

Texas Water Development Board

PROJECT FUNDING REQUEST

BOARD DATE: July 26, 2018

TEAM MANAGER: Nancy Richards

APPLICANT	North Harris County Regional Water Authority
TYPE OF ASSISTANCE	\$222,070,000 Northeast Water Purification Plant Expansion \$601,845,000 Internal Distribution
LEGAL PLEDGE	Senior Lien on the Water System Revenues

STAFF RECOMMENDATION

Approve No Action

ACTION REQUESTED

Approve by resolution a request from North Harris County Regional Water Authority (Harris County) to amend Texas Water Development Board Resolution No. 15-077, as amended by TWDB Resolution Nos. 16-079 and 17-083, to authorize a \$823,915,000 increase in financial assistance from the State Water Implementation Revenue Fund for Texas for costs related to the Northeast Water Purification Plant and Internal Distribution Expansion projects.

BACKGROUND

Passed by the 83rd Texas 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. SWIFT projects presented for consideration have been scored and ranked utilizing prioritization criteria outlined in Texas Administrative Code Title 31 §363.1304 and are included on the prioritized list of projects approved by the Board on April 5, 2018.

Multi-Year-Commitment (includes new and previous commitments)	Expiration Date
\$469,345,000 Series 2018	December 1, 2018
\$230,200,000 Series 2019	December 1, 2019
\$78,670,000 Series 2020	December 1, 2020
\$38,530,000 Series 2021	December 1, 2021
\$23,070,000 Series 2022	December 1, 2022
\$39,615,000 Series 2023	December 1, 2023
\$82,525,000 Series 2024	December 1, 2024
\$8,445,000 Series 2025	December 1, 2025
\$438,395,000 Series 2026-2030	December 1, 2026-2030

Project Background: Northeast Water Purification Plant Expansion

The North Harris County Regional Water Authority (Authority) was created in 1999 to negotiate a secure, long-term, reliable, quality supply of wholesale drinking water for all the independent neighborhoods, municipal utility districts, small municipalities, and permitted well owners within its boundaries. The Authority and its four regional partners are co-funding the expansion of the Northeast Water Purification Plant to increase the plant's water treatment capacity from the current 80 million gallons per day (MGD) to 400 MGD. The need for surface water treatment facility infrastructure improvements follows the passage of rules and regulations issued by the Harris-Galveston Subsidence District (District) to decrease groundwater usage and consequently increase surface water usage. The Authority will have 35 percent capacity ownership in the plant. The Authority is requesting additional funds for its portion of the increased costs of the NEWPP.

Project Background: 2020 Internal Distribution Expansion

The Authority is also requesting financial assistance for the planning, acquisition, design, and construction of new water distribution lines to provide treated surface water to the numerous MUDs that the Authority serves. The initial phase consisted of approximately 12 miles of pipelines ranging from 12 to 60-inch in diameter, three 12 million-gallon ground storage tanks, four 25,000-gallon hydro-pneumatic tanks, and a booster pump station. Funding for the second phase of work, committed in 2017, consisted of approximately 15 miles of pipelines ranging from 12 to 48-inch in diameter, metering facilities, and chloramination facilities. This funding request specifically pertains to the remainder of work included in the water management strategy, and consists of approximately 70 additional miles of 12 to 84-inch diameter transmission pipelines, several booster pump stations, and all necessary interconnections, valves, and appurtenances.

FINANCIALKey Issues

The Authority received commitments in previous SWIFT funding cycles to finance the planning, acquisition, design, and construction of the NEWPP and its Internal Distribution Expansion. The Authority is requesting an additional multi-year commitment of \$601,845,000 for the Internal Distribution Expansion and an additional \$220,070,000 in SWIFT financing for the NEWPP due to progressions in the design phase as cost estimates are refined.

The Authority is also requesting a financial structure that allows for smaller principal payments through 2027. By modifying its principal payments, the Authority expects to reduce the required surface water and groundwater pumpage fee impacts. The Authority will use bond proceeds to fund the bond reserve requirement and is requesting 24 months of capitalized interest, as it has in previous requests.

Multi-year Commitment

The Authority has requested a multi-year commitment through 2030.

Pledge and Repayment

The Authority is pledging a senior lien on its water system revenues to cover the proposed debt. All senior lien obligations are additionally secured by, and payable from, amounts in the Interest and Sinking Fund (I&S), the Coverage Fund, and the Reserve Fund.

The current rates for surface water and the groundwater pumpage fees are \$3.70 and \$3.30, respectively. The Authority has projected annual rate increases through 2023. Based on the Authority's current projections, surface and pumpage fees are expected to increase to \$5.85 and \$5.40, respectively.

The revenue shown on the attached debt service schedule includes utilizing capitalized interest and shows the necessary revenue increases needed to generate sufficient revenues to meet the existing and proposed debt service requirements.

Cost Savings

Based on a 30-year maturity and current interest rates, the Authority could save approximately \$79,158,806 over the life of the \$469,345,000 Series 2018 closing which includes the current request and the Authority's previous multi-year commitments, which total \$388,565,000.

