55,000	2.95%	25,391	80,391	521,949	4.39
2033	2,293,230	432,558	55,000	3.01%	23,768	78,768	511,326	4.48
2034	2,293,230	423,383	55,000	3.06%	22,113	77,113	500,496	4.58
2035	2,293,230	414,050	55,000	3.11%	20,430	75,430	489,480	4.69
2036	2,293,230	404,570	55,000	3.15%	18,721	73,721	478,291	4.79
2037	2,293,230	394,960	55,000	3.19%	16,988	71,988	466,948	4.91
2038	2,293,230	385,228	55,000	3.22%	15,233	70,233	455,461	5.03
2039	2,293,230	375,397	55,000	3.25%	13,460	68,460	443,857	5.17
2040	2,293,230	365,473	55,000	3.28%	11,671	66,671	432,144	5.31
2041	2,293,230	355,463	55,000	3.31%	9,865	64,865	420,328	5.46
2042	2,293,230	345,374	55,000	3.33%	8,046	63,046	408,420	5.61
2043	2,293,230	335,220	55,000	3.34%	6,215	61,215	396,435	5.78
2044	2,293,230	325,021	55,000	3.36%	4,376	59,376	384,397	5.97
2045	2,293,230	299,778	75,000	3.37%	2,529	77,529	377,307	6.08
		\$ 32,983,493	\$ 1,670,000		\$ 757,348	\$ 2,427,348	\$ 35,410,841	

<b>AVERAGE (MATURITY) LIFE</b>	<b>15.34 YEARS</b>
<b>NET INTEREST RATE</b>	<b>2.956%</b>
<b>COST SAVINGS BASED ON 2015 SERIES AB&amp;C</b>	<b>\$1,198,861</b>
<b>AVERAGE ANNUAL REQUIREMENT</b>	<b>\$1,180,361</b>

ISSUE BEING EVALUATED  
FOR ILLUSTRATION PURPOSES ONLY  
Central Harris County Regional Water Authority  
Water Revenue Bonds Proposed Series 2016-2020

**Dated Date:** 12/1/2016  
**Delivery Date:** 12/1/2016  
**First Interest:** 2/1/2017  
**First Principal:** 8/1/2017  
**Last Principal:** 8/1/2045  
**Fiscal Year End:** 12/31  
**Required Coverage:** 1.0

**Source:** SWIFT-LOW  
**Insurance:** No  
**Case:** Revenue  
**Admin.Fee:** \$ -  
**Admin. Fee Payment Date:** N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$30,825,000 ISSUE		TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT		
2017	3,898,847	2,036,138	1,065,000	0.71%	520,977	1,585,977	3,622,115	1.08
2018	3,898,847	2,034,365	1,065,000	0.92%	773,872	1,838,872	3,873,237	1.01
2019	3,898,847	2,030,136	1,065,000	1.08%	764,127	1,829,127	3,859,263	1.01
2020	3,898,847	2,028,641	1,065,000	1.28%	752,636	1,817,636	3,846,277	1.01
2021	3,898,847	2,025,709	1,065,000	1.49%	738,983	1,803,983	3,829,692	1.02
2022	3,898,847	2,017,706	1,065,000	1.71%	723,082	1,788,082	3,805,788	1.02
2023	3,898,847	2,012,344	1,065,000	1.83%	704,860	1,769,860	3,782,204	1.03
2024	3,898,847	2,004,902	1,065,000	1.92%	685,392	1,750,392	3,755,294	1.04
2025	3,898,847	2,000,593	1,065,000	2.02%	664,922	1,729,922	3,730,515	1.05
2026	3,898,847	1,989,380	1,065,000	2.26%	643,377	1,708,377	3,697,757	1.05
2027	3,898,847	1,980,473	1,065,000	2.44%	619,362	1,684,362	3,664,835	1.06
2028	3,898,847	1,975,018	1,065,000	2.59%	593,386	1,658,386	3,633,404	1.07
2029	3,898,847	1,967,287	1,065,000	2.70%	565,803	1,630,803	3,598,090	1.08
2030	3,898,847	542,397	1,065,000	2.80%	537,069	1,602,069	2,144,466	1.82
2031	3,898,847	532,324	1,065,000	2.88%	507,270	1,572,270	2,104,594	1.85
2032	3,898,847	521,949	1,065,000	2.95%	476,577	1,541,577	2,063,526	1.89
2033	3,898,847	511,326	1,065,000	3.01%	445,149	1,510,149	2,021,475	1.93
2034	3,898,847	500,496	1,065,000	3.06%	413,114	1,478,114	1,978,610	1.97
2035	3,898,847	489,480	1,065,000	3.11%	380,525	1,445,525	1,935,005	2.01
2036	3,898,847	478,291	1,065,000	3.15%	347,425	1,412,425	1,890,716	2.06
2037	3,898,847	466,948	1,065,000	3.19%	313,866	1,378,866	1,845,814	2.11
2038	3,898,847	455,461	1,065,000	3.22%	279,882	1,344,882	1,800,343	2.17
2039	3,898,847	443,857	1,065,000	3.25%	245,557	1,310,557	1,754,414	2.22
2040	3,898,847	432,144	1,065,000	3.28%	210,902	1,275,902	1,708,046	2.28
2041	3,898,847	420,328	1,065,000	3.31%	175,949	1,240,949	1,661,277	2.35
2042	3,898,847	408,420	1,065,000	3.33%	140,719	1,205,719	1,614,139	2.42
2043	3,898,847	396,435	1,065,000	3.34%	105,265	1,170,265	1,566,700	2.49
2044	3,898,847	384,397	1,065,000	3.36%	69,651	1,134,651	1,519,048	2.57
2045	3,898,847	377,307	1,005,000	3.37%	33,889	1,038,889	1,416,196	2.75
		\$ 33,464,252	\$ 30,825,000		\$ 13,433,589	\$ 44,258,589	\$ 77,722,841	

