



PROJECT FUNDING REQUEST

BOARD DATE: July 24, 2025

Team Manager: Nancy Richards

ACTION REQUESTED

Consider approving by resolution a request from the City of Houston (Harris County) for a) \$966,090,000 in multi-year financing from the State Water Implementation Fund for Texas program for planning, design, and construction of a water supply project; and b) a waiver from the requirement to include funds to mitigate water loss as a part of this project.

STAFF RECOMMENDATION

☒ Approve ☐ No Action

BACKGROUND

The City of Houston (City) is located in Harris County. The City provides water and sewer services for 503,000 water and 470,000 wastewater connections and services a population of approximately 1,961,168. The City is a major water provider in Region H and supplies treated surface water to numerous municipalities, districts, and areas outside of its current corporate limits.

PROJECT NEED AND DESCRIPTION

The East Water Purification Plant (EWPP), the City's largest treatment facility, is comprised of three aging plants and currently cannot operate at full capacity due to ongoing rehabilitation. The East Water Purification Plant Enhancement Project is designed to secure and expand the City's long-term surface water treatment capacity. The proposed addition of a fourth plant is essential to support the City's growing residential, commercial, and industrial needs, and to comply with groundwater reduction mandates from the Harris-Galveston and Fort Bend Subsidence Districts.

The project, located at the existing EWPP site, will add new treatment facilities capable of producing 360 million gallons per day of drinking water. The project is designed to supplement the existing EWPP infrastructure, which will remain in service. The new facilities will utilize a treatment process modeled after Houston's Northeast Water Purification Plant, incorporating conventional treatment methods along with ozonation and biofiltration. The City anticipates seeking funding from multiple sources, including the Water Infrastructure Finance and Innovation Act (WIFIA), City of Houston bonds, and direct cash contributions from the City. SWIFT funding will be distributed over three years, aligning with the project's phased construction timeline.

Multi-year Commitment	Expiration
\$350,000,000 Proposed Series 2025	December 31, 2025
\$300,000,000 Proposed Series 2026	December 31, 2026
\$316,090,000 Proposed Series 2027	December 31, 2027

PROJECT SCHEDULE

Task	Schedule Date
Closing	November 1, 2025
Engineering Feasibility Report Completion (End of Planning Phase)	November 10, 2025
Design Phase Completion	May 1, 2028
Start of Construction	February 10, 2028
Construction Completion	January 4, 2034

KEY ISSUES

The City is requesting a waiver from having to include funds to mitigate water loss as part of this project. The City is above its threshold for real loss. While this project does not allocate funds to mitigate that loss, the city submitted a waiver for their real loss that indicates they are procuring a water loss consultant. In addition, the city utilizes advanced machine learning techniques to identify critical pipe segments vulnerable to breaks, resulting in the replacement of six percent of the water mains. Other actions include installing advanced metering infrastructure, installing remote read devices, employing leak detection crews, and reflecting accurately unbilled contract accounts to the billing system. These actions will help mitigate the City's real water loss.

The draft 2026 Region H Regional Water Plan includes a significant increase in both the capacity and budget for this project. The updated plan reflects a new capacity of 470,400 acre-feet per year (equivalent to 420 million gallons per day) and an estimated total cost of \$5 billion. The City anticipates applying for additional funding from SWIFT after the 2026 Region H Regional Water Plan and 2027 State Water Plans are approved.

The City is scheduled to submit a Letter of Interest for WIFIA funding in June 2025, with full application submittal and financial closing anticipated by Spring 2026. The City plans to utilize TWDB funds initially, followed by WIFIA financing, and defer open market bond issuances until 2030. Cash contributions are expected to begin in 2031. This phased funding strategy introduces potential risks, particularly if eligibility issues arise with the alternative funding sources.