Internal Risk Score

Staff assigns a 2B to the Authority and the proposed project to be funded by the Texas Water Development Board (TWDB). This means that the Authority's repayment capacity is adequate. The risk score is based on TWDB analysis of the Authority's revenues.

The financial sustainability indicators for the Authority are adequate. These indicators are more heavily weighted than the other internal risk score factors and show the Authority's short-term and long-term ability to repay the debt. As discussed above, the Authority may need to increase water rates to meet the existing and proposed debt service, or utilize the various reserve funds. Additionally, the long-term condition of the system is sound with an asset condition ratio of 43 years. An asset condition ratio of 12 to 24 years is considered typical.

The Authority scored well on indicators showing the overall health of the Authority. The Authority has been able to retain its revenues, as evidenced by an increase in the fund balance over the last five years relative to revenues. In addition, the Authority maintains a strong liquidity position with cash and short-term investments equal to 3,615 days of operating expenses. An amount greater than 250 days is considered to be a strong level of liquidity, which provides stability to the Authority by providing the resources needed to cover short-term, unplanned needs.

The Authority's service area socioeconomic indicators are on par with the state's median overall. The median household income (MHI) of \$55,584 is 102 percent of the state's median income of \$54,727. The Authority's unemployment rate of 4.3 percent (County level data) is above the state average of 3.8 percent.

In addition, property growth in the service area has been stable over the last five years. The Authority is the largest water provider in Harris County, expanding its economic base to include not just the energy sectors but also medical, manufacturing and retail industries. The Authority's top ten customers represent 24 percent of the system revenues and are long-term contract customers.

The Authority's debt profile is quickly increasing; however, the socioeconomic indicators are on par with the state's median, they have a sizeable customer base and service area, strong liquidity, and maintain ample reserves in accordance with the bond covenants. Therefore, the Authority is assigned a risk score of 2B.

LEGAL

Key Issues

None.

Conditions

Standard SWIFT, tax-exempt, and net revenue conditions.

- Attachments:
1. Project Data Summary
 2. Debt Service Schedule
 3. Engineering/Environmental Review
 4. Total Budget/51004 Budget/51023 Budget
 5. Resolution (18-)
 6. Resolution (15-077)
 7. Resolution (16-089)
 8. Resolution (17-083)
 9. Water Conservation Review
 10. Location Map

Project Data Summary

Responsible Authority	North Harris County Regional Water Authority
Program	State Water Implementation Fund for Texas
Commitment Codes	LM18845-Project # 51023 LM18832-Project #51004
Project Number	51023- Northeast Water Purification Plant Expansion 51004-Internal Distribution Project
Intended Use Plan Year	N/A
Type of Pledge	2-Revenue
Revenue Pledge Level	First
Legal Description	\$469,345,000 North Harris County Regional Water Authority Revenue Bonds, Proposed Series 2018. \$939,450,000 North Harris County Regional Water Authority Revenue Bonds, Proposed Series 2019-2030.
Tax-Exempt or Taxable	Tax-Exempt
Refinance	No
Outlay Requirement	No
Disbursement Method	Escrow
Outlay Type	N/A
Population	938,598
Rural	No
Water Connections	Wholesale Provider
Wastewater Connections	N/A
Qualifies as Disadvantaged	N/A
Disadvantaged Level	9 - N/A
Clean Water State Revolving Fund Type	N/A
Financial, Managerial and Technical Review Complete?	N/A
SWIFT Financing Type	Low-Interest Loan
SWIFT Characteristic	N/A
Phase Committing	Planning, Acquisition, Design, and Construction
Pre-Design	Yes
Project Consistent with Water Plan	Yes
Water Conservation Plan	Adopted
Water Rights Certification Required	N/A
Internal Risk Score	2B
External Ratings	
Standard and Poor's	AA-
Moody's	A1
Fitch	A+
Special Issues	Multi-year Funding Commitment

Project Team

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

ISSUE BEING EVALUATED
FOR ILLUSTRATION PURPOSES ONLY
North Harris County Regional Water Authority

\$469,345,000 North Harris County Regional Water Authority, Senior Lien Revenue Bonds, Proposed Series 2018

Dated Date: 11/1/2018	Source: SWIFT-LOW-30YR
Delivery Date: 11/1/2018	Rate: 3.17%
First Interest: 6/15/2019	Insurance: No
First Principal: 12/15/2020	Case: Revenue
Last Principal: 12/15/2048	Admin.Fee: \$0
Fiscal Year End: 12/31	Admin. Fee Payment Date: N/A
Required Coverage: 1.0	