AVERAGE (MATURITY) LIFE	14.64 YEARS
NET INTEREST RATE	2.977%
COST SAVINGS	
AVERAGE ANNUAL REQUIREMENT	\$2,680,098

**Central Harris County Regional Water Authority**

Budget Items	TWDB Funds	Local & Other Funds	Total Cost
<b>Other</b>			
Capacity Buy-In	\$35,385,500	\$0	\$35,385,500
<b>Other Total</b>	<b>\$35,385,500</b>	<b>\$0</b>	<b>\$35,385,500</b>
<b>Fiscal Services</b>			
Fiscal/Legal	\$6,244,500	\$0	\$6,244,500
<b>Fiscal Services Total</b>	<b>\$6,244,500</b>	<b>\$0</b>	<b>\$6,244,500</b>
<b>Grand Total</b>	<b>\$41,630,000</b>	<b>\$0</b>	<b>\$41,630,000</b>

**Central Harris County Regional Water Authority  
51023 – Northeast Water Purification Plant Expansion  
Engineering and Environmental Review**

**Engineering:**

Key Issues:

None.

Project Need/Description

Need: The need for surface water treatment facility infrastructure improvements follows the passage of rules and regulations issued by the Harris-Galveston Subsidence District (Subsidence District) to decrease groundwater usage and consequently increase surface water usage in the Subsidence District. Groundwater subsidence in the greater Houston area coupled with increasing water demands requires that the City of Houston (City) and regional partners expand the existing Northeast Water Purification Plant (NEWPP).

Project Description: The City along with the North Harris County Regional Water Authority, West Harris County Regional Water Authority, Central Harris County Regional Water Authority, and North Fort Bend Water Authority (Authorities) is seeking financial assistance for the planning, design, and construction of an expansion to the existing NEWPP that will increase the surface water intake and treated water production capacity from 80 million gallons per day (MGD) to 400 MGD. The expansion will provide the project participants with an additional surface water supply to help achieve the regulatory requirements of the Harris-Galveston Subsidence District and the Fort Bend Subsidence District that restrict groundwater usage.

**Project Schedule:**

<b>Project Task</b>	<b>Schedule Date</b>
Closing	12/1/2015
Engineering Feasibility Report Completion (End of Planning Phase)	12/31/2016
Start of Construction	12/31/2017
Design Phase Complete	12/31/2018
Construction Completion	1/31/2025

**Environmental Section:**

Key Issues:

None known at this time.

Environmental Summary:

Pursuant to the requirements of 31 Texas Administrative Code (TAC) §363.14, all financial assistance shall be conditioned to read that funding for design and construction costs for specific project elements will not be released until the environmental review has been completed and a favorable environmental determination has been issued.

**Houston**  
**51023 - Northeast Water Purification Plant Expansion**

<b>Budget Items</b>	<b>Houston</b>	<b>North Fort Bend Water Authority</b>	<b>Central Harris County Regional Water Authority</b>	<b>North Harris County Regional Water Authority</b>	<b>West Harris County Regional Water Authority</b>	<b>TWDB Total Funds</b>
<b>Construction</b>						
Construction	\$164,613,118	\$0	\$0	\$336,094,399	\$0	\$500,707,517
<b>Construction Total</b>	<b>\$164,613,118</b>	<b>\$0</b>	<b>\$0</b>	<b>\$336,094,399</b>	<b>\$0</b>	<b>\$500,707,517</b>
<b>Basic Engineering Services</b>						
Planning	\$1,502,421	\$0	\$0	\$32,021,093	\$0	\$33,523,514
Design	\$12,423,339	\$0	\$0	\$49,074,352	\$0	\$61,497,691
Construciton Engineering	\$4,177,947	\$0	\$0	\$0	\$0	\$4,177,947
<b>Basic Engineering Services Total</b>	<b>\$18,103,707</b>	<b>\$0</b>	<b>\$0</b>	<b>\$81,095,445</b>	<b>\$0</b>	<b>\$99,199,152</b>
<b>Contingency</b>						
Contingency	\$0	\$0	\$0	\$68,897,149	\$0	\$68,897,149
<b>Contingency Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$68,897,149</b>	<b>\$0</b>	<b>\$68,897,149</b>
<b>Other</b>						
Capacity Buy-In	\$0	\$250,799,616	\$19,256,750	\$0	\$306,200,000	\$576,256,366
<b>Other Total</b>	<b>\$0</b>	<b>\$250,799,616</b>	<b>\$19,256,750</b>	<b>\$0</b>	<b>\$306,200,000</b>	<b>\$576,256,366</b>
<b>Fiscal Services</b>						
Financial Advisor	\$0	\$645,886	\$0	\$652,142	\$0	\$1,298,028
Bond Counsel	\$0	\$399,498	\$0	\$1,480,000	\$0	\$1,879,498
Capitalized Interest	\$0	\$0	\$0	\$34,194,200	\$0	\$34,194,200
Fiscal/Legal	\$0	\$0	\$3,398,250	\$170,000	\$0	\$3,568,250
Bond Reserve Fund	\$0	\$0	\$0	\$28,488,665	\$0	\$28,488,665
Issuance Costs	\$918,175	\$0	\$0	\$688,000	\$0	\$1,606,175
<b>Fiscal Services Total</b>	<b>\$918,175</b>	<b>\$1,045,384</b>	<b>\$3,398,250</b>	<b>\$65,673,007</b>	<b>\$0</b>	<b>\$71,034,816</b>
<b>Grand Total</b>	<b>\$183,635,000</b>	<b>\$251,845,000</b>	<b>\$22,655,000</b>	<b>\$551,760,000</b>	<b>\$306,200,000</b>	<b>\$1,316,095,000</b>

**Central Harris County Regional Water Authority  
51021 – Second Source Transmission Line  
Phase I (108-inch)  
Engineering and Environmental Review**

**Engineering:**

Key Issues:

None.

