

Texas Water Development Board

PROJECT FUNDING REQUEST

BOARD DATE: July 26, 2018

TEAM MANAGER: Nancy Richards

| | |
|---------------------------|---|
| APPLICANT | North Fort Bend Water Authority |
| TYPE OF ASSISTANCE | \$111,970,000 Northeast Water Purification Plant Expansion \$154,535,000 Second Source Transmission Line \$72,975,000 Internal Distribution Expansion |
| LEGAL PLEDGE | Senior Lien on the Water System Revenues |

STAFF RECOMMENDATION

☒ Approve ☐ No Action

ACTION REQUESTED

Approve by resolution a request from North Fort Bend Water Authority (Fort Bend County) for \$72,975,000 in financing from the State Water Implementation Revenue Fund for Texas to finance the Internal Distribution Expansion; and to amend Texas Water Development Board Resolution No. 15-080, as amended by TWDB Resolution No. 16-106, to authorize a \$266,505,000 increase in financial assistance from the State Water Implementation Revenue Fund for Texas for costs related to the Northeast Water Purification Plant Expansion and Second Source Transmission Line.

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

| Multi-Year-Commitment (includes new and previous commitments) | Expiration Date |
|---|------------------|
| \$189,885,000 Series 2018 | December 1, 2018 |
| \$300,720,000 Series 2019 | December 1, 2019 |
| \$182,715,000 Series 2020 | December 1, 2020 |
| \$26,745,000 Series 2021 | December 1, 2021 |
| \$44,055,000 Series 2022 | December 1, 2022 |
| \$7,415,000 Series 2023 | December 1, 2023 |
| \$36,735,000 Series 2024 | December 1, 2024 |

§ 363.1304 and are included on the prioritized list of projects approved by the Board on April 5, 2018.

Project Background: Northeast Water Purification Plant Expansion

The North Fort Bend Water Authority (Authority) was created in 2005 to provide a plentiful supply of clean water from multiple sources and to conserve groundwater and surface water supplies to provide for future needs. The Authority and its four regional partners are co-funding the expansion of the City's Northeast Water Purification Plant (NEWPP) 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 to decrease groundwater usage and consequently increase surface water usage. The Authority will have 21 percent capacity ownership in the plant. The Authority is requesting additional funds for its portion of the increased costs of the NEWPP.

Project Background: Second Source (96-inch) Transmission Line

The large 96-inch transmission system water line will start at the NEWPP and bring treated surface water approximately 40 miles to the Authority and West Harris County Regional Water Authority on the west side of Houston. The project also includes two large booster pump stations that will push the water along the route and will require several large meter station installations. The Authority is requesting additional funds for its portion of the increased costs.

Project Background: Internal Distribution Expansion

This large-scale, long-term surface water conversion project will allow the Authority to expand its internal distribution system to convert at least 60 percent of the total water demand within the Authority to surface water by 2025 to comply with the Fort Bend Subsidence District's regulations. The waterlines included in this phase of conversion will deliver approximately 24 MGD of surface water from the Authority's pump stations to 35 different municipal utility districts. The project includes approximately 131,000 linear feet of waterline ranging from 12-inch to 60-inches in diameter.

FINANCIAL

Key Issues

The Authority received commitments in previous SWIFT funding cycles to finance the planning, acquisition, design, and construction of the NEWPP and Second Source Transmission Lines. The Authority is requesting an additional \$111,970,000 in SWIFT financing for the NEWPP, with an additional \$154,535,000 for the Second Source transmission lines due to progressions in the design stage as cost estimates are refined, and new funding of \$72,975,000 for the Internal Distribution Expansion, which is owned entirely by the Authority.

The Authority has requested a financial structure that allows for smaller principal payments through 2028. By modifying its principal payments, the Authority expects to reduce the required water and pumpage fees impact in FY2021 from a proposed \$0.50 rate increase to \$0.10 increase in water and pumpage fee rates. The Authority will use bond proceeds to fund the bond reserve requirement.

Multi-year Commitment

The Authority is requesting a multi-year commitment through 2024.

Pledge and Repayment

The Authority's commitments for its Obligations to the TWDB from 2015 through 2017 are secured by a pledge of a junior lien on the net revenues of the system. The junior lien pledge consists of surface water and pumpage fees revenues. Also, the Authority has an additional Coverage Fund account from which funds can be used for debt service. The Coverage Fund is established for parity bonds, notes and obligations, and for junior lien bonds, notes and obligations to meet additional debt service requirements.

For the Obligations requested through this action, the Authority has pledged a senior lien of its net revenues. The senior lien, or Parity Lien as it is referred to in the Authority's Master Indenture, is secured with the same revenues as the junior lien, but it has priority over the junior lien.

The Authority has in place annual rate increases to surface water and pumpage fees until they reach \$4.90 and \$4.55 in 2024, respectively. The current surface water and pumpage fee rates are \$3.70 and \$3.35, respectively.

Based on calculations of current and projected net revenues from surface water and pumpage fees, the Authority may need to use funds from the Coverage Fund to meet debt service in the first year of principal repayment.

Cost Savings

Based on a 30-year maturity and current interest rates, the Authority could save approximately \$37,185,033 over the life of the combined Series 2018 financings.

Internal Risk Score

Staff assigns a 2B to the Authority and the proposed project to be funded by the TWDB. This means that the Authority's repayment capacity is adequate.