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	\$469,345,000 ISSUE				\$939,440,000 ISSUE Series 2019 - 2030		TOTAL DEBT SERVICE	COVERAGE
			PRINCIPAL PAYMENT	INTEREST RATE	INTEREST PAYMENT	TOTAL PAYMENT	TOTAL PAYMENT	TOTAL PAYMENT		
2019	\$81,273,552	\$64,321,188	-	-	\$16,172,214	\$16,172,214	-	\$80,493,402	1.01	
2020	90,479,557	64,334,782	\$1,000,000	1.58%	14,410,884	15,410,884	\$9,632,183	89,377,849	1.01	
2021	105,455,557	64,358,541	1,000,000	1.68%	14,395,084	15,395,084	17,062,097	96,815,722	1.09	
2022	105,104,557	65,799,061	1,000,000	1.73%	14,378,284	15,378,284	20,140,778	101,318,123	1.04	
2023	121,414,558	65,822,939	1,000,000	1.80%	14,360,984	15,360,984	21,807,930	102,991,853	1.18	
2024	123,913,558	65,871,384	1,000,000	1.92%	14,342,984	15,342,984	24,041,333	105,255,701	1.18	
2025	130,013,558	65,925,586	1,000,000	2.02%	14,323,784	15,323,784	28,554,143	109,803,513	1.18	
2026	132,339,558	65,983,857	1,000,000	2.10%	14,303,584	15,303,584	30,180,984	111,468,425	1.19	
2027	134,838,558	66,010,625	1,000,000	2.15%	14,282,584	15,282,584	33,076,736	114,369,945	1.18	
2028	137,313,558	66,062,533	16,570,000	2.22%	14,261,084	30,831,084	36,117,055	133,010,672	1.03	
2029	143,762,558	66,127,560	16,920,000	2.39%	13,893,230	30,813,230	45,570,787	142,511,577	1.01	
2030	149,142,558	66,185,620	17,305,000	2.53%	13,488,842	30,793,842	51,739,621	148,719,083	1.00	
2031	153,655,558	66,237,625	17,725,000	2.65%	13,051,026	30,776,026	56,510,608	153,524,258	1.00	
2032	154,091,558	66,280,349	18,170,000	2.76%	12,581,313	30,751,313	57,649,873	154,681,535	1.00	
2033	154,499,558	66,329,845	18,645,000	2.85%	12,079,821	30,724,821	57,651,706	154,706,372	1.00	
2034	146,880,558	58,328,567	19,150,000	2.93%	11,548,439	30,698,439	57,643,360	146,670,366	1.00	
2035	147,229,558	58,380,128	19,685,000	3.01%	10,987,344	30,672,344	57,646,242	146,698,714	1.00	
2036	147,545,558	52,884,427	20,250,000	3.06%	10,394,825	30,644,825	57,650,523	141,179,775	1.05	
2037	144,828,558	52,951,900	20,840,000	3.11%	9,775,175	30,615,175	57,654,941	141,222,016	1.03	
2038	145,077,558	53,010,412	21,455,000	3.15%	9,127,051	30,582,051	57,653,623	141,246,086	1.03	
2039	146,289,558	38,118,939	22,100,000	3.20%	8,451,219	30,551,219	57,648,649	126,318,807	1.16	
2040	145,464,558	38,165,511	22,770,000	3.23%	7,744,019	30,514,019	57,658,531	126,338,061	1.15	
2041	145,601,558	38,227,130	23,470,000	3.25%	7,008,548	30,478,548	57,652,826	126,358,504	1.15	
2042	145,697,558	38,291,120	24,195,000	3.28%	6,245,773	30,440,773	57,649,270	126,381,162	1.15	
2043	145,754,558	38,341,270	24,950,000	3.30%	5,452,177	30,402,177	57,651,690	126,395,137	1.15	
2044	145,766,558	38,380,812	25,735,000	3.34%	4,628,827	30,363,827	57,651,950	126,396,588	1.15	
2045	145,735,558	38,427,195	26,550,000	3.35%	3,769,278	30,319,278	57,643,795	126,390,268	1.15	
2046	145,657,558	34,300,783	27,395,000	3.38%	2,879,853	30,274,853	57,647,736	122,223,372	1.19	
2047	145,532,558	20,444,319	28,275,000	3.39%	1,953,902	30,228,902	57,655,811	108,329,032	1.34	
2048	150,457,558	-	29,190,000	3.41%	995,379	30,185,379	57,650,373	87,835,752	1.71	
2049	150,233,558	-	-	-	-	-	57,663,513	57,663,513	2.61	
2050	149,955,558	-	-	-	-	-	44,115,354	44,115,354	3.40	
2051	149,955,558	-	-	-	-	-	39,345,923	39,345,923	3.81	
2052	149,955,558	-	-	-	-	-	36,951,511	36,951,511	4.06	
2053	149,955,558	-	-	-	-	-	35,494,567	35,494,567	4.22	
2054	149,955,558	-	-	-	-	-	33,037,680	33,037,680	4.54	
2055	149,955,558	-	-	-	-	-	27,893,518	27,893,518	5.38	
2056	149,955,558	-	-	-	-	-	27,351,801	27,351,801	5.48	
2057	149,955,558	-	-	-	-	-	23,722,439	23,722,439	6.32	
2058	149,955,558	-	-	-	-	-	20,860,207	20,860,207	7.19	
2059	149,955,558	-	-	-	-	-	9,379,021	9,379,021	15.99	
2060	149,955,558	-	-	-	-	-	4,839,751	4,839,751	30.98	
		\$1,583,904,008	\$469,345,000		\$311,287,505	\$780,632,505	\$1,715,150,431	\$4,079,686,944		

AVERAGE (MATURITY) LIFE	20.91 YEARS
NET INTEREST RATE	3.172%
COST SAVINGS	\$79,158,806
AVERAGE ANNUAL REQUIREMENT	\$101,992,174

Disclaimer: This is a working document and is provided as a courtesy. All information contained herein, including the proposed interest rate, is subject to change upon further review of the TWDB in accordance with 31 Texas Administrative Code Chapters 363, 371, 375, or 384, as applicable. The TWDB does not function as a financial advisor to anyone in connection with this financing. The information contained in this document is used by TWDB staff to analyze the application for financing is illustrative only and does not constitute any guaranty of future rates. The TWDB makes no claim regarding the applicability of the information at closing, at which time actual rates will be set.