Project Need/Description

Need: The need for surface water treatment facility infrastructure improvements follows the passage of rules and regulations issued by the Harris-Galveston Subsidence District (Subsidence District) to decrease groundwater usage and consequently increase surface water usage in the Subsidence District. Groundwater subsidence in the greater Houston area coupled with increasing water demands requires that the City of Houston and regional partners expand the existing Northeast Water Purification Plant (NEWPP). To accommodate the planned plant expansion, the City and both the North Harris County Regional Water Authority and Central Harris County Regional Water Authority will require a system to transport this increase in water supply to their service areas.

Project Description: The City and the Authorities are seeking financial assistance for the planning, design, and construction of a 108" shared transmission pipeline approximately 17 miles in length from the City's NEWPP to just west of IH 45. This pipeline will convey treated surface water from the NEWPP to the City and Authorities and allow them to supplement their current water supplies.

**Project Schedule:**

<b>Project Task</b>	<b>Schedule Date</b>
Closing	12/1/2015
Engineering Feasibility Report Completion (End of Planning Phase)	3/31/2016
Start of Construction	2/28/2017
Design Phase Complete	9/30/2025
Construction Completion	5/31/2028

**Environmental Section:**

Key Issues:

None known at this time.

Environmental Summary:

Pursuant to the requirements of 31 Texas Administrative Code (TAC) §363.14, all financial assistance shall be conditioned to read that funding for acquisition, design, and construction costs for specific project elements will not be released until the environmental review has been completed and a favorable environmental determination has been issued.

## 51021 - Second Source Transmission Line Phase I (108-inch)

Budget Items	Houston TWDB Funds	Central Harris County Regional Water Authority	North Harris County Regional Water Authority	TWDB Total Funds
<b>Construction</b>				
Construction	\$103,652,532	\$0	\$134,922,895	\$238,575,427
<b>Construction Total</b>	<b>\$103,652,532</b>	<b>\$0</b>	<b>\$134,922,895</b>	<b>\$238,575,427</b>
<b>Basic Engineering Services</b>				
Planning	\$563,808	\$0	\$5,840,989	\$6,404,797
Design	\$5,638,197	\$0	\$17,420,472	\$23,058,669
Construciton Engineering	\$2,073,013	\$0	\$0	\$2,073,013
<b>Basic Engineering Services Total</b>	<b>\$8,275,018</b>	<b>\$0</b>	<b>\$23,261,461</b>	<b>\$31,536,479</b>
<b>Special Services</b>				
Environmental Project Management (by engineer)	\$0	\$0	\$399,843	\$399,843
	\$0	\$0	\$1,057,264	\$1,057,264
<b>Special Services Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,457,107</b>	<b>\$1,457,107</b>
<b>Contingency</b>				
Contingency	\$0	\$0	\$29,305,109	\$29,305,109
<b>Contingency Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,305,109</b>	<b>\$29,305,109</b>
<b>Other</b>				
Capacity Buy-In	\$0	\$8,041,000	\$0	\$8,041,000
Land/Easements	\$0	\$0	\$5,496,000	\$5,496,000
<b>Other Total</b>	<b>\$0</b>	<b>\$8,041,000</b>	<b>\$5,496,000</b>	<b>\$13,537,000</b>
<b>Fiscal Services</b>				
Financial Advisor	\$0	\$0	\$600,000	\$600,000
Bond Counsel	\$0	\$0	\$910,000	\$910,000
Capitalized Interest	\$0	\$0	\$13,667,620	\$13,667,620
Fiscal/Legal	\$0	\$1,419,000	\$300,000	\$1,719,000
Bond Reserve Fund	\$0	\$0	\$11,494,808	\$11,494,808
Issuance Costs	\$562,450	\$0	\$720,000	\$1,282,450
<b>Fiscal Services Total</b>	<b>\$562,450</b>	<b>\$1,419,000</b>	<b>\$27,692,428</b>	<b>\$29,673,878</b>
<b>Grand Total</b>	<b>\$112,490,000</b>	<b>\$9,460,000</b>	<b>\$222,135,000</b>	<b>\$344,085,000</b>

**Central Harris County Regional Water Authority  
51009 – Second Source Transmission Line  
Phase II (84-inch)  
Engineering and Environmental Review**

**Engineering:**

Key Issues:

None.

Project Need/Description

Need: The North Harris County Regional Water Authority (NHCRWA) has entered into contractual agreements with the City of Houston (City) to purchase treated surface water from the City's Northeast Water Purification Plant (NEWPP) for use in complying with the Harris-Galveston Subsidence District regulatory conversion requirements as detailed in the NHCRWA's Groundwater Reduction Plan. The City, the NHCRWA and the Central Harris County Regional Water Authority (CHCRWA) have also proposed to design and construct a 108" shared transmission pipeline approximately 17 miles in length from the NEWPP to just west of IH 45.