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. To meet its required debt service coverage, the Authority must continue the annual rate increases in surface water and pumpage fees and maintain the current and future year balances of the Coverage Fund to produce the annual debt service requirements for repayment. The financial analysis includes the impact of all the Authority's debt on their ability for repayment. 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 also 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, property growth in the service area has increased over the last five years. The Authority is the largest water provider in Fort Bend County, expanding its economic base to include not just the energy sectors, but also medical,

manufacturing, and retail industries.

The median household income in Authority's service area is \$91,152, which is 167 percent of the state's median income of \$54,727. The Authority's unemployment rate of 3.9 percent (County level data) is marginally above the state average of 3.8 percent.

The Authority maintains a liquidity position with cash and short-term investments equal to 1,190 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 total outstanding per capita debt of \$1,026 with the proposed financing is considered to be a low level of debt based on population serviced by the Authority's wholesale customers.

Although the Authority's proposed total TWDB debt will be \$895,325,000 when all funding is secured; the strong liquidity, diverse economic service area, low debt level per capita, coverage fund revenues, and the continued growth of its municipal utility customer base for the Authority indicates that the financial sustainability of the system is adequate. 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: 51022 Budget/51023 Budget/51059 Budget
 5. Resolution (18-)
 6. Resolution (15-080)
 7. Resolution (17-083)
 8. Water Conservation Review
 9. Location Map

Project Data Summary

| | |
|---|--|
| Responsible Authority | North Fort Bend Water Authority |
| Program | State Water Implementation Fund for Texas |
| Commitment Codes | LM18825- Project # 51022 LM18828- Project # 51023 LM18851- Project # 51059 |
| Project Number | 51022- Second Source Transmission Line 51023- Northeast Water Purification Plant Expansion 51059- Internal Distribution Expansion |
| Intended Use Plan Year | N/A |
| Type of Pledge | 2-Revenue |
| Revenue Pledge Level | First |
| Legal Description | \$68,845,000 North Fort Bend Water Authority Revenue Bonds, Proposed Series 2018 \$121,040,000 North Fort Bend Water Authority Junior Lien Revenue Bonds, Proposed Series 2018 \$598,385,000 Proposed Series 2019-2024 |
| Tax-Exempt or Taxable | Tax-Exempt |
| Refinance | No |
| Outlay Requirement | No |
| Disbursement Method | Escrow |
| Outlay Type | N/A |
| Population | 683,756 |
| Rural | No |
| Water Connections | Wholesale Provider |
| Wastewater Connections | N/A |
| Qualifies as Disadvantaged | No |
| Disadvantaged Level | 9 |
| 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 | N/A |
| Water Rights Certification Required | N/A |
| Internal Risk Score | 2B |
| External Ratings | |
| Standard and Poor's | A+ |
| Moody's | Non-rated |
| 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 Fort Bend Water Authority

\$121,040,000 North Fort Bend Water Authority System Junior Lien Revenue Bonds, Proposed Series 2018

Dated Date: 11/1/2018
Delivery Date: 11/1/2018
First Interest: 6/15/2019
First Principal: 12/15/2020
Last Principal: 12/15/2048
Fiscal Year End: 12/31

Source: SWIFT-LOW-30YR
Insurance: No
Case: Revenue
Admin.Fee: \$0
Admin. Fee Payment Date: N/A
Required Coverage: 1.0

\$68,845,000 North Fort Bend Water Authority Revenue Bonds, Proposed series 2018

Dated Date: 11/1/2018
Delivery Date: 11/1/2018
First Interest: 6/15/2019
First Principal: 12/15/2020
Last Principal: 12/15/2048
Fiscal Year End: 12/31

Source: SWIFT-LOW-30YR
Insurance: No
Case: Revenue
Admin.Fee: \$0
Admin. Fee Payment Date: N/A
Required Coverage: 1.0