LEGAL/SPECIAL CONDITIONS

- Water rights reasonable expectation
- Water rights certification

Attachments:

1. Financial Review
2. Project Budget
3. Resolution (25-)
4. Water Conservation Review
5. Water Loss Waiver Request Letter
6. Location Map

Financial Review

City of Houston

Attachment 1

Risk Score: 2A

Audit Reviewed: FY 2024

Key Indicators

Indicator	Result	Benchmark
Population Growth, Average Annual 2010-2020	City: 0.95%%	State: 1.49%
Top 10 Customers % of Total Revenue	7.91%	10-15%
Median Household Income as % of State	83%	100%
Days of Cash on Hand (3-year Average)	231 days	30-149 days
Net Fixed Assets/ Annual Depreciation	21 years	12-24 years
Debt Service Coverage Ratio	1.71x	1.0x
Debt Per Capita	\$5,980	\$1,500-\$1,999
Debt-to-Operating Revenues	4.32	4.00-5.99x
Unemployment Rate (April, 2025)	City: 4.00%	State: 3.70%
Working Capital Ratio	3.37	> 1.0

Key Risk Score Strengths

- The City has a low percentage of revenue derived from its top ten customers, indicating a well-diversified customer base that reduces reliance on any single entity. This distribution enhances the City's financial stability and minimizes the risk of revenue fluctuations due to changes in individual customer relationships.
- The City maintains a debt service coverage ratio that meets the required coverage, demonstrating sufficient revenue generation to cover debt obligations. This reflects sound financial management and a stable repayment capacity.
- The City's working capital ratio exceeds the benchmark, indicating strong near-term liquidity and financial stability to cover operational needs and unexpected expenses.

Key Risk Score Concerns

- The City's debt per capita exceeds the State's benchmark due to the City's large amount of outstanding debt. The City has been able to maintain financial stability by utilizing its capabilities of revenue diversification by not risking over-reliance on any single revenues stream.

PLEDGE

Legal Pledge Name	Combine Utility System Revenue
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

RATES AND CHARGES

Average Residential Use	Gallons/Month	Current Rates	Projected Rates	Current Household Cost Factor	Projected Household Cost Factor
Water	5,000	\$45.74	\$45.74	2.50	2.50
Wastewater	5,000	\$57.51	\$57.51		

TAXES

	2024 Tax Year Rate	Max Projected Tax Rate	Maximum Allowable Rate	3-Year Avg Current Tax Collections	Assessed Valuation
Maintenance & Operation	\$0.3786	\$0.3786	\$2.50	97%	\$327,240,730,722
Interest & Sinking	\$0.1406	\$0.1406			
Total Tax Rate	\$0.5192	\$0.5192			

Cost Savings

Based on a 30-year maturity schedule and current interest rates, the City could save approximately \$28,838,100 over the life of the financing.

Project Data Summary

Responsible Authority	Houston
Program	SWIFT
Commitment Number	LM2502204, LM2602204, LM2702204
Project Number	51102
List Year	2025
Type of Pledge	Revenue Pledge
Pledge Level (if applicable)	First Lien
Legal Description	\$350,000,000 City of Houston, Texas Combined Utility System Revenue Bonds Proposed Series 2025, \$300,000,000 City of Houston, Texas Combined Utility System Revenue Bonds Proposed Series 2026, \$316,090,000 City of Houston, Texas Combined Utility System Revenue Bonds Proposed Series 2027.
Tax-exempt or Taxable	Tax-Exempt
Refinance	No
Outlay Requirement	No
Disbursement Method	Escrow
Outlay Type	Outlay <> Escrow Release
Qualifies as Disadvantaged	No
SWIFT Financing Type	Low-Interest
Financial Managerial & Technical Complete	N/A
Phases Funded	Planning, Design, and Construction
Pre-Design	Yes
Project Consistent with State Water Plan	Yes
Water Conservation Plan	Adopted
Overall Risk Score	2A

PROJECT TEAM

Team Manager	Financial Analyst	Engineering Reviewer	Environmental Reviewer	Attorney
Nancy Richards	Chelsea Duran	Will Conte	Britt Wilson	Marshall Walters