Project Description: The NHCRWA and the CHCRWA are seeking financial assistance for the planning, design, and construction of an 84" transmission pipeline approximately 7.5 miles in length from the end of the proposed 108" transmission line to just west of Highway 249, terminating at the NHCRWA's proposed SH 249 Regional Pump Station.

**Project Schedule:**

<b>Project Task</b>	<b>Schedule Date</b>
Closing	12/1/2015
Engineering Feasibility Report Completion (End of Planning Phase)	3/31/2016
Start of Construction	9/1/2018
Design Phase Complete	7/31/2019
Construction Completion	7/31/2021

**Environmental Section:**

Key Issues:

None known at this time.

Environmental Summary:

Pursuant to the requirements of 31 Texas Administrative Code (TAC) §363.14, all financial assistance shall be conditioned to read that funding for acquisition, design, and construction costs for specific project elements will not be released until the environmental review has been completed and a favorable environmental determination has been issued.

**51009 - Second Source Transmission Line Phase II (84-inch)**

<b>Budget Items</b>	<b>North Harris County Regional Water Authority</b>	<b>Central Harris County Regional Water Authority</b>	<b>Total TWDB Funds</b>
<b>Construction</b>			
Construction	\$81,241,362	\$0	\$81,241,362
<b>Construction Total</b>	<b>\$81,241,362</b>	<b>\$0</b>	<b>\$81,241,362</b>
<b>Basic Engineering Services</b>			
Planning	\$150,000	\$0	\$150,000
Design	\$4,238,852	\$0	\$4,238,852
Construction Engineering	\$2,500,000	\$0	\$2,500,000
<b>Basic Engineering Services Total</b>	<b>\$6,888,852</b>	<b>\$0</b>	<b>\$6,888,852</b>
<b>Special Services</b>			
Environmental	\$120,526	\$0	\$120,526
<b>Special Services Total</b>	<b>\$120,526</b>	<b>\$0</b>	<b>\$120,526</b>
<b>Contingency</b>			
Contingency	\$20,708,212	\$0	\$20,708,212
<b>Contingency Total</b>	<b>\$20,708,212</b>	<b>\$0</b>	<b>\$20,708,212</b>
<b>Other</b>			
Land/Easements Acquisition	\$9,564,922	\$0	\$9,564,922
Capacity Buy-In	\$0	\$8,087,750	\$8,087,750
<b>Other Total</b>	<b>\$9,564,922</b>	<b>\$8,087,750</b>	<b>\$17,652,672</b>
<b>Fiscal Services</b>			
Financial Advisor	\$380,000	\$0	\$380,000
Bond Counsel	\$619,000	\$0	\$619,000
Bond Reserve Fund	\$6,995,914	\$0	\$6,995,914
Capitalized Interest	\$8,374,070	\$0	\$8,374,070
Fiscal/Legal	\$92,588	\$1,427,250	\$1,519,838
Issuance Costs	\$399,554	\$0	\$399,554
<b>Fiscal Services Total</b>	<b>\$16,861,126</b>	<b>\$1,427,250</b>	<b>\$18,288,376</b>
<b>Grand Total</b>	<b>\$135,385,000</b>	<b>\$9,515,000</b>	<b>\$144,900,000</b>

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD  
 APPROVING AN APPLICATION FOR FINANCIAL ASSISTANCE TO CENTRAL HARRIS  
 COUNTY REGIONAL WATER AUTHORITY  
 IN THE FORM OF A MULTI-YEAR COMMITMENT  
 FROM THE STATE WATER IMPLEMENTATION REVENUE FUND FOR TEXAS  
 THROUGH THE PROPOSED PURCHASE OF  
 \$41,630,000 CENTRAL HARRIS COUNTY REGIONAL WATER AUTHORITY REVENUE BONDS  
 PROPOSED SERIES 2015 THROUGH PROPOSED SERIES 2020

(15- )

WHEREAS, the Central Harris County Regional Water Authority, located in Harris County, Texas, (Authority) has filed applications for financial assistance in the total amount of \$41,630,000 from the State Water Implementation Revenue Fund for Texas (SWIRFT), to finance the planning, acquisition, design and construction of certain water supply projects identified below; and

WHEREAS, the Authority seeks financial assistance from the Texas Water Development Board (TWDB) in the form of a multi-year commitment through the TWDB's proposed purchase of \$41,630,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2015 through Proposed Series 2020, (together with all authorizing documents "Obligations"), all as is more specifically set forth in the application and in recommendations of the Executive Administrator's staff; and

WHEREAS, the Authority has offered a pledge of system revenue as sufficient security for the repayment of the Obligations; and

WHEREAS, the commitment is approved for funding under the TWDB's pre-design funding option, and initial and future releases of funds are subject to 31 TAC § 363.1307; and

WHEREAS, the commitment is approved for an interest rate subsidy through December 31, 2019; and

WHEREAS, interest rate subsidies are available to the Authority at the following levels: 35.5% for loans of a term of 20 years, 27% for loans of a term of 25 years, and 22% for loans of a term of 30 years. The interest rate subsidy applicable to each proposed series will be set through each financing agreement executed between the TWDB and the Authority, pursuant to this Resolution; and

WHEREAS, the TWDB hereby finds:

1. that the application and assistance applied for meet the requirements of Texas Water Code, Chapter 15, Subchapters G and H and 31 TAC Chapter 363, Subchapters A and M;
2. that the project is a recommended water management strategy in the State Water Plan adopted pursuant to Texas Water Code § 16.051, in accordance with Texas Water Code § 15.474(a);
3. that a water conservation plan, if required by Texas Water Code § 11.1271, has been submitted and implemented in accordance with 31 TAC § 363.1309(b)(1);

4. that the Authority satisfactorily completed any request by the Executive Administrator or a regional planning group for information relevant to the project, including a water infrastructure financing survey under Texas Water Code § 16.053(q), in accordance with 31 TAC § 363.1309(b)(2);
5. that the current water audit, if required by Texas Water Code § 16.0121, has been completed by the Authority and filed with the TWDB in accordance with 31 TAC § 358.6;
6. that the Authority has acknowledged its legal obligation to comply with any applicable requirements of federal law relating to contracting with disadvantaged business enterprises, and any applicable state law relating to contracting with historically underutilized businesses, in accordance with Texas Water Code § 15.435(h) and 31 TAC § 363.1309(b)(3).

NOW THEREFORE, based on these findings, the TWDB resolves as follows:

A commitment is made by the TWDB to Central Harris County Regional Water Authority for financial assistance in the amount of \$41,630,000 from the State Water Implementation Revenue Fund for Texas, to be evidenced by the TWDB's proposed purchase of Central Harris County Regional Water Authority Revenue Bonds, in accordance with the schedule proposed below.

- a) \$10,805,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2015 A, B, and C to expire on December 31, 2015;
- b) \$2,395,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2016, to expire on December 31, 2016;
- c) \$21,650,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2017, to expire on December 31, 2017;
- d) \$1,685,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2018, to expire on December 31, 2018;
- e) \$1,535,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2019, to expire on December 31, 2019; and
- f) \$3,560,000 Central Harris County Regional Water Authority Revenue Bonds, Proposed Series 2020, to expire on December 31, 2020.

Further, the commitment described above consists of the following Projects:

- a) Project No. 51023 (Northeast Water Purification Plant Expansion) in the amount of \$22,655,000;
- b) Project No. 51021 (Second Source Transmission Line Phase I) in the amount of \$9,460,000; and
- c) Project No. 51009 (Second Source Transmission Line Phase II) in the amount of \$9,515,000.

Such commitment is conditioned as follows:

**Standard Conditions:**

1. this commitment is contingent on a future sale of bonds by the TWDB or on the availability of funds on hand;
2. this commitment is contingent upon the issuance of a written approving opinion of the Attorney General of the State of Texas stating that all of the requirements of the laws under which said Obligations were issued have been complied with; that said Obligations were issued in conformity with the Constitution and laws of the State of Texas; and that said Obligations are valid and binding obligations of the Authority;
3. this commitment is contingent upon the Authority's continued compliance with all applicable laws, rules, policies and guidance as these may be amended from time to time to adapt to a change in law, in circumstances, or any other legal requirement;
4. this commitment is contingent upon the Authority executing a separate financing agreement, approved as to form and substance by the Executive Administrator, and submitting that executed agreement to the TWDB consistent with the terms and conditions described in the financing agreement;
5. the Authority shall use a paying agent/registrar in accordance with 31 TAC Section 363.42(c)(2), and shall require the paying agent/registrar to provide a copy, to the TWDB and to the TWDB's designated Trustee, of all receipts documenting debt service payments.

**The Following Conditions Must Be Included in the Obligations:**

6. the Obligations must provide that the Obligations can be called for early redemption only in inverse order of maturity, and on any date beginning on or after the first interest payment date which is 10 years from the dated date of the Obligations, at a redemption price of par, together with accrued interest to the date fixed for redemption;
7. the Obligations must include a provision wherein the Authority, or an obligated person for whom financial or operating data is presented to the TWDB in the application for financial assistance either individually or in combination with other issuers of the Authority's Obligations or obligated persons, will, at a minimum, regardless of the amount of the Obligations, covenant to comply with requirements for continuing disclosure on an ongoing basis substantially in the manner required by Securities and Exchange Commission (SEC) in 17 CFR § 240.15c2-12 (Rule 15c2-12) and determined as if the TWDB were a Participating Underwriter within the meaning of such rule, such continuing disclosure undertaking being for the benefit of the TWDB and the beneficial owners of the Authority's Obligations, if the TWDB sells or otherwise transfers such Obligations, and the beneficial owners of the TWDB's bonds if the Authority is an obligated person with respect to such bonds under SEC Rule 15c2-12;
8. the Obligations must contain a provision requiring the Authority to maintain and collect sufficient rates and charges to produce system revenues in an amount necessary to meet the debt service requirements of all outstanding obligations and to maintain the funds established and required by the Obligations;