| FISCAL YEAR | PROJECTED NET SYSTEM REVENUES | CURRENT DEBT SERVICE | \$121,040,000 ISSUE | | | | \$68,845,000 ISSUE | | | | FY2021-2025 \$570,397,768 | TOTAL DEBT SERVICE | ACTUAL COVERAGE |
|----------------|-------------------------------------|----------------------------|----------------------|------------------|---------------------|------------------|----------------------|------------------|---------------------|------------------|------------------------------|--------------------------|--------------------|
| | | | PRINCIPAL PAYMENT | INTEREST RATE | INTEREST PAYMENT | TOTAL PAYMENT | PRINCIPAL PAYMENT | INTEREST RATE | INTEREST PAYMENT | TOTAL PAYMENT | TOTAL PAYMENT | | |
| 2019 | \$40,604,951 | \$24,858,345 | - | - | \$4,206,338 | \$4,206,338 | - | - | \$2,365,891 | \$2,365,891 | | \$31,430,574 | 1.29 |
| 2020 | 45,872,905 | 24,855,288 | 500,000 | 1.59% | 3,748,222 | 4,248,222 | 500,000 | 1.59% | 2,108,220 | 2,608,220 | 11,824,030 | \$43,535,760 | 1.05 |
| 2021 | 56,750,160 | 24,861,102 | 500,000 | 1.69% | 3,740,272 | 4,240,272 | 500,000 | 1.69% | 2,100,270 | 2,600,270 | 12,600,490 | \$44,302,133 | 1.28 |
| 2022 | 66,315,514 | 24,871,897 | 500,000 | 1.74% | 3,731,822 | 4,231,822 | 500,000 | 1.74% | 2,091,820 | 2,591,820 | 14,264,659 | \$45,960,198 | 1.44 |
| 2023 | 71,996,118 | 24,876,012 | 500,000 | 1.81% | 3,723,122 | 4,223,122 | 500,000 | 1.81% | 2,083,120 | 2,583,120 | 16,866,438 | \$48,548,691 | 1.48 |
| 2024 | 78,826,966 | 24,869,112 | 500,000 | 1.93% | 3,714,072 | 4,214,072 | 500,000 | 1.93% | 2,074,070 | 2,574,070 | 19,199,417 | \$50,856,671 | 1.55 |
| 2025 | 78,939,221 | 24,865,315 | 500,000 | 2.03% | 3,704,422 | 4,204,422 | 500,000 | 2.03% | 2,064,420 | 2,564,420 | 18,995,229 | \$50,629,386 | 1.56 |
| 2026 | 83,997,829 | 24,870,908 | 500,000 | 2.11% | 3,694,272 | 4,194,272 | 500,000 | 2.11% | 2,054,270 | 2,554,270 | 18,996,313 | \$50,615,763 | 1.66 |
| 2027 | 89,131,463 | 24,878,297 | 500,000 | 2.16% | 3,683,722 | 4,183,722 | 500,000 | 2.16% | 2,043,720 | 2,543,720 | 18,995,596 | \$50,601,335 | 1.76 |
| 2028 | 94,356,292 | 28,135,122 | 500,000 | 2.23% | 3,672,922 | 4,172,922 | 500,000 | 2.23% | 2,032,920 | 2,532,920 | 18,998,747 | \$53,839,710 | 1.75 |
| 2029 | 99,752,014 | 28,184,709 | 4,430,000 | 2.40% | 3,661,772 | 8,091,772 | 2,445,000 | 2.40% | 2,021,770 | 4,466,770 | 19,006,803 | \$59,750,053 | 1.67 |
| 2030 | 105,252,071 | 28,219,893 | 4,530,000 | 2.55% | 3,555,452 | 8,085,452 | 2,500,000 | 2.55% | 1,963,090 | 4,463,090 | 18,997,187 | \$59,765,621 | 1.76 |
| 2031 | 105,252,071 | 28,250,594 | 4,640,000 | 2.67% | 3,439,937 | 8,079,937 | 2,565,000 | 2.67% | 1,899,340 | 4,464,340 | 18,995,569 | \$59,790,439 | 1.76 |
| 2032 | 105,252,071 | 28,271,103 | 4,755,000 | 2.77% | 3,316,049 | 8,071,049 | 2,625,000 | 2.77% | 1,830,854 | 4,455,854 | 18,997,680 | \$59,795,686 | 1.76 |
| 2033 | 105,252,071 | 28,292,160 | 4,885,000 | 2.87% | 3,184,336 | 8,069,336 | 2,695,000 | 2.87% | 1,758,142 | 4,453,142 | 18,992,712 | \$59,807,349 | 1.76 |
| 2034 | 105,252,071 | 28,313,646 | 5,015,000 | 2.95% | 3,044,136 | 8,059,136 | 2,770,000 | 2.95% | 1,680,795 | 4,450,795 | 19,005,850 | \$59,829,427 | 1.76 |
| 2035 | 105,252,071 | 17,713,359 | 5,155,000 | 3.02% | 2,896,194 | 8,051,194 | 2,845,000 | 3.02% | 1,599,080 | 4,444,080 | 18,995,608 | \$49,204,240 | 2.14 |
| 2036 | 105,252,071 | 12,987,715 | 5,305,000 | 3.08% | 2,740,513 | 8,045,513 | 2,930,000 | 3.08% | 1,513,161 | 4,443,161 | 18,997,407 | \$44,473,795 | 2.37 |
| 2037 | 105,458,159 | 6,993,293 | 5,460,000 | 3.13% | 2,577,119 | 8,037,119 | 3,015,000 | 3.13% | 1,422,917 | 4,437,917 | 19,000,846 | \$38,469,174 | 2.74 |
| 2038 | 105,458,159 | 7,008,910 | 5,620,000 | 3.17% | 2,406,221 | 8,026,221 | 3,105,000 | 3.17% | 1,328,548 | 4,433,548 | 18,995,304 | \$38,463,982 | 2.74 |
| 2039 | 105,458,159 | 7,022,654 | 5,790,000 | 3.21% | 2,228,067 | 8,018,067 | 3,195,000 | 3.21% | 1,230,119 | 4,425,119 | 18,995,489 | \$38,461,329 | 2.74 |
| 2040 | 105,458,159 | 7,031,079 | 5,965,000 | 3.25% | 2,042,208 | 8,007,208 | 3,295,000 | 3.25% | 1,127,560 | 4,422,560 | 18,994,834 | \$38,455,680 | 2.74 |
| 2041 | 105,458,159 | 6,493,781 | 6,150,000 | 3.27% | 1,848,345 | 7,998,345 | 3,395,000 | 3.27% | 1,020,472 | 4,415,472 | 18,997,899 | \$37,905,497 | 2.78 |
| 2042 | 105,458,159 | 6,487,200 | 6,340,000 | 3.30% | 1,647,240 | 7,987,240 | 3,500,000 | 3.30% | 909,456 | 4,409,456 | 18,998,705 | \$37,882,600 | 2.78 |
| 2043 | 105,458,159 | 6,483,769 | 6,540,000 | 3.32% | 1,438,020 | 7,978,020 | 3,610,000 | 3.32% | 793,956 | 4,403,956 | 18,995,225 | \$37,860,970 | 2.79 |
| 2044 | 105,458,159 | 6,476,134 | 6,745,000 | 3.36% | 1,220,892 | 7,965,892 | 3,725,000 | 3.36% | 674,104 | 4,399,104 | 18,992,557 | \$37,833,686 | 2.79 |
| 2045 | 105,458,159 | 6,468,077 | 6,960,000 | 3.37% | 994,260 | 7,954,260 | 3,845,000 | 3.37% | 548,944 | 4,393,944 | 18,997,073 | \$37,813,353 | 2.79 |
| 2046 | 105,458,159 | 6,454,965 | 7,185,000 | 3.40% | 759,708 | 7,944,708 | 3,965,000 | 3.40% | 419,367 | 4,384,367 | 18,997,872 | \$37,781,912 | 2.79 |
| 2047 | 105,458,159 | 5,881,830 | 7,415,000 | 3.41% | 515,418 | 7,930,418 | 4,095,000 | 3.41% | 284,557 | 4,379,557 | 18,999,399 | \$37,191,204 | 2.84 |
| 2048 | 105,458,159 | - | 7,655,000 | 3.43% | 262,567 | 7,917,567 | 4,225,000 | 3.43% | 144,918 | 4,369,918 | 18,994,752 | \$31,282,236 | 3.37 |
| \$ 524,976,269 | | | \$121,040,000 | | \$81,397,636 | \$202,437,636 | \$68,845,000 | | \$45,189,861 | \$114,034,861 | 570,397,768 | \$1,411,846,534 | |