ISSUE BEING EVALUATED
FOR ILLUSTRATION PURPOSES ONLY
City of Houston

\$350,000,000 City of Houston, Texas, Combine Utility System Revenue Bonds, Series 2025

Dated Date: 11/1/2025	Source: SWIFT-LOW-30YR
Delivery Date: 11/1/2025	Rate: 4.34%
First Interest: 5/15/2026	IUP Year: 2025
First Principal: 11/15/2026	Case: Revenue
Last Principal: 11/15/2055	Admin.Fee: \$0
Fiscal Year End: 06/30	Admin. Fee Payment Date: N/A
Required Coverage: 1.0	

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	\$350,000,000 ISSUE				*616,909,000 ISSUE SERIES 2026-2027		
			PRINCIPAL PAYMENT	INTEREST RATE	INTEREST PAYMENT	TOTAL PAYMENT	TOTAL PAYMENT	TOTAL DEBT SERVICE	COVERAGE
2026	\$989,731,000	\$552,462,390	\$0	-	\$7,634,128	\$7,634,128	\$0	\$560,096,519	1.77
2027	989,731,000	551,870,183	6,680,000	2.81%	14,072,570	20,752,570	\$6,543,500	579,166,252	1.71
2028	989,731,000	551,816,895	6,870,000	2.77%	13,883,567	20,753,567	24,759,173	597,329,634	1.66
2029	989,731,000	553,430,340	7,065,000	2.78%	13,690,214	20,755,214	36,679,336	610,864,889	1.62
2030	989,731,000	551,432,865	7,265,000	2.80%	13,490,300	20,755,300	36,678,761	608,866,926	1.63
2031	989,731,000	552,121,552	7,470,000	2.85%	13,282,143	20,752,143	36,676,877	609,550,571	1.62
2032	989,731,000	553,060,637	7,690,000	2.92%	13,063,421	20,753,421	36,675,655	610,489,713	1.62
2033	989,731,000	542,088,990	7,920,000	2.99%	12,832,743	20,752,743	36,666,213	599,507,946	1.65
2034	989,731,000	543,481,799	8,165,000	3.05%	12,589,823	20,754,823	36,666,184	600,902,805	1.65
2035	989,731,000	379,209,757	8,420,000	3.17%	12,331,850	20,751,850	36,664,982	436,626,589	2.27
2036	989,731,000	377,125,143	8,695,000	3.26%	12,056,664	20,751,664	36,652,867	434,529,674	2.28
2037	989,731,000	356,182,917	8,995,000	3.46%	11,759,322	20,754,322	36,646,137	413,583,376	2.39
2038	989,731,000	283,956,434	9,315,000	3.57%	11,437,436	20,752,436	36,636,385	341,345,254	2.90
2039	989,731,000	275,037,926	9,660,000	3.69%	11,092,936	20,752,936	36,624,547	332,415,408	2.98
2040	989,731,000	219,404,701	10,030,000	3.80%	10,724,139	20,754,139	36,613,960	276,772,800	3.58
2041	989,731,000	219,026,479	10,425,000	3.90%	10,330,282	20,755,282	36,601,858	276,383,618	3.58
2042	989,731,000	184,469,226	10,845,000	4.01%	9,909,552	20,754,552	36,596,875	241,820,652	4.09
2043	989,731,000	177,278,863	11,295,000	4.12%	9,459,433	20,754,433	36,585,837	234,619,132	4.22
2044	989,731,000	169,520,856	11,775,000	4.23%	8,977,714	20,752,714	36,574,517	226,848,087	4.36
2045	989,731,000	157,757,554	12,290,000	4.29%	8,465,053	20,755,053	36,564,092	215,076,699	4.60
2046	989,731,000	140,628,201	12,835,000	4.37%	7,920,987	20,755,987	36,555,757	197,939,944	5.00
2047	989,731,000	121,987,185	13,420,000	4.55%	7,335,238	20,755,238	36,548,775	179,291,197	5.52
2048	989,731,000	116,230,022	14,045,000	4.55%	6,710,409	20,755,409	36,530,593	173,516,023	5.70
2049	989,731,000	88,824,590	14,700,000	4.55%	6,056,460	20,756,460	36,525,655	146,106,705	6.77
2050	989,731,000	62,532,547	15,380,000	4.55%	5,372,140	20,752,140	36,520,895	119,805,582	8.26
2051	989,731,000	26,611,456	16,100,000	4.55%	4,655,970	20,755,970	36,523,810	83,891,236	11.80
2052	989,731,000	26,606,206	16,855,000	4.63%	3,899,502	20,754,502	36,521,898	83,882,606	11.80
2053	989,731,000	11,888,975	17,655,000	4.63%	3,100,595	20,755,595	36,515,947	69,160,518	14.31
2054	989,731,000	11,886,700	18,490,000	4.63%	2,263,839	20,753,839	36,507,342	69,147,881	14.31
2055	989,731,000	11,889,106	19,365,000	4.63%	1,387,495	20,752,495	36,508,801	69,150,403	14.31
2056	989,731,000	-	20,285,000	4.63%	469,598	20,754,598	36,518,648	57,273,245	17.28
		\$8,369,820,493	\$350,000,000		\$280,255,518	\$630,255,518		\$10,055,961,883	

