

Texas Water Development Board

PROJECT FUNDING REQUEST

BOARD DATE: July 25, 2023

Team Manager: Nancy Richards

ACTION REQUESTED

Consider approving by resolution a request from the North Harris County Regional Water Authority (Harris County) for \$729,990,000 in multi-year financing from the State Water Implementation Revenue Fund for Texas for planning, acquisition, design, and construction of a water system project.

STAFF RECOMMENDATION

Approve No Action

BACKGROUND

The North Harris County Regional Water Authority (Authority) consists of 160 member districts and two cities, which operate 320 groundwater wells. The primary purpose of the Authority is to comply with the groundwater reduction plan established by the Harris-Galveston Subsidence District (Subsidence District). The plan requires entities within the Subsidence District's jurisdiction such as the Authority to limit groundwater withdrawal to a specified percentage of total water use to prevent further land surface subsidence. Although water demands are expected to increase with time, the current plan requires the Authority to reduce groundwater withdrawal within its territory to no more than 40 percent of the annual total water demand by 2025 and no more than 20 percent of the annual total water demand by 2035.

PROJECT NEED AND DESCRIPTION

The 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 Subsidence District's regulatory conversion requirements as detailed in the 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 to its member entities to facilitate compliance with the Subsidence District's regulatory conversion requirements.

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 entities the Authority serves. This fifth phase will consist of approximately 79 miles of pipelines that will range from 12 to 66-inches in diameter. The new pipelines include the Hardy Road Line and significant expansion into the eastern portions of the Authority's service area east of Hardy Road, as well as distribution piping west of Telge Road in the Authority's western service area.

COMMITMENT PERIOD

Multi-Year Commitment	Expiration Date
\$25,440,000 Proposed Series 2023	December 31, 2023
\$15,070,000 Proposed Series 2024	December 31, 2024
\$177,035,000 Proposed Series 2025	December 31, 2025
\$271,855,000 Proposed Series 2026	December 31, 2026
\$240,590,000 Proposed Series 2027	December 31, 2027

PROJECT SCHEDULE

Task	Schedule Date
Closing	December 1, 2023
Engineering Feasibility Report Completion (End of Planning Phase)	December 31, 2023
Design Phase Completion	April 1, 2025
Start of Construction	July 1, 2025
Construction Completion	December 31, 2029

KEY ISSUES

None.

Attachments

1. Financial Review
2. Project Budget
3. Resolution (23-)
4. Water Conservation Review
5. Location Map

Financial Review

North Harris Co Regional Water Authority

Risk Score: 2B

Audit Reviewed: FY 2022

Key Indicators

Indicator	Result	Benchmark
Population Growth, Average Annual 2010-2020	County: 1.46%	State: 1.49%
Top 10 Customers % of Total Revenue	24%	10-15%
Median Household Income as % of State	140%	100%
Days of Cash on Hand (3-year Average)	5,516 days	30-149 days
Net Fixed Assets/ Annual Depreciation	47 years	12-24 years
Debt Service Coverage Ratio	1.34x	1.0x
Debt-to-Operating Revenues	15.91	4.00-5.99x
Unemployment Rate (April 2023)	County: 4.0%	State: 3.7%
Working Capital Ratio	8.09	> 1.0

Key Risk Score Strengths

- Water system revenues are sufficient to cover the existing debt until the year of 2028. The Authority has planned rate increases starting in 2028 to provide adequate coverage for the proposed debt.
- A high working capital ratio provides the Authority with ample resources to cover short-term liabilities and shows a strong liquidity position.
- The Authority's positive cash balance ratio indicates an overall upward trend in funds, as reflected by an increase in cash balance from \$180,013,429 to \$358,761,455 over the past five years.

Key Risk Score Concerns

- The Authority's ratio of debt-to-operating revenues are above the benchmark due to financing multiple phases of the Northeast Water Purification Plant (NEWPP) project. However, the Authority analyzes rates throughout the year to ensure rate coverage while sustaining adequate operating revenues.
- Top 10 customers as a percent of revenues are above the benchmark making up 24 percent of its total revenue. However, all of these customers are municipalities with each percentage being less than five percent.

PLEDGE

Legal Pledge Name	Water System Revenues
Type of Pledge	<input type="checkbox"/> Tax <input checked="" type="checkbox"/> Revenue <input type="checkbox"/> Tax & Revenue <input type="checkbox"/> Contract <input type="checkbox"/> Other
Revenue Pledge Level	<input checked="" type="checkbox"/> First <input type="checkbox"/> Second <input type="checkbox"/> Third <input type="checkbox"/> N/A

Cost Savings

Based on a 30-year maturity schedule and current interest rates, the Authority could save approximately \$24,852,229 over the life of the financing.