| \$121,040,000 ISSUANCE | |
|----------------------------|--------------|
| AVERAGE (MATURITY) LIFE | 21.01 YEARS |
| NET INTEREST RATE | 3.200% |
| | \$26,013,145 |
| AVERAGE ANNUAL REQUIREMENT | \$6,747,921 |

| \$68,845,000 ISSUANCE | |
|----------------------------|-------------|
| AVERAGE (MATURITY) LIFE | 20.58 YEARS |
| NET INTEREST RATE | 3.190% |
| | |
| AVERAGE ANNUAL REQUIREMENT | \$3,801,162 |

| TOTAL AVERAGE ANNUAL REQUIREMENTS |
|--|
| \$47,061,551 |

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.

**North Fort Bend Water Authority
51022 WHCRWA – Second Source Transmission
Engineering and Environmental Review**

Engineering:Key Issues:

North Fort Bend Water Authority is requesting additional financial assistance to cover its share of increased project costs.

Project Need/Description

Need: In order to meet the Harris-Galveston Subsidence District Regulatory Plan for conversion from groundwater to surface or alternative water source, the West Harris County Regional Water Authority and North Fort Bend Water Authority (Authorities) are collaborating to increase their surface water supply from the City of Houston's (City) expanded Northeast Water Purification Plant (NEWPP). The Authorities must pipe the water from the plant and transport it 40 miles via this project to their respective constituents.

Project Description: The Authorities are seeking financial assistance for the planning, design, and construction of a transmission waterline system that will bring treated surface water approximately 40 miles from the expanded NEWPP on the east side of City at Lake Houston to the Authorities on the west side of Houston. The project also includes two large booster pump stations that will push the water along the route and several large meter stations.

Project Schedule:

| Project Task | Schedule Date |
|---|----------------------|
| Engineering Feasibility Report Completion (End of Planning Phase) | 1/31/2017 |
| Closing | 11/1/2018 |
| Start of Construction | 12/31/2018 |
| Design Phase Complete | 7/1/2019 |
| Construction Completion | 7/31/2021 |

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. Multiple Environmental Determinations have been issued covering the various project components. The Authority must comply with all environmental conditions included in these findings.

**North Fort Bend Water Authority
51023 Houston - NEWPP Expansion
Engineering and Environmental Review**

Engineering:

Key Issues:

North Fort Bend 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. 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:

| 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 Fort Bend WA
51059 Internal Distribution Expansion
Engineering and Environmental Review**

Engineering:

Key Issues:

None known at this time.

Project Need/Description

Project Need: The North Fort Bend Water Authority's (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 for use in complying with the Fort Bend Subsidence District (Subsidence District) regulatory conversion requirements as detailed in the Authority's Groundwater Reduction Plan. This large-scale, long term surface water conversion project is the second phase of construction that will ultimately convert at least 60 percent of the total water demand within the Authority to surface water by 2025 to comply with the Subsidence District's regulations.

Project Description: The Authority is seeking financial assistance for the planning, acquisition, design, and construction necessary to expand its internal water distribution system in order to provide treated surface water to its remaining member districts as required to meet the groundwater reduction plan mandates. This internal distribution expansion project primarily consists of approximately 131,000 linear feet of waterline ranging from 12-inches to 60-inches in diameter. The waterlines included in this phase of conversion will ultimately deliver approximately 24 million gallons per day of surface water from the Authority's pump stations to 35 different municipal utility districts.

Project Schedule:

| Project Task | Schedule Date |
|---|---------------|
| Closing | 11/1/2018 |
| Engineering Feasibility Report Completion (End of Planning Phase) | 6/1/2019 |
| Start of Construction | 9/2/2019 |
| Design Phase Complete | 12/30/2033 |
| Construction Completion | 10/31/2034 |

Environmental Section:

Key Issues:

None.