**North Harris Co Regional Water Authority
51004 NHCRA Internal 2020 Distribution
Engineering and Environmental Review**

Engineering:

Key Issues:

North Harris County Regional Water Authority is requesting additional financial assistance to include the remaining elements of the selected water management strategy into this project scope.

Project Need/Description

Project Need: The North Harris County Regional Water Authority (Authority) 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 (Subsidence District) regulatory conversion requirements as detailed in the Authority's Groundwater Reduction Plan. In addition to the expansion of the NEWPP, a transmission pipeline will be built from the NEWPP to the Authority's service area boundary to provide treated surface water for the various type water districts and cities (collectively called MUDs) to facilitate compliance with the Subsidence District's regulatory conversion requirements.

Project Description: The Authority is requesting financial assistance for the planning, acquisition, design, and construction of new water distribution lines to provide treated surface water to the numerous MUD's that the Authority serves. The initial phase funded consisted of approximately 12 miles of pipelines ranging from 12" to 60" in diameter, three 12-million-gallon ground storage tanks, four 25,000 gallon hydro-pneumatic tank, and a booster pump station. Funding for the second phase of work was committed in 2017 and consisted of approximately 15 miles of pipelines ranging from 12" to 48" in diameter, metering facilities, and chloramination facilities.

This funding request specifically pertains to the remainder of work included in the water management strategy, and consists of approximately 70 additional miles of 12" to 84" diameter transmission pipelines, several booster pump stations, and all necessary interconnections, valves, and appurtenances.

Project Schedule:

Project Task	Schedule Date
Closing	11/1/2018
Start of Construction	9/1/2018
Design Phase Complete	12/1/2029
Construction Completion	8/31/2031

Environmental Section:

Key Issues:

None.

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 planning, 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.

As required by 31 TAC § 363.14, the environmental review of a segment of the proposed project has been completed. A favorable Environmental Determination was issued on December 28, 2017. In addition, the Authority must comply with the special conditions included in this finding.

**North Harris County Regional Water Authority
51023 Houston - NEWPP Expansion
Engineering and Environmental Review**

Engineering:

Key Issues:

North Harris County Regional Water Authority is requesting additional financial assistance to cover its share of increased project costs.

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. Land 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:

Project Task	Schedule Date
Closing	11/1/2018
Start of Construction	12/31/2017
Design Phase Complete	12/31/2019
Construction Completion	1/31/2025

Environmental Section:

Key Issues:

None.

Environmental Summary:

As required by 31 Texas Administrative Code § 363.14, the environmental review of the proposed project has been completed. A favorable Environmental Determination was issued on November 14, 2016. In addition, the Authority must comply with the special conditions included in this finding.

**North Harris County Regional Water Authority
Total Funding**

Budget Items	Previous SWIFT Commitment	Current SWIFT Request	Total SWIFT Funding
Construction			
Construction	\$779,308,297	\$332,206,000	\$1,111,514,297
Construction Total	\$779,308,297	\$332,206,000	\$1,111,514,297
Basic Engineering Services			
Planning	\$39,461,039	\$12,773,000	\$52,234,039
Design	\$79,004,444	\$18,639,000	\$97,643,444
Construction Engineering	\$3,300,000	\$5,761,000	\$9,061,000
Basic Engineering Services Total	\$121,765,483	\$37,173,000	\$158,938,483
Special Services			
Environmental Application	\$620,369	\$0	\$620,369
Testing	\$265,270	\$50,000	\$315,270
Inspection	\$2,423,600	\$6,329,000	\$8,752,600
Project Management (by engineer)	\$6,100,000	\$15,821,000	\$21,921,000
	\$5,385,172	\$13,174,000	\$18,559,172
Special Services Total	\$14,794,411	\$35,374,000	\$50,168,411
Contingency			
Contingency	\$130,150,669	\$46,377,429	\$176,528,098
Contingency Total	\$130,150,669	\$46,377,429	\$176,528,098
Other			
Land/Easements Acquisition	\$30,775,262	\$40,172,000	\$70,947,262
Capacity Buy-In	\$32,386,012	\$187,626,758	\$220,012,770
Other Total	\$63,161,274	\$227,798,758	\$290,960,032
Fiscal Services			
Financial Advisor	\$2,012,069	\$8,239,150	\$10,251,219
Bond Counsel	\$3,579,388	\$9,063,065	\$12,642,453
Bond Reserve Fund	\$63,739,514	\$51,581,793	\$115,321,307
Capitalized Interest	\$70,342,882	\$74,201,805	\$144,544,687
Issuance Costs	\$2,173,481	\$950,000	\$3,123,481
Fiscal/Legal	\$1,052,532	\$950,000	\$2,002,532
Fiscal Services Total	\$142,899,866	\$144,985,813	\$287,885,679
Grand Total	\$1,252,080,000	\$823,915,000	\$2,075,995,000