Project Data Summary

Responsible Authority	North Harris Co Regional WA
Program	SWIFT
Commitment Number	LM231682, LM241682, LM251682, LM261682, LM271682
Project Number	51004, 51023
List Year	2023, 2018
Type of Pledge	Revenue Pledge
Pledge Level (if applicable)	First Lien
Legal Description	\$171,330,000 North Harris County Regional Water Authority, Senior Lien Revenues Bonds, Proposed Series 2023. \$924,870,000 North Harris County Regional Water Authority, Senior Lien Revenues Bonds, Proposed Series 2024-2028.
Tax-exempt or Taxable	Tax-Exempt
Refinance	No
Outlay Requirement	No
Disbursement Method	Escrow
Outlay Type	Outlay <> Escrow Release
Qualifies as Disadvantaged	No
Financial Managerial & Technical Complete	N/A
Phases Funded	Planning, Acquisition, Design, and Construction
Pre-Design	Yes
Project Consistent with State Water Plan	Yes
Water Conservation Plan	Adopted
Overall Risk Score	2B

PROJECT TEAM

Team Manager	Financial Analyst	Engineering Reviewer	Environmental Reviewer	Attorney
Nancy Richards	Chelsea Duran	Matthew Young	Britt Paredes	Annette Mass

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

\$171,330,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2023

Dated Date: 12/1/2023
Delivery Date: 12/1/2023
First Interest: 6/15/2024
First Principal: 12/15/2025
Last Principal: 12/15/2053
Fiscal Year End: 12/31
Required Coverage: 1.0

Source: SWIFT-LOW-30YR
Rate: 3.72%
Case: Revenue
Admin.Fee: \$0
Admin. Fee Payment Date: N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	**\$171,330,000 ISSUE				*\$924,870,000 ISSUE SERIES 2024-2028		TOTAL DEBT SERVICE	COVERAGE
			PRINCIPAL PAYMENT	INTEREST RATE	INTEREST PAYMENT	TOTAL PAYMENT	TOTAL PAYMENT	TOTAL PAYMENT		
2024	\$148,171,829	\$100,361,778	-	-	\$6,292,288	\$6,292,288	\$2,348,950	\$109,003,015	1.36	
2025	148,171,829	100,374,709	2,880,000	2.800%	6,056,748	8,936,748	8,524,184	117,835,640	1.26	
2026	148,171,829	100,390,248	3,010,000	2.690%	5,976,108	8,986,108	21,466,573	130,842,928	1.13	
2027	148,171,829	100,372,520	3,140,000	2.600%	5,895,139	9,035,139	39,230,815	148,638,474	1.00	
2028	182,858,727	115,648,240	3,275,000	2.560%	5,813,499	9,088,499	58,121,989	182,858,727	1.00	
2029	202,079,557	123,643,175	3,420,000	2.570%	5,729,659	9,149,659	69,286,723	202,079,557	1.00	
2030	209,953,295	126,587,008	3,575,000	2.510%	5,641,765	9,216,765	74,149,523	209,953,295	1.00	
2031	211,704,535	127,991,478	3,730,000	2.500%	5,552,032	9,282,032	74,431,025	211,704,535	1.00	
2032	212,134,244	128,062,731	3,895,000	2.500%	5,458,782	9,353,782	74,717,731	212,134,244	1.00	
2033	220,070,168	135,606,162	4,070,000	2.560%	5,361,407	9,431,407	75,032,599	220,070,168	1.00	
2034	220,070,168	127,534,861	4,445,000	2.760%	5,257,215	9,702,215	75,170,078	212,407,154	1.04	
2035	220,070,168	127,531,367	4,640,000	2.970%	5,134,533	9,774,533	75,473,224	212,779,124	1.03	
2036	220,070,168	121,983,105	4,855,000	3.160%	4,996,725	9,851,725	75,751,013	207,585,842	1.06	
2037	220,070,168	121,971,882	5,070,000	3.340%	4,843,307	9,913,307	75,976,148	207,861,337	1.06	
2038	220,070,168	121,969,369	5,295,000	3.470%	4,673,969	9,968,969	76,170,549	208,108,887	1.06	
2039	220,070,168	106,985,612	5,540,000	3.550%	4,490,233	10,030,233	76,306,860	193,322,704	1.14	
2040	220,070,168	106,989,700	5,785,000	3.620%	4,293,563	10,078,563	76,415,812	193,484,074	1.14	
2041	220,070,168	107,001,335	6,050,000	3.670%	4,084,146	10,134,146	76,506,106	193,641,587	1.14	
2042	220,070,168	106,977,928	6,330,000	3.710%	3,862,111	10,192,111	76,598,720	193,768,758	1.14	
2043	220,070,168	106,962,836	6,620,000	3.740%	3,627,268	10,247,268	76,663,792	193,873,895	1.14	
2044	220,070,168	106,947,509	6,935,000	3.910%	3,379,680	10,314,680	76,703,995	193,966,184	1.13	
2045	220,070,168	106,863,257	7,250,000	3.910%	3,108,521	10,358,521	76,727,993	193,949,771	1.13	
2046	220,070,168	102,646,301	7,585,000	3.910%	2,825,046	10,410,046	76,717,019	189,773,366	1.16	
2047	220,070,168	88,657,813	7,935,000	3.910%	2,528,473	10,463,473	76,708,225	175,829,510	1.25	
2048	220,070,168	68,104,687	8,310,000	3.910%	2,218,214	10,528,214	76,676,706	155,309,606	1.42	
2049	220,070,168	37,316,046	8,690,000	3.970%	1,893,293	10,583,293	76,672,541	124,571,880	1.77	
2050	220,070,168	22,837,632	9,095,000	3.970%	1,548,300	10,643,300	76,630,406	110,111,337	2.00	
2051	220,070,168	18,024,248	9,520,000	3.970%	1,187,229	10,707,229	76,568,321	105,299,798	2.09	
2052	220,070,168	15,624,140	9,960,000	3.970%	809,285	10,769,285	76,508,801	102,902,226	2.14	
2053	220,070,168	-	10,425,000	3.970%	413,873	10,838,873	76,445,681	87,284,554	2.52	
		\$ 2,881,967,672	\$ 171,330,000		\$ 122,952,403	\$ 294,282,403	\$ 2,289,928,368	\$ 5,466,178,442		