Environmental Summary:

As set forth in the preliminary environmental information submitted by the applicant, there are no known environmental, social, or permitting issues that would preclude construction of the project. Based on this initial environmental review, it is not anticipated that the proposed project's primary environmental impacts should be significant or adverse, nor should they affect project implementation.

Pursuant to the requirements of 31 Texas Administrative Code § 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.

**North Fort Bend Water Authority
Total Funding**

| Budget Items | Previous SWIFT Commitment | Current SWIFT Request | Total SWIFT Funding |
|---|--------------------------------------|----------------------------------|--------------------------------|
| Construction | | | |
| Construction | \$0 | \$59,900,000 | \$59,900,000 |
| Construction Total | \$0 | \$59,900,000 | \$59,900,000 |
| Basic Engineering Services | | | |
| Design | \$0 | \$10,275,000 | \$10,275,000 |
| Basic Engineering Services Total | \$0 | \$10,275,000 | \$10,275,000 |
| Other | | | |
| Capacity Buy-In | \$552,813,189 | \$266,505,000 | \$819,318,189 |
| Land/Easements Acquisition | \$0 | \$2,800,000 | \$2,800,000 |
| Other Total | \$552,813,189 | \$269,305,000 | \$822,118,189 |
| Fiscal Services | | | |
| Financial Advisor | \$1,812,553 | \$0 | \$1,812,553 |
| Bond Counsel | \$1,219,258 | \$0 | \$1,219,258 |
| Fiscal Services Total | \$3,031,811 | \$0 | \$3,031,811 |
| Grand Total | \$555,845,000 | \$339,480,000 | \$895,325,000 |

West Harris County Regional Water Authority
51022 - Second Source Transmission Line (96-inch)

| Budget Items | West Harris County Regional Water Authority | North Fort Bend Water Authority | Total TWDB Funds |
|---|--|--|-------------------------|
| Construction | | | |
| Construction | \$262,621,276 | \$0 | \$262,621,276 |
| Construction Total | \$262,621,276 | \$0 | \$262,621,276 |
| Basic Engineering Services | | | |
| Planning | \$26,833 | \$0 | \$26,833 |
| Design | \$16,840,089 | \$0 | \$16,840,089 |
| Construction Engineering | \$14,891,435 | \$0 | \$14,891,435 |
| Basic Engineering Services Total | \$31,758,357 | \$0 | \$31,758,357 |
| Special Services | | | |
| Environmental | \$14,790 | \$0 | \$14,790 |
| Special Services Total | \$14,790 | \$0 | \$14,790 |
| Contingency | | | |
| Contingency | \$0 | \$0 | \$0 |
| Contingency Total | \$0 | \$0 | \$0 |
| Other | | | |
| Capacity Buy-In: NFBWA Share | \$0 | \$449,034,213 | \$449,034,213 |
| Capacity Buy-In: WHCRWA | | | |
| Bellaire Pump Station | \$10,564 | \$0 | \$10,564 |
| Land/Easements Acquisition | \$20,993,941 | \$0 | \$20,993,941 |
| Centerpoint Easement Fees | \$105,640 | \$0 | \$105,640 |
| Other Total | \$21,110,145 | \$449,034,213 | \$470,144,358 |
| Fiscal Services | | | |
| Financial Advisor | \$0 | \$1,166,666 | \$1,166,666 |
| Bond Counsel | \$0 | \$819,760 | \$819,760 |
| Fiscal/Legal | \$54,935,432 | \$0 | \$54,935,432 |
| Fiscal Services Total | \$54,935,432 | \$1,986,426 | \$56,921,858 |
| Grand Total | \$370,440,000 | \$451,020,639 | \$821,460,639 |

*North Fort Bend Water Authority's current funding request is allocated towards Capacity Buy-In for their share of total project costs.

Houston
51023 - Northeast Water Purification Plant Expansion

| 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 |
| Construciton | | | | | | |
| 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 Fort Bend Water Authority's current funding request is allocated towards Capacity Buy-In for their share of total project costs.

51059 - Internal Distribution Expansion

| Budget Items | North Fort Bend Water Authority |
|---|--|
| Construction | |
| Construction | \$59,900,000 |
| Construction Total | \$59,900,000 |
| | |
| Basic Engineering Services | |
| Design | \$10,275,000 |
| Basic Engineering Services Total | \$10,275,000 |
| | |
| Other | |
| Land/Easements | \$2,800,000 |
| Other Total | \$2,800,000 |
| | |
| Grand Total | \$72,975,000 |

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
AMENDING TEXAS WATER DEVELOPMENT BOARD
RESOLUTION NO. 15-080 AS AMENDED BY TEXAS WATER DEVELOPMENT BOARD
RESOLUTION NO. 16-106
TO PROVIDE ADDITIONAL FINANCIAL ASSISTANCE TO THE NORTH FORT BEND WATER
AUTHORITY
IN THE AMOUNT OF \$266,505,000
AND
APPROVING AN APPLICATION FOR FINANCIAL ASSISTANCE TO NORTH FORT BEND
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 \$72,975,000 NORTH FORT BEND WATER
AUTHORITY WATER SYSTEM REVENUE BONDS,
PROPOSED SERIES 2018 THROUGH PROPOSED SERIES 2024

(18 - __)