**North Harris County Regional Water Authority
51004 - 2020 Distribution System**

Budget Items	Previous SWIFT Commitments	Current SWIFT Commitment	Total SWIFT Commitments
Construction			
Construction	\$157,165,965	\$332,206,000	\$489,371,965
Construction Total	\$157,165,965	\$332,206,000	\$489,371,965
Basic Engineering Services			
Planning	\$2,767,232	\$12,773,000	\$15,540,232
Design	\$10,005,883	\$18,639,000	\$28,644,883
Construction Engineering	\$800,000	\$5,761,000	\$6,561,000
Basic Engineering Services Total	\$13,573,115	\$37,173,000	\$50,746,115
Special Services			
Environmental	\$100,000	\$0	\$100,000
Testing	\$2,423,600	\$6,329,000	\$8,752,600
Inspection	\$6,100,000	\$15,821,000	\$21,921,000
Application	\$126,789	\$50,000	\$176,789
Project Management (by engineer)	\$1,824,200	\$13,174,000	\$14,998,200
Special Services Total	\$10,574,589	\$35,374,000	\$45,948,589
Contingency			
Contingency	\$11,635,686	\$45,123,688	\$56,759,374
Contingency Total	\$11,635,686	\$45,123,688	\$56,759,374
Other			
Land/Easements	\$8,719,000	\$40,172,000	\$48,891,000
Other Total	\$8,719,000	\$40,172,000	\$48,891,000
Fiscal Services			
Financial Advisor	\$165,000	\$6,018,450	\$6,183,450
Bond Counsel	\$270,330	\$6,620,295	\$6,890,625
Capitalized Interest	\$11,191,553	\$58,641,935	\$69,833,488
Fiscal/Legal	\$27,000	\$650,000	\$677,000
Bond Reserve Fund	\$11,606,762	\$39,215,632	\$50,822,394
Issuance Costs	\$16,000	\$650,000	\$666,000
Fiscal Services Total	\$23,276,645	\$111,796,312	\$135,072,957
Grand Total	\$224,945,000	\$601,845,000	\$826,790,000

Houston
51023 - Northeast Water Purification Plant Expansion Total Costs

Budget Items	Houston	North Fort Bend Water Authority	Central Harris County Regional Water Authority	North Harris County Regional Water Authority	West Harris County Regional Water Authority	TWDB Total Funds
Construction						
Construction	\$271,607,327	\$0	\$0	\$336,094,399	\$0	\$607,701,726
Construction Total	\$271,607,327	\$0	\$0	\$336,094,399	\$0	\$607,701,726
Basic Engineering Services						
Planning	\$1,502,421	\$0	\$0	\$36,387,839	\$0	\$37,890,260
Design	\$12,423,339	\$0	\$0	\$45,490,784	\$0	\$57,914,123
Construction						
Engineering	\$4,177,947	\$0	\$0	\$0	\$0	\$4,177,947
Project Management	\$0	\$0	\$347,203	\$28,817	\$0	\$376,020
Basic Engineering Services Total	\$18,103,707	\$0	\$347,203	\$81,907,440	\$0	\$100,358,350
Contingency						
Contingency	\$0	\$0	\$0	\$70,150,890	\$0	\$70,150,890
Contingency Total	\$0	\$0	\$0	\$70,150,890	\$0	\$70,150,890
Other						
Capacity Buy-In	\$0	\$370,283,978	\$29,169,242	\$187,626,758	\$397,700,000	\$984,779,978
Other Total	\$0	\$370,283,978	\$29,169,242	\$187,626,758	\$397,700,000	\$984,779,978
Fiscal Services						
Financial Advisor	\$0	\$645,886	\$0	\$2,772,842	\$0	\$3,418,728
Bond Counsel	\$0	\$399,498	\$0	\$3,822,770	\$0	\$4,222,268
Capitalized Interest	\$0	\$0	\$0	\$49,263,070	\$0	\$49,263,070
Fiscal/Legal	\$0	\$0	\$5,623,555	\$450,000	\$8,500,000	\$14,573,555
Bond Reserve Fund	\$0	\$0	\$0	\$40,841,831	\$0	\$40,841,831
Issuance Costs	\$4,743,966	\$0	\$0	\$900,000	\$0	\$5,643,966
Fiscal Services Total	\$4,743,966	\$1,045,384	\$5,623,555	\$98,050,513	\$8,500,000	\$117,963,418
Grand Total	\$294,455,000	\$371,329,362	\$35,140,000	\$773,830,000	\$406,200,000	\$1,880,954,362

*North Harris County Regional Water Authority's current funding request is allocated towards Capacity Buy-In for their share of total project costs and for the costs of issuance.