*Issue series 2024-2028 totals the remaining amount of current 2023 multi-year commitment and 2018 multi-year commitment.

** \$171,330,000 includes 2023 series for commitment numbers LM231682 for \$25,440,000, LM23837 for \$140,000,000, and LM23850 for \$5,890,000.

AVERAGE (MATURITY) LIFE	19.18 YEARS
NET INTEREST RATE	3.742%
COST SAVINGS	\$ 24,852,229
AVERAGE ANNUAL REQUIREMENT	\$182,205,948



Project Budget Summary
North Harris Co Regional WA
51004 - NHCRA Internal 2020 Distribution

Budget Items	This Commitment	Previous TWDB Funds	Total
Construction			
Construction	\$448,224,000.00	\$396,386,701.24	\$844,610,701.24
Construction Contract	\$0.00	\$163,347,327.91	\$163,347,327.91
Subtotal for Construction	\$448,224,000.00	\$559,734,029.15	\$1,007,958,029.15
Basic Engineering Services			
Construction Engineering	\$8,032,000.00	\$2,917,000.00	\$10,949,000.00
Design	\$45,516,000.00	\$31,365,977.85	\$76,881,977.85
Planning	\$0.00	\$20,191,649.25	\$20,191,649.25
Subtotal for Basic Engineering Services	\$53,548,000.00	\$54,474,627.10	\$108,022,627.10
Special Services			
Application	\$50,000.00	\$126,789.00	\$176,789.00
Environmental	\$0.00	\$100,000.00	\$100,000.00
Inspection	\$24,106,000.00	\$15,478,523.00	\$39,584,523.00
Project Management (by engineer)	\$2,500,000.00	\$17,057,507.00	\$19,557,507.00
Testing	\$9,642,000.00	\$4,706,600.00	\$14,348,600.00
Subtotal for Special Services	\$36,298,000.00	\$37,469,419.00	\$73,982,248.00
Fiscal Services			
Bond Counsel	\$1,430,000.00	\$3,138,234.98	\$4,568,234.98
Bond Reserve Fund	\$48,110,960.00	\$45,338,511.72	\$93,449,471.72
Capitalized Interest	\$80,982,050.00	\$52,094,424.04	\$133,076,474.04
Financial Advisor	\$729,990.00	\$2,621,482.00	\$3,351,472.00
Fiscal/Legal	\$75,000.00	\$272,500.00	\$347,500.00
Issuance Costs	\$216,000.00	\$250,000.00	\$466,000.00
Subtotal for Fiscal Services	\$131,544,000.00	\$103,715,152.74	\$235,259,152.74
Other			
Land/Easements Acquisition	\$32,876,000.00	\$46,162,829.00	\$79,038,829.00
Purchase water well	\$0.00	\$0.00	\$0.00
Subtotal for Other	\$32,876,000.00	\$46,162,829.00	\$79,038,829.00
Contingency			
Contingency	\$27,500,000.00	\$25,233,943.01	\$52,733,943.01
Subtotal for Contingency	\$27,500,000.00	\$25,233,943.01	\$52,733,943.01
Total	\$729,990,000.00	\$826,790,000.00	\$1,556,780,000.00