WHEREAS, at its July 23, 2015 meeting, the Texas Water Development Board (TWDB), through TWDB Resolution No. 15-080, made a multi-year commitment to provide financial assistance to the North Fort Bend Water Authority (Authority) from the State Water Implementation Revenue Fund for Texas (SWIRFT) through the TWDB's proposed purchase of \$555,845,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds Proposed Series 2015 through 2022 for Project Nos. 51022, and 51023; and

WHEREAS, at its July 21, 2016, meeting, the TWDB through TWDB Resolution No. 16-106, amended TWDB Resolution No. 15-080 to provide authority for the Executive Administrator to authorize the transfer of funds between Project Nos. 51023 and 51022, all as is more specifically set forth in TWDB Resolution Nos. 15-080 and 16-106 (Resolutions) and accompanying documentation, to which documents express reference is made;

WHEREAS, the Authority seeks an amendment to TWDB Resolution No. 15-080, as amended by TWDB Resolution No. 16-106, for additional financial assistance for Project Nos. 51022 and 51023 through the TWDB's proposed purchase of \$266,505,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2018 through Proposed Series 2024; and

WHEREAS, the Authority has also filed an application for financial assistance from the SWIRFT to finance the acquisition, design, and construction of its Internal Distribution Expansion, identified as Project No. 51059 (Project); and

WHEREAS, for Project No. 51059, the Authority seeks financial assistance in the form of a multi-year commitment through the TWDB's proposed purchase of \$72,975,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2018 through

Proposed Series 2024, (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 senior lien on net system revenues as sufficient security for the repayment of the additional Obligations committed through this Resolution; 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;

WHEREAS, subject to the Authority’s use of an approved debt service structure, interest rate subsidies are available to the Authority at up to the following levels: 35% for financial assistance for a term of 20 years, 25% for financial assistance for a term of 21 to 25 years, and 20% for financial assistance 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, the TWDB hereby finds that the proposed amendment to TWDB Resolution No. 15-080, as amended by TWDB Resolution No. 16-106, as requested by the Authority, is reasonable and within the public interest and will serve a public purpose; 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 project in the State Water Plan adopted pursuant to Texas Water Code § 16.051, in accordance with Texas Water Code § 15.474(a);
3. that the Authority satisfactorily completed all requests 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);
4. 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:

1. The commitment made through TWDB Resolution No. 15-080, as amended by TWDB Resolution No. 16-106, to the North Fort Bend 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 Fort Bend Water Authority Water System Junior Lien and Revenue Bonds, Proposed Series 2018 through 2024 in accordance with the annual loan closing schedule proposed below:
 - a. \$121,040,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2018.
 - b. \$68,845,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2018.
 - c. \$244,110,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2019.
 - d. \$56,610,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2019.
 - e. \$39,590,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2020.
 - f. \$143,125,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2020.
 - g. \$20,940,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2021.
 - h. \$5,805,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2021.
 - i. \$23,110,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2022.
 - j. \$20,945,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2022.
 - k. \$7,415,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2023.
 - l. \$36,735,000 North Fort Bend Water Authority Water System Revenue Bonds, Proposed Series 2024.

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 \$339,990,000;
 - b. Project No. 51022 (Second Source Transmission Lines) in the remaining amount of \$375,305,000;
 - c. Project No. 51059 (Internal Distribution Expansion) in the remaining amount of \$72,975,000;
3. All other terms and conditions of TWDB Resolution No. 15-080, as amended by 16-106, shall remain in full force and effect as it relates to the remaining committed funds; provided however that Condition No. 23 shall be replaced with Condition No. 25 below only as it applies to the additional \$339,480,000 committed through this Resolution

Commitment for Project No. 51059 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 the Authority has complied with all of the requirements of the laws under which said Obligations were issued; 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. interest rate subsidies for non-level debt service structure are subject to adjustment by the Executive Administrator;

6. the Authority shall use a paying agent/registrar in accordance with 31 TAC § 363.42(c)(2), and shall require the paying agent/registrar to provide a copy of all receipts documenting debt service payments to the TWDB and to the TWDB's designated Trustee;

The Following Conditions Must Be Included in the Obligations:

7. the Obligations must provide that the Obligations can be called for early redemption only in inverse order of maturity, on any date beginning on or after the first interest payment date that 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;
8. 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;
9. the Obligations must contain a provision requiring the Authority to levy a tax and/or 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;
10. the Obligations must include a provision requiring the Authority to use any 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;
11. 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;
12. financial assistance 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;

13. financial assistance 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;
14. 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;
15. 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 § 363.42(c)(1);
16. the Obligations must include a provision prohibiting the Authority from using the proceeds of this financial assistance in a manner that would cause the Obligations to become "private activity bonds" within the meaning of § 141 of the Internal Revenue Code as amended (Code) and the Treasury Regulations promulgated thereunder (Regulations);
17. the Obligations must provide that no portion of the proceeds of the financial assistance 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 that were used, directly or indirectly, to acquire Nonpurpose Investments (as defined in the Code and Regulations) that produce a yield materially higher than the yield on the TWDB's bonds that are issued to provide financing for the financial assistance (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;
- 18. 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 financial assistance 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 financial assistance, 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 providing financial assistance, and in order to induce providing financial assistance 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;
- 19. 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;