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
AMENDING TEXAS WATER DEVELOPMENT BOARD
RESOLUTION NO. 15-077 AS AMENDED BY TEXAS WATER DEVELOPMENT BOARD
RESOLUTION NOS. 16-079 AND 17-083
TO PROVIDE ADDITIONAL FINANCIAL ASSISTANCE TO THE NORTH HARRIS COUNTY
REGIONAL WATER AUTHORITY
IN THE AMOUNT OF \$823,915,000

(18 -)

WHEREAS, at its July 23, 2015 meeting, the Texas Water Development Board (TWDB), through TWDB Resolution No. 15-077, made a multi-year commitment to provide financial assistance to North Harris County Regional Water Authority (Authority) from the State Water Implementation Revenue Fund for Texas (SWIRFT) through the TWDB's proposed purchase of \$953,405,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds Proposed Series 2015 through 2021 for Project Nos. 51023, 51021, 51009 and 51004; and

WHEREAS, at its July 21, 2016, meeting, the TWDB through TWDB Resolution No. 16-079, amended TWDB Resolution No. 15-077 to increase the financial assistance commitment in the amount of \$225,675,000 for Project Nos. 51021 and 51004; and

WHEREAS, at its July 20, 2017, meeting, the TWDB through TWDB Resolution No. 17-083, amended TWDB Resolution No. 15-077, as amended by TWDB Resolution No. 16-079, to increase the financial assistance commitment in the amount of \$73,000,000 for Project No. 51004, all as is more specifically set forth in TWDB Resolution Nos. 15-077, 16-079, and 17-083 (Resolutions) and accompanying documentation, to which documents express reference is made;

WHEREAS, the Authority seeks an amendment to TWDB Resolution No. 15-077 as amended by TWDB Resolution Nos. 16-079 and 17-083, for additional financial assistance for Project Nos. 51004 and 51023 through the TWDB's proposed purchase of \$823,915,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018 through Proposed Series 2030; and

WHEREAS, Project Nos. 51023, 51021, 51009, and 51004 are all funded under the State Water Implementation Revenue Fund for Texas (SWIRFT) and therefore, all Projects will follow the same program requirements; and

WHEREAS, the TWDB hereby finds that finds that due to the significant scope and complexity of the Projects funded under the commitment, there is reason to allow the

Executive Administrator to review and, where appropriate, to provide approval of the movement of funds between the Projects funded by the TWDB through TWDB Resolution Nos. 15-077 as amended by TWDB Resolution Nos. 16-079 and 17-083; and

WHEREAS, the TWDB hereby finds that the proposed amendment to TWDB Resolution No. 15-077 as amended by TWDB Resolution Nos. 16-079 and 17-083, as requested by the Authority, is reasonable and within the public interest and will serve a public purpose; and

WHEREAS, in accordance with the Texas Water Code, the TWDB has carefully considered all matters required by law;

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

1. The commitment made through the Resolution to the North Harris County Regional Water Authority for financial assistance from the State Water Implementation Revenue Fund for Texas is amended, and shall be evidenced by the TWDB's proposed purchase of the North Harris County Regional Water Authority Senior Lien Revenue Bonds, in accordance with the annual loan closing schedule proposed below:
 - a. \$469,345,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018;
 - b. \$230,200,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2019;
 - c. \$78,670,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2020.
 - d. \$38,530,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2021.
 - e. \$23,070,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2022.
 - f. \$39,615,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2023.
 - g. \$82,525,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2024.

- h. \$8,445,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2025.
 - i. \$58,205,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2026.
 - j. \$45,900,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2027.
 - k. \$183,895,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2028.
 - l. \$72,790,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2029.
 - m. \$77,605,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2030.
2. Further, the commitment described above consists of the remaining funds for the following Projects:
- a. Project No. 51023 (Northeast Water Purification Plant Expansion) in the remaining amount of \$486,195,000;
 - b. Project No. 51021 (Second Source Transmission Lines Phase I) in the remaining amount of \$135,000,000;
 - c. Project No. 51009 (Transmission pipeline for Second Source) in the remaining amount of \$115,905,000;
 - d. Project No. 51004 (2025 Internal Distribution Expansion) in the remaining amount of \$671,695,000.
3. All other terms and conditions of TWDB Resolution No. 15-077, as amended by TWDB Resolution Nos. 16-079 and 17-083, shall remain in full force and effect.

APPROVED and ordered of record this the 26th day of July, 2018.

TEXAS WATER DEVELOPMENT BOARD

Peter M. Lake, Chairman

DATE SIGNED: _____

ATTEST:

Jeff Walker, Executive Administrator

**A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
APPROVING AN APPLICATION FOR FINANCIAL ASSISTANCE TO NORTH 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
\$953,405,000 NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY SENIOR LIEN
REVENUE BONDS, PROPOSED SERIES 2015 THROUGH PROPOSED SERIES 2021**

(15-077)

WHEREAS, the North Harris County Regional Water Authority located in Harris County, Texas, (Authority) has filed applications for financial assistance in the total amount of \$953,405,000 from the State Water Implementation Revenue Fund for Texas (SWIRFT), to finance the planning, design, acquisition, and construction of certain water supply project(s) as 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 \$953,405,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2015 through Proposed Series 2021, (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; and
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 North Harris County Regional Water Authority for financial assistance in the amount of \$953,405,000 from the State Water Implementation Revenue Fund for Texas, to be evidenced by the TWDB's proposed purchase of North Harris County Regional Water Authority Senior Lien Revenue Bonds, in accordance with the schedule proposed below.