9. the Obligations must include a provision requiring the Authority to use any loan proceeds from the Obligations that are determined to be surplus proceeds remaining after completion of the project for the following purposes as approved by the Executive Administrator: (1) deposit into the Interest and Sinking Fund or other debt service account for the payment of interest or principal on the Obligations owned by the TWDB; or (2) eligible costs for the project as authorized by the Executive Administrator;
10. the Obligations must contain a provision that the TWDB may exercise all remedies available to it in law or equity, and any provision of the Obligations that restricts or limits the TWDB's full exercise of these remedies shall be of no force and effect;
11. loan proceeds are public funds and, as such, the Obligations must include a provision requiring that these proceeds shall be held at a designated state depository institution or other properly chartered and authorized institution in accordance with the Public Funds Investment Act, Government Code, Chapter 2256, and the Public Funds Collateral Act, Government Code, Chapter 2257;
12. loan proceeds shall not be used by the Authority when sampling, testing, removing or disposing of contaminated soils and/or media at the project site. The Obligations shall include an environmental indemnification provision wherein the Authority agrees to indemnify, hold harmless and protect the TWDB from any and all claims, causes of action or damages to the person or property of third parties arising from the sampling, analysis, transport, storage, treatment, recycling and disposition of any contaminated sewage sludge, contaminated sediments and/or contaminated media that may be generated by the Authority, its contractors, consultants, agents, officials and employees as a result of activities relating to the project to the extent permitted by law;
13. the Obligations must include a provision stating that the Authority shall report to the TWDB the amounts of project funds, if any, that were used to compensate historically underutilized businesses that worked on the project, in accordance with 31 TAC § 363.1312;
14. the Obligations must contain a provision that the TWDB will purchase the Obligations, acting through the TWDB's designated Trustee, and the Obligations shall be registered in the name of Cede & Co. and closed in book-entry form in accordance with 31 TAC Section 363.42(c)(1);
15. the Obligations must include a provision prohibiting the Authority from using the proceeds of this loan in a manner that would cause the Obligations to become "private activity bonds" within the meaning of § 141 of the Internal Revenue Code of amended (Code) and the Treasury Regulations promulgated thereunder (Regulations);
16. the Obligations must provide that no portion of the proceeds of the loan will be used, directly or indirectly, in a manner that would cause the Obligations to be "arbitrage bonds" within the meaning of § 148(a) of the Code and Regulations, including to acquire or to replace funds which were used, directly or indirectly, to acquire Nonpurpose Investments (as defined in the Code and Regulations) which produce a yield materially higher than the yield on the TWDB's bonds that

are issued to provide financing for the loan (Source Series Bonds), other than Nonpurpose Investments acquired with:

- a. proceeds of the TWDB's Source Series Bonds invested for a reasonable temporary period of up to three (3) years after the issue date of the Source Series Bonds until such proceeds are needed for the facilities to be financed;
  - b. amounts invested in a bona fide debt service fund, within the meaning of § 1.148-1(b) of the Regulations; and
  - c. amounts deposited in any reasonably required reserve or replacement fund to the extent such amounts do not exceed the least of maximum annual debt service on the Obligations, 125% of average annual debt service on the Obligations, or 10 percent of the stated principal amount (or, in the case of a discount, the issue price) of the Obligations;
17. the Obligations must include a provision requiring the Authority take all necessary steps to comply with the requirement that certain amounts earned on the investment of gross proceeds of the Obligations be rebated to the federal government in order to satisfy the requirements of § 148 of the Code. The Obligations must provide that the Authority will:
- a. account for all Gross Proceeds, as defined in the Code and Regulations, (including all receipts, expenditures and investments thereof) on its books of account separately and apart from all other funds (and receipts, expenditures and investments thereof) and retain all records of such accounting for at least six years after the final Computation Date. The Authority may, however, to the extent permitted by law, commingle Gross Proceeds of its loan with other money of the Authority, provided that the Authority separately accounts for each receipt and expenditure of such Gross Proceeds and the obligations acquired therewith;
  - b. calculate the Rebate Amount, as defined in the Code and Regulations, with respect to its loan, not less frequently than each Computation Date, in accordance with rules set forth in § 148(f) of the Code, § 1.148-3 of the Regulations, and the rulings thereunder. The Authority shall maintain a copy of such calculations for at least six years after the final Computation Date;
  - c. as additional consideration for the making of the loan, and in order to induce the making of the loan by measures designed to ensure the excludability of the interest on the TWDB's Source Series Bonds from the gross income of the owners thereof for federal income tax purposes, pay to the United States the amount described in paragraph (b) above within 30 days after each Computation Date;
  - d. exercise reasonable diligence to assure that no errors are made in the calculations required by paragraph (b) and, if such error is made, to discover and promptly to correct such error within a reasonable amount of time thereafter, including payment to the United States of any interest and any penalty required by the Regulations;

18. the Obligations must include a provision prohibiting the Authority from taking any action that would cause the interest on the Obligations to be includable in gross income for federal income tax purposes;
19. the Obligations must provide that the Authority will not cause or permit the Obligations to be treated as “federally guaranteed” obligations within the meaning of § 149(b) of the Code;
20. the Obligations must provide that neither the Authority nor a related party thereto will acquire any of the TWDB’s Source Series Bonds in an amount related to the amount of the Obligations to be acquired from the Authority by the TWDB;

**Revenue Pledge**

21. the Obligations must require the accumulation of a reserve fund of no less than average annual debt service requirements, to be accumulated in equal monthly installments over the initial sixty (60) months following the issuance of the Obligations;
22. if the Authority has existing revenue obligations with the same pledge of security as the proposed Obligations that will remain outstanding after any loan(s) made by the TWDB pursuant to this commitment, the Obligations must contain a provision providing that the lien or liens securing the Obligations issued to the TWDB shall be at least on a parity with lien or liens securing such outstanding obligations;
23. the Obligations must contain a provision providing that additional revenue obligations may only be incurred if:

(a) The Net Revenues of the Authority for the most recently completed Fiscal Year, or during any period of twelve (12) consecutive calendar months ending no more than ninety (90) days preceding the adoption of the resolution or order authorizing the issuance of such Additional Bonds, together with any funds then available on deposit in or to the credit of the Surplus Revenue Fund, were not less than 1.25 times the annual average of the principal and interest payments scheduled to become due on the Bonds and any Additional Bonds then outstanding and estimated to become due on such proposed Additional Bonds; or