20. 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;
21. the Obligations must contain a covenant that the Authority will refrain from using the proceeds of the Obligations to pay debt service on another issue of obligations of the borrower in contravention of section 149(d) of the Code (related to “advance refundings”);
22. 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;
23. 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;
24. if the Authority has existing revenue obligations with the same pledge of security as the proposed Obligations that will remain outstanding after the term of any financial assistance provided 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;
25. the Obligations must contain a provision providing that no additional bonds be incurred, unless there shall have been submitted to the Trustee:
 - (a) Historical Pledged Revenues. The certification of an independent certified public accountant to the effect that Pledged Revenues for the most recent Fiscal Year or 12 consecutive months out of the most recent 18 months, plus the amount in the Improvement Fund on the last Business Day for the most recent Fiscal Year, provided that such amounts on deposit in the Improvement Fund may only be included in the calculation until December 31, 2011, have been at least equal to (i) 120% of Maximum Annual Debt Service Requirements on all Parity Bonds, Parity Notes and Parity Obligations that will be outstanding after the issuance of such Series of Parity Bonds or Parity Notes or incurrence of such Parity Obligations and (ii) 100% of Maximum Annual Debt Service Requirements on all Outstanding Junior Lien Bonds, Junior Lien Notes and Junior Lien Obligations; or
 - (b) Proforma Pledged Revenues. The certification of an independent nationally recognized rate consultant to the effect that, based upon a recent increase in rates or charges imposed by the Authority, the Pledged Revenues of the Authority for the prior Fiscal Year or 12 consecutive months out of the most recent 18 months, calculated as if such increase in rates or charges had been effective during such a period, plus the amount in the Improvement Fund on the last Business Day for the most recent Fiscal Year, provided that such amounts on deposit in the Improvement Fund may only be

included in the calculation until December 31, 2011, would have produced Pledged Revenues equal to (i) at least 130% of Maximum Annual Debt Service Requirements for Parity Bonds, Parity Notes and Parity Obligations that will be outstanding after the issuance of such Series of Parity Bonds or Parity Notes or incurrence of such Parity Obligations and (ii) 100% of Maximum Annual Debt Service Requirements on all Outstanding Junior Lien Bonds, Junior Lien Notes and Junior Lien Obligations;

Conditions to Close or for Release of Funds:

26. prior to closing, the Authority shall submit documentation evidencing the adoption and implementation of sufficient system rates and charges or, if applicable, the levy of an interest and sinking tax rate sufficient for the repayment of all system debt service requirements;
27. prior to closing, if not previously provided with the application, the Authority shall submit executed contracts for engineering and, if applicable, financial advisor and bond counsel, 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;
28. 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;
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 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 Internal Revenue 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 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 FORT BEND WATER AUTHORITY
IN THE FORM OF A MULTI-YEAR COMMITMENT
FROM THE STATE WATER IMPLEMENTATION REVENUE FUND FOR TEXAS
THROUGH THE PROPOSED PURCHASE OF
\$555,845,000 NORTH FORT BEND WATER AUTHORITY WATER SYSTEM JUNIOR LIEN
REVENUE BONDS PROPOSED SERIES 2015 THROUGH PROPOSED SERIES 2022

(15-080)

WHEREAS, the North Fort Bend Water Authority, located in Fort Bend County, Texas, (Authority) has filed applications for financial assistance in the total amount of \$555,845,000 from the State Water Implementation Revenue Fund for Texas (SWIRFT), to finance the planning, design, acquisition, and construction of certain water supply project(s) identified below; and

WHEREAS, the Authority seeks financial assistance from the Texas Water Development Board (TWDB) in the form of a multiyear commitment through the TWDB's proposed purchase of \$555,845,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2015 through Proposed Series 2022, (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 junior lien on 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 North Fort Bend Water Authority for financial assistance in the amount of \$555,845,000 from the State Water Implementation Revenue Fund for Texas, to be evidenced by the TWDB's proposed purchase of North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, in accordance with the schedule proposed below.

- a) \$8,670,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2015 to expire on December 31, 2015;
- b) \$11,025,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2016, to expire on December 31, 2016;
- c) \$87,360,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2017, to expire on December 31, 2017;
- d) \$121,040,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2018, to expire on December 31, 2018;
- e) \$244,110,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2019, to expire on December 31, 2019;
- f) \$39,590,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2020, to expire on December 31, 2020;
- g) \$20,940,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2021, to expire on December 31, 2021; and
- h) \$23,110,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, Proposed Series 2022, to expire on December 31, 2022.

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

- a) Project No. 51023 (Northeast Water Purification Plant Expansion) in the amount of \$251,845,000; and
- b) Project No. 51022 (Second Source Transmission Line) in the amount of \$304,000,000.

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 junior lien or liens securing the Obligations issued to the TWDB shall be at least on a parity with junior lien or liens securing such outstanding obligations;
23. the Obligations must contain a provision providing that no additional Series of Junior Lien Bonds or Junior Lien Notes shall be issued, nor shall any Junior Lien Obligations be incurred, unless there shall have been submitted to the Trustee:

(a) **Historical Pledged Revenues.** Pledged Revenues for the most recent Fiscal Year or 12 consecutive months out of the most recent 18 months, plus the amount in the Improvement Fund on the last Business Day for the most recent Fiscal Year, shall be certified by an independent certified public accountant for the Authority to have been at least equal to 110% of Maximum Annual Debt Service Requirements on all outstanding Parity Bonds, Parity Notes and Parity Obligations and on all Junior Lien Bonds, Junior Lien Notes and Junior Lien Obligations that will be outstanding after the issuance of such Series of Junior Lien Bonds or Junior Lien Notes or incurrence of such Junior Lien Obligations; or