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD AMENDING TEXAS WATER DEVELOPMENT BOARD RESOLUTION NO. 15-077, AS PREVIOUSLY AMENDED, TO PROVIDE ADDITIONAL FINANCIAL ASSISTANCE FROM THE STATE WATER IMPLEMENTATION REVENUE FUND FOR TEXAS TO NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY THROUGH THE PROPOSED PURCHASE OF \$729,990,000 NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY SENIOR LIEN REVENUE BONDS, PROPOSED SERIES 2023 THROUGH 2027

(23-)

Recitals:

At its July 23, 2015, meeting, the Texas Water Development Board (TWDB), by TWDB Resolution No. 15-077, made a multi-year commitment 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 purchase of \$953,405,000 North Harris County Regional Water Authority Water System Senior Lien Revenue Bonds Proposed Series 2015 through 2021 for Project Nos. 51023, 51021, 51009, and 51004, all as is more specifically set forth in TWDB Resolution No. 15-077 and accompanying documentation, to which documents express reference is made.

At its July 21, 2016, meeting, the TWDB, by TWDB Resolution No. 16-079, made a commitment to the Authority for additional financial assistance for Project Nos. 51021 and 51004 from the SWIRFT, through the purchase of \$225,675,000 North Harris County Regional Water Authority Water System Senior Lien Revenue Bonds, Proposed Series 2016 through 2021, all as is more specifically set forth in TWDB Resolution No. 16-079 and accompanying documentation, to which documents express reference is made.

At its July 20, 2017, meeting, the TWDB, by TWDB Resolution No. 17-083, made a further commitment to the Authority for financial assistance for Project No. 51004 from the SWIRFT, through the purchase of \$73,000,000 North Harris County Regional Water Authority Water System Senior Lien Revenue Bonds, Proposed Series 2017 through 2019, all as is more specifically set forth in TWDB Resolution No. 17-083 and accompanying documentation, to which documents express reference is made.

At its July 26, 2018, meeting, the TWDB, by TWDB Resolution No. 18-091, made a commitment to the Authority for additional financial assistance for Project Nos. 51004 and 51023 from the SWIRFT, through the purchase of \$823,915,000 North Harris County Regional Water Authority Water System Senior Lien Revenue Bonds, Proposed Series 2018 through 2030, all as is more specifically set forth in TWDB Resolution No. 18-091 and accompanying documentation, to which documents express reference is made.

At its April 9, 2020, meeting, the TWDB, by TWDB Resolution No. 20-039, authorized the Executive Administrator to approve a request from the Authority to transfer funds from current or prior years between Project Nos. 51023, 51021, 51009, and 51004.

At its July 7, 2022, meeting, the TWDB through TWDB Resolution No. 22-055, approved a request from the Authority to move funds forward in time and among the Authority's Projects and modified the Authority's annual closing schedule, as more specifically set forth in TWDB Resolution No. 22-055 and accompanying documentation, to which documents express reference is made.

The Authority now seeks an amendment to TWDB Resolution No. 15-077 as amended by TWDB Resolution Nos. 16-079, 17-083, 18-091, 20-039, and 22-055 for additional financial assistance for Project No. 51004 through the TWDB's proposed purchase of \$729,990,000 North Harris County Regional Water Authority Water System Revenue Bonds, Proposed Series 2023 through 2027, (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.

Subject to the Authority's use of an approved debt service structure, interest rate subsidies are available to the Authority for State Fiscal Year 2023 at up to the following levels: 25% for financial assistance for a term of 20 years, 18% for financial assistance for a term of 21 to 25 years, and 14% for financial assistance for a term of 26 to 30 years.

The interest rate subsidies provided 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.