(b) The Authority has duly adopted revisions to its Service Fees and/or Pumpage Fees, effective at least sixty (60) days prior to the close of its most recent Fiscal Year or any other period of twelve (12) consecutive calendar months ending no more than ninety (90) days prior to the proposed date of issuance of such Additional Bonds, and the Authority has received a certificate executed by a certified public accountant or firm of certified public accounts to the effect that the Net Revenues of the Authority during such Fiscal Year or twelve-month period, if recalculated on the assumption that such revised Service Fees and/or Pumpage Fees had been in effect for the entirety of such Fiscal Year or twelve-month period, together with any funds then available on deposit in or to the credit of the Surplus Revenue Fund and any interest to be capitalized out of the proceeds of such proposed Additional Bonds, would have been no less than 1.25 times the annual average of the principal and interest payments scheduled to become due on

the Bonds and any Additional Bonds then outstanding and estimated to become due on such proposed Additional Bonds; or

(c) The Authority has received the written consent and approval to the issuance of such Additional Bonds from the Holders or beneficial owners of not less than two-thirds (2/3) in aggregate principal amount of the Bonds then outstanding.

**Conditions to Close or for Release of Funds:**

24. prior to closing, the Authority shall submit documentation evidencing the adoption and implementation of sufficient system rates and charges sufficient for the repayment of all system debt service requirements;
25. prior to closing, and if not previously provided with the application, the Authority shall submit executed contracts for engineering, and, if applicable, financial advisor and bond counsel contracts, for the project that are satisfactory to the Executive Administrator. Fees to be reimbursed under the contracts must be reasonable in relation to the services performed, reflected in the contract, and acceptable to the Executive Administrator;
26. prior to closing, when any portion of financial assistance is to be held in escrow or in trust, the Authority shall execute an escrow agreement or trust agreement, approved as to form and substance by the Executive Administrator, and shall submit that executed agreement to the TWDB;
27. prior to release of funds for construction, the Authority must provide the TWDB with evidence that the necessary acquisitions of land, leases, easements, and rights-of-way have been completed, or that the Authority has the legal authority necessary to complete the acquisitions;
28. prior to release of funds for acquisition, design, or construction for specific project elements, the environmental review must be completed and a favorable environmental finding must have been issued;
29. prior to closing, the Authority's bond counsel must prepare a written opinion that states that the interest on the Obligations is excludable from gross income or is exempt from federal income taxation. Bond counsel may rely on covenants and representations of the Authority when rendering this opinion;
30. prior to closing, the Authority's bond counsel must prepare a written opinion that also states that the Obligations are not "private activity bonds." Bond counsel may rely on covenants and representations of the Authority when rendering this opinion;
31. the transcript must include a No Arbitrage Certificate or similar Federal Tax Certificate setting forth the Authority's reasonable expectations regarding the use, expenditure and investment of the proceeds of the Obligations; and

32. the transcript must include evidence that the information reporting requirements of § 149(e) of the Code will be satisfied. This requirement may be satisfied by filing an IRS Form 8038 with the Internal Revenue Service. In addition, the applicable completed IRS Form 8038 or other evidence that the information reporting requirements of § 149(e) have been satisfied must be provided to the Executive Administrator within fourteen (14) days of closing. The Executive Administrator may withhold the release of funds for failure to comply.

APPROVED and ordered of record this the 23<sup>rd</sup> day of July, 2015.

TEXAS WATER DEVELOPMENT BOARD

\_\_\_\_\_  
Bech K. Bruun, Chairman

DATE SIGNED: \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
Kevin Patteson  
Executive Administrator

# WATER CONSERVATION REVIEW

Entity: \_\_\_\_\_

Review date: \_\_\_\_\_

**WATER CONSERVATION PLAN DATE:** **Approvable**      **Adopted**

	Total GPCD	Residential GPCD	Water Loss GPCD	Water Loss Percent
<b>Baseline</b>				
<b>5-year Goal</b>				
<b>10-year Goal</b>				

**WATER LOSS AUDIT YEAR:**

Total water loss (GPCD): \_\_\_\_\_      Total water loss (percent): \_\_\_\_\_      Wholesale Water  
 Total no. of connections: \_\_\_\_\_      Length of mains (miles): \_\_\_\_\_      Connections per mile: \_\_\_\_\_  
 If > 16 connections per mile and > 3,000 connections, Infrastructure Leakage Index (ILI): \_\_\_\_\_

**WATER LOSS THRESHOLDS:**

	Apparent Loss Gallons per connection per day	Real Loss Gallons per mile per day	Real Loss Gallons per connection per day	Apparent Threshold Gallons per connection per day	Real Threshold Gallons per mile per day	Real Threshold Gallons per connection per day
If population ≤ 10K, connections/mile < 32 :						
If population ≤ 10K, connections/mile ≥ 32 :						
If population > 10K :						

Does the applicant meet Water Loss Threshold requirements?      Yes      No      NA

**ADDITIONAL INFORMATION:**

**STAFF NOTES AND RECOMMENDATIONS:**

## DEFINITIONS

**Adopted** refers to a water conservation plan that meets the minimum requirements of the water conservation plan rules and has been formally approved and adopted by the applicant's governing body.

**Apparent loss** refers to unauthorized consumption, meter inaccuracy, billing adjustments, and waivers.

**Approvable** refers to a water conservation plan that substantially meets the minimum requirements of the water conservation plan rules but has not yet been adopted by the applicant's governing body.