(b) **Proforma Pledged Revenues.** The certification of an independent nationally recognized rate consultant to the effect that, based upon a recent increase in rates or charges imposed by the Authority, the Pledged Revenues of the Authority for the prior Fiscal Year or 12 consecutive months out of the most recent 18 months, calculated as if such increase in rates or charges had been effective during such a period, plus the amount in the Improvement Fund on the last Business Day for the most recent Fiscal Year, would have produced Pledged Revenues equal to at least 120% of Maximum Annual Debt Service Requirements for outstanding Parity Bonds, Parity Notes and Parity Obligations and for Junior Lien Bonds, Junior Lien Notes and Junior Lien Obligations that will be outstanding after the issuance of such Series of Junior Lien Bonds or Junior Lien Notes or incurrence of such Junior Lien Obligations; or

(c) **Projected Pledged Revenues.** The certification of an independent nationally recognized rate consultant to the effect that, based on the certification of an independent professional engineer described below, the projected Pledged Revenues for the first future Fiscal Year for which interest has not been capitalized for the Series of Junior Lien Bonds or Junior Lien Notes to be issued or Junior Lien Obligations to be incurred, plus the amount in the Improvement Fund on the last Business Day for the most recent Fiscal Year, will be at least equal to 120% of Maximum Annual Debt Service Requirements on all outstanding Parity Bonds, Parity Notes and Parity Obligations and on all Junior Lien Bonds, Junior Lien Notes and Junior Lien Obligations that will be outstanding after the issuance of such Series of Junior Lien Bonds

or Junior Lien Notes or incurrence of such Junior Lien Obligations. Such certification may rely on the certification of an independent professional engineer that forecasts the levels of (i) water pumpage within the Authority and within its Groundwater Reduction Plan during a forecast period; and/or (ii) water sales by the Authority during a forecast period based upon such engineer's evaluation of the Authority's anticipated construction and placement into service of components of the System that will permit the Authority to increase its sales of water during the forecast period;

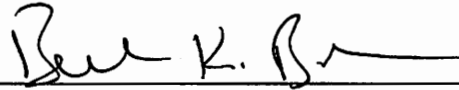
Conditions to Close or for Release of Funds:

24. prior to closing, the Authority shall submit documentation evidencing the adoption and implementation of sufficient system rates and charges or, if applicable, the levy of an interest and sinking tax rate 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 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 NO. 15-080 TO PROVIDE AUTHORITY
TO THE EXECUTIVE ADMINISTRATOR TO APPROVE THE TRANSFER OF FUNDS
BETWEEN PROJECT NOS. 51022 AND 51023 COMMITTED FROM THE STATE WATER
IMPLEMENTATION REVENUE FUND FOR TEXAS FOR THE NORTH FORT BEND
WATER AUTHORITY

(16-106)

WHEREAS, at its July 23, 2015, meeting, the Texas Water Development Board (TWDB), by TWDB Resolution No. 15-080, made a multi-year commitment to North Fort Bend Water Authority (Authority) for financial assistance in the amount of \$555,845,000 from the State Water Implementation Revenue Fund for Texas (SWIRFT), through the purchase of \$555,845,000 North Fort Bend Water Authority Water System Junior Lien Revenue Bonds, all as is more specifically set forth in TWDB Resolution No. 15-080 and accompanying documentation, to which documents express reference is made; and

WHEREAS, the TWDB through TWDB Resolution No. 15-80 provided a multi-year commitment to the Authority for Project No. 51023, the Northeast Water Purification Plant Expansion in the amount of \$251,845,000; and Project No. 51022, the Second Source Transmission Line in the amount of \$304,000,000; and

WHEREAS, the Authority has requested to use a portion of the funds from Project No. 51022 for expenses related to Project No. 51023; and

WHEREAS, Project No. 51023 and Project No. 51022 are funded under the State Water Implementation Fund for Texas (SWIFT) and therefore both Projects will follow the same program requirements; and

WHEREAS, the TWDB 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 No. 15-080; 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 No. 15-080 is amended by this Resolution to include the following statement of resolution:

NOW THEREFORE, based on the findings above, the TWDB resolves that the Executive Administrator has the authority to where appropriate, approve, not more

than annually, a request from the Authority to transfer funds from current or prior years between Project Nos. 51023 and 51022.

2. All other terms and conditions of TWDB Resolution No. 15-080 shall remain in full force and effect.

APPROVED and ordered of record this the 5th day of October, 2016.

TEXAS WATER DEVELOPMENT BOARD



Bech K. Bruun

Bech K. Bruun, Chairman

DATE SIGNED: 10-5-16

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:

If population ≤ 10K, connections/mile < 32 :

If population ≤ 10K, connections/mile ≥ 32 :

If population > 10K :

| 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 |
|--|--|--|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

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 bench marking 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.

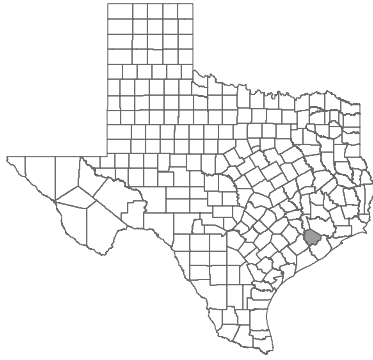
Residential GPCD is the amount of water per capita used solely for residential use and ideally includes both single and multi-family customer use.

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.



North Fort Bend WA Fort Bend County