- a) \$80,435,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2015 to expire on December 31, 2015;
- b) \$113,170,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2016 to expire on December 31, 2016;
- c) \$282,250,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017 to expire on December 31, 2017;
- d) \$342,470,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018 to expire on December 31, 2018;
- e) \$80,470,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2019 to expire on December 31, 2019;
- f) \$36,700,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2020 to expire on December 31, 2020; and
- g) \$17,910,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2021 to expire on December 31, 2021.

Further, the commitment described above consists of the following:

- a) Project No. 51023 (Northeast Water Purification Plant Expansion) in the amount of \$551,760,000;
- b) Project No. 51021(Second Source Transmission Line Phase I) in the amount of \$222,135,000;
- c) Project No. 51009 (Second Source Transmission Line Phase II) in the amount of \$135,385,000; and
- d) Project 51004 (2025 Distribution System) in the amount of \$44,125,000.

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 parity revenue obligations may only be incurred if (i) the Adjusted Net Revenues for the most recently completed Fiscal Year, or any consecutive twelve (12) month period out of the eighteen (18) month period immediately preceding the Issue Date for such parity revenue obligations, were at least equal to the Coverage Requirement (which shall include debt service on the proposed series or installment of parity revenue obligations then being issued) for the current Fiscal Year, (ii) the Pro-Forma Net Revenues for the most recently completed Fiscal Year, or any consecutive twelve (12) month period out of the eighteen (18) month period immediately preceding the Issue Date for such parity revenue obligations were at least equal to the Pro-Forma Coverage Requirement (which shall include debt service on the proposed series or installment of parity revenue obligations then being issued for the current Fiscal Year or (iii), if the parity revenue obligations are being issued for the purpose of refunding previously issued parity revenue obligations and the issuance of such parity revenue obligations will result in a reduction in the maximum Annual Debt Service Requirements of the parity revenue obligations to be outstanding following the issuance of such parity revenue obligations;

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 currently outstanding 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 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 23rd day of July, 2015.

TEXAS WATER DEVELOPMENT BOARD



Bech K. Bruun, Chairman

DATE SIGNED: 7-23-15

ATTEST:



Kevin Patteson
Executive Administrator

**A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
AMENDING TEXAS WATER DEVELOPMENT BOARD RESOLUTION 15-077
TO INCREASE THE COMMITMENT FOR FINANCIAL ASSISTANCE GRANTED TO NORTH
HARRIS COUNTY REGIONAL WATER AUTHORITY**

(16-079)

WHEREAS, at its July 23, 2015 meeting, the Texas Water Development Board (TWDB), by TWDB Resolution No. 15-077, made a multi-year commitment to provide financial assistance to North Harris County Regional Water Authority (Authority) from the State Water Implementation Revenue Fund for Texas (SWIRFT) through the TWDB's proposed purchase of \$953,405,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds Proposed Series 2015 through 2021 for Project Nos. 51023, 51021, 51009 and 51004; and

WHEREAS, the Authority has filed applications requesting that the TWDB amend TWDB Resolution No. 15-077 to increase the commitment in the amount of \$225,675,000 from the SWIRFT for Project Nos. 51021 and 51004; and

WHEREAS, the Authority, has requested that the TWDB amend TWDB Resolution No. 15-077 for additional financial assistance for Project Nos. 51021 and 51004, in the form of a multi-year commitment through the TWDB's proposed purchase of \$225,675,000 additional North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2016 through Proposed Series 2021 (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 a first lien on the system revenue as sufficient security for the repayment of the Obligations; and

WHEREAS, interest rate subsidies are available to the Authority at the following levels: 35% for a loan of a term of 20 years, 25% for a loan of a term of 21 to 25 years, and 20% for a loan of a term of 26 to 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 that the amendment to TWDB Resolution No. 15-077 as requested by the Authority, is reasonable and within the public interest and will serve a public purpose; and

WHEREAS, in accordance with the Texas Water Code, the TWDB has carefully considered all matters required by law.

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

1. The commitment made through TWDB Resolution 15-077 to the North Harris County Regional Water Authority for financial assistance from the State Water Implementation Revenue Fund for Texas is amended.
2. The commitment made through TWDB Resolution 15-077 as hereby amended shall be evidenced by the TWDB's proposed purchase of the North Harris County Regional Water

Authority Senior Lien Revenue Bonds in accordance with the annual loan closing schedule proposed below:

- a. \$195,050,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2016 to expire on December 31, 2016;
 - b. \$388,565,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017 to expire on December 31, 2017;
 - c. \$379,950,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018 to expire on December 31, 2018;
 - d. \$80,470,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2019 to expire on December 31, 2019;
 - e. \$36,700,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2020 to expire on December 31, 2020; and
 - f. \$17,910,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2021 to expire on December 31, 2021.
3. TWDB Resolution No. 15-077 is further amended to reflect the commitment described above consisting of the following Projects:
- a. Project No. 51023 (Northeast Water Purification Plant Expansion) in the remaining amount of \$543,600,000;
 - b. Project No. 51021 (Second Source Transmission Lines Phase I) in the remaining amount of \$281,865,000;
 - c. Project No. 51009 (Transmission pipeline for Second Source) in the remaining amount of \$124,485,000;
 - d. Project No. 51004 (Internal Distribution Expansion) in the remaining amount of \$148,695,000.
4. All other terms and conditions of TWDB Resolution No. 15-077 shall remain in full force and effect.