**Best Management Practices** are voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

**GPCD** means gallons per capita per day.

**Infrastructure Leakage Index (ILI)** is the current annual real loss divided by the unavoidable annual real loss (theoretical minimum real loss) and only applies to utilities with more than 5,000 connections, average pressure greater than 35 psi, and a connection density of more than 32 connections per mile. The **ILI** is recommended to be less than 3 if water resources are greatly limited and difficult to develop, between 3 and 5 if water resources are adequate to meet long-term needs but water conservation is included in long-term water planning, and between 5 and 8 if water resources are plentiful, reliable, and easily extracted. The **ILI** is recommended as a benchmarking tool, but until there is increased data validity of the variables used in the calculation, the **ILI** should be viewed with care.

**NA** means not applicable.

**Produced water** is the total amount of water purchased or produced by the utility.

**Real loss** comes from main breaks and leaks, storage tank overflows, customer service line breaks, and leaks.

**Residential GPCD** is the amount of water per capita used solely for residential use and ideally includes both single and multi-family customer use.

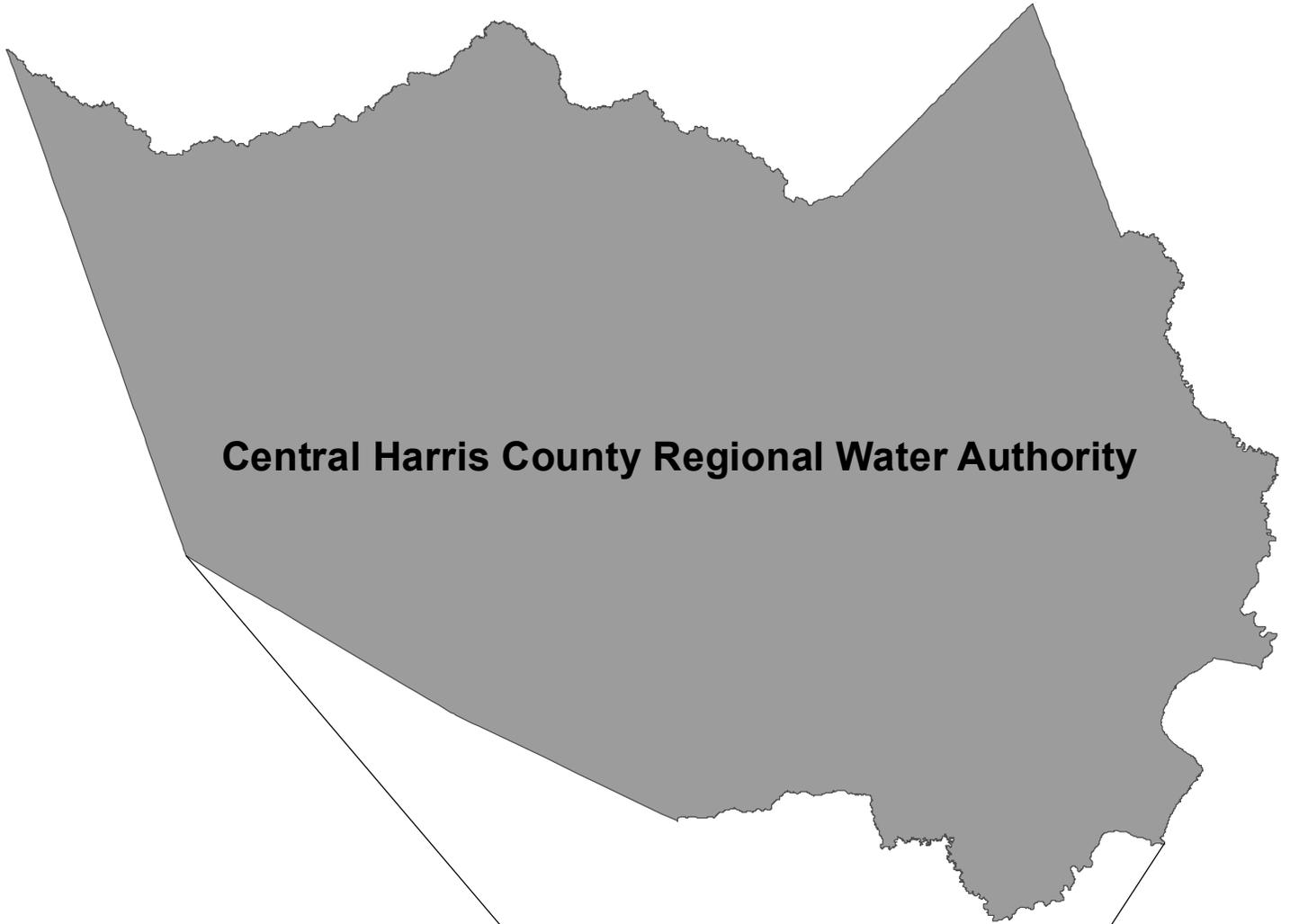
**Total baseline GPCD** is the amount of all water purchased or produced by the utility divided by the service area population and then divided by 365.

**Total water loss** is the sum of the apparent and real water losses.

**Water loss** is the difference between the input volume and the authorized consumption within a water system. Water Loss consists of real losses and apparent losses.

**Water Loss Thresholds** are levels of real and apparent water loss determined by the size and connection density of a retail public utility, at or above which a utility receiving financial assistance from the Texas Water Development Board must use a portion of that financial assistance to mitigate the utility's system water loss.

**Central Harris County Regional Water Authority,  
Harris County**



**Central Harris County Regional Water Authority**