Findings:

1. 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. 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. The Authority has submitted and implemented a water conservation plan in accordance with Texas Water Code § 16.4021 and 31 TAC § 363.1309(b)(1).
4. The Authority has completed its current water audit and filed it with the TWDB in accordance with Texas Water Code § 16.0121 and 31 TAC § 358.6.

5. The Authority acknowledges its legal obligation to comply with any applicable requirements of federal law related to contracting with disadvantaged business enterprises and any applicable state law related to contracting with historically underutilized businesses, in accordance with Texas Water Code § 15.435(h) and 31 TAC § 363.1309(b)(3).
6. The amendment to increase the commitment in the amount of \$729,990,000 for Project No. 51004 is reasonable and in the public interest and will serve a public purpose.
7. All terms and conditions of TWDB Resolution No. 15-077, as amended, shall remain in full force and effect as related to Project No. 51004.

NOW, THEREFORE, based on these considerations and findings, the TWDB commits to the following:

1. The commitment made through TWDB Resolution No. 15-077, as amended by TWDB Resolution Nos. 16-079, 17-083, 18-091, 20-039, and 22-055, is further amended to provide additional multi-year financial assistance in the amount of \$729,990,000 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 Water System Revenue Bonds, Proposed Series 2023 through 2027.
2. Further, the commitment made through TWDB Resolution No. 15-077, as previously amended, for Project No. 51004 shall be evidenced by the TWDB's proposed purchase of the North Harris County Regional Water Authority Regional Water System Revenue Bonds in accordance with the total annual closing schedule proposed below:
 - a. \$171,330,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2023.
 - b. \$97,595,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2024.
 - c. \$185,480,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2025.
 - d. \$330,060,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2026.
 - e. \$286,490,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2027.

- f. \$25,245,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2028.
- 3. All other terms and conditions of TWDB Resolution No. 15-079, as amended by TWDB Resolution Nos. 16-079, 17-083, 18-091, 20-039, and 22-055 shall remain in full force and effect.

APPROVED and ordered of record this the 25th day of July 2023.

TEXAS WATER DEVELOPMENT BOARD

Brooke T. Paup, Chairwoman

DATE SIGNED: _____

ATTEST:

Amanda Lavin, Assistant Executive Administrator

Review Date:

Project ID:

Water
Wastewater
Other

WATER CONSERVATION REVIEW

Entity:

Other entity:

WATER CONSERVATION PLAN DATE:

Approvable

Adopted

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

WATER LOSS AUDIT YEAR:

Service connections:

Length of main lines (miles):

Water Loss GCD:

Retail population:

Connections per mile:

Water Loss GPCD:

ILI¹:

1 – Infrastructure Leakage Index only applicable if > 16 connections per mile and > 3,000 service connections

WATER LOSS THRESHOLDS

Water Loss Project:

Wholesale Adjusted:

Threshold Type:

Apparent Loss Gallons per connection per day	Real Loss Gallons per mile per day	Real Loss Gallons per connection per day	Apparent Loss Threshold Gallons per connection per day	Real Loss Threshold Gallons per mile per day	Real Loss 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 losses are paper losses that occur when the water reaches a customer, but the volume is not accurately measured and/or recorded due to unauthorized consumption, customer meter inaccuracy, or billing system and collection data errors.

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.

GCD means gallons per connection 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 3,000 connections and a connection density of more than 16 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.

Real losses are the physical losses, largely leakage, from the infrastructure: mains, valves, and storage tank overflows. Real loss constitutes background leakage (unreported and difficult to detect), unreported leakage (leaks that do not surface but could be detected), and reported leakage (leaks that often surface and those that are detected by the utility through leak detection).

Residential GPCD is the amount of residential water use (single and multi-family customer use) divided by the residential population divided by 365.

Total GPCD is the amount of total system input volume divided by the retail population 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 GPCD is the amount of water loss divided by the retail population divided by 365.

Water Loss per Connection per Day Calculated as the water loss volume divided by the number service connections divided by 365. This indicator allows for reliable performance tracking in the water utility's efforts to reduce water losses. It replaces water loss percentage.

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.

Wholesale Adjusted represents that some utilities provide large volumes of wholesale water to other providers that travel through the general distribution system, so a calculation has been established to adjust for that volume of wholesale water. These adjustments are only applicable for use in determining whether a utility meets or exceeds water loss thresholds in review of their application for financial assistance. These adjustments should not be used for performance tracking or benchmarking.



North Harris Co Regional WA Harris County