APPROVED and ordered of record this the 21st day of July, 2016.

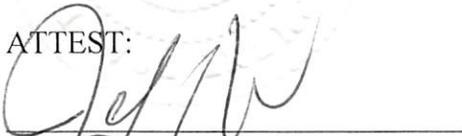
TEXAS WATER DEVELOPMENT BOARD



Bech K. Bruun, Chairman

DATE SIGNED: 7-21-16

ATTEST:

Jeff Walker
Executive Administrator

**A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
AMENDING TEXAS WATER DEVELOPMENT BOARD
RESOLUTION NO. 15-077 AS AMENDED BY RESOLUTION NO. 16-079
TO PROVIDE FINANCIAL ASSISTANCE TO THE NORTH HARRIS COUNTY REGIONAL
WATER AUTHORITY
IN THE AMOUNT OF \$73,000,000**

(17-083)

WHEREAS, at its July 23, 2015 meeting, the Texas Water Development Board (TWDB), through TWDB Resolution No. 15-077, made a multi-year commitment to provide financial assistance to North Harris County Regional Water Authority (Authority) from the State Water Implementation Revenue Fund for Texas (SWIRFT) through the TWDB's proposed purchase of \$953,405,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds Proposed Series 2015 through 2021 for Project Nos. 51023, 51021, 51009 and 51004; and

WHEREAS, at its July 21, 2016, meeting, the TWDB through TWDB Resolution No. 16-079, amended TWDB Resolution No. 15-077 to increase the financial assistance commitment in the amount of \$225,675,000 for Project Nos. 51021 and 51004, all as is more specifically set forth in the TWDB's Resolution Nos. 15-077 and 16-079 (Resolutions) and accompanying documentation, to which documents express reference is made; and

WHEREAS, the Authority seeks an amendment to TWDB Resolution No. 15-077 as amended by TWDB Resolution No. 16-079 for additional financial assistance for Project No. 51004 through the TWDB's proposed purchase of \$73,000,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017 through Proposed Series 2019; and

WHEREAS, interest rate subsidies are available to the Authority at the following levels: 35% for a term of 20 years, 25% for a term of 21 to 25 years, and 20% for a term of 26 to 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, these interest rate subsidies given above are based on assumptions necessary to generate an optimum debt service structure for the anticipated TWDB SWIRFT bond issuance, and are subject to modification as necessary to preserve and maintain the integrity of the SWIRFT Program;

WHEREAS, the TWDB hereby finds that the proposed amendment to TWDB Resolution No. 15-077, as amended by TWDB Resolution No. 16-079, as requested by the Authority, is reasonable and within the public interest and will serve a public purpose; and

WHEREAS, in accordance with the Texas Water Code, the TWDB has carefully considered all matters required by law and, in particular whether the request for additional

financial assistance meets the criteria provided by Texas Water Code § 15.437 relating to the prioritization of the Project.

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

1. The commitment made through TWDB Resolution No. 15-077, as amended by TWDB Resolution No. 16-079, to the North Harris County Regional Water Authority for financial assistance from the State Water Implementation Revenue Fund for Texas is amended, and shall be evidenced by the TWDB's proposed purchase of the North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017 through 2019 in accordance with the annual closing schedule proposed below:
 - a. \$391,715,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017;
 - b. \$386,850,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018;
 - c. \$143,420,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2019;
 - d. \$36,700,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2020; and
 - e. \$17,910,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2021.
2. Further, the commitment described above consists of the following Projects:
 - a. Project No. 51023 (Northeast Water Purification Plant Expansion) in the remaining amount of \$500,755,000;
 - b. Project No. 51021 (Second Source Transmission Lines Phase I) in the remaining amount of \$187,010,000;
 - c. Project No. 51009 (Transmission pipeline for Second Source) in the remaining amount of \$121,940,000; and
 - d. Project No. 51004 (Internal Distribution Expansion) in the remaining amount of \$166,890,000.
3. All other terms and conditions of TWDB Resolution No. 15-077, as amended by TWDB Resolution No. 16-079, shall remain in full force and effect.

APPROVED and ordered of record this the 20th day of July, 2017.

TEXAS WATER DEVELOPMENT BOARD



Beck K. Bruun
Beck K. Bruun, Chairman

DATE SIGNED: 7-20-17

ATTEST:

Jeff Walker
Jeff Walker
Executive Administrator

WATER CONSERVATION REVIEW

Entity: _____

Review date: _____

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

	Total GPCD	Residential GPCD	Water Loss GPCD	Water Loss Percent
Baseline				
5-year Goal				
10-year Goal				

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.