AVERAGE (MATURITY) LIFE	18.44 YEARS
NET INTEREST RATE	4.341%
COST SAVINGS	\$28,838,100
AVERAGE ANNUAL REQUIREMENT	\$20,330,823

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



Project Budget Summary

Houston

51102 - Amendment to 2021 Region H RWP City of Houston East Water Purification Plant Enhancement

Budget Items	This Commitment	Local and Other Funds	Total
Construction			
Construction	\$593,535,488.00	\$2,620,939,535.00	\$3,214,475,023.00
Subtotal for Construction	\$593,535,488.00	\$2,620,939,535.00	\$3,214,475,023.00
Basic Engineering Services			
Construction Engineering	\$90,005,301.00	\$0.00	\$90,005,301.00
Design	\$166,152,702.00	\$0.00	\$166,152,702.00
Planning	\$0.00	\$19,558,659.00	\$19,558,659.00
Subtotal for Basic Engineering Services	\$256,158,003.00	\$19,558,659.00	\$275,716,662.00
Special Services			
Environmental	\$4,000,000.00	\$0.00	\$4,000,000.00
Geotechnical	\$750,000.00	\$0.00	\$750,000.00
Special Service Other (Environmental Mitigation, Sludge Hauling During Construction, Project Advisor/Technical Consultant)	\$78,000,000.00	\$46,273,464.00	\$124,273,464.00
Surveying	\$250,000.00	\$0.00	\$250,000.00
Testing		\$18,000,000.00	\$18,000,000.00
Permits		\$10,000,000.00	\$10,000,000.00
Inspection		\$37,497,600.00	\$37,497,600.00
O&M Manual		\$2,343,528.00	\$2,343,528.00
Pilot Testing		\$1,500,000.00	\$1,500,000.00
Subtotal for Special Services	\$83,000,000.00	\$115,614,592.00	\$198,614,592.00
Fiscal Services			
Bond Reserve Fund	\$28,646,509.00	\$0.00	\$28,646,509.00
Issuance Costs	\$750,000.00	\$6,000,000.00	\$6,750,000.00
Subtotal for Fiscal Services	\$29,396,509.00	\$6,000,000.00	\$35,396,509.00
Other			
Project Legal Expenses	\$4,000,000.00	\$4,000,000.00	\$8,000,000.00
Administration	\$0.00	\$19,840,000.00	\$19,840,000.00
Subtotal for Other	\$4,000,000.00	\$23,840,000.00	\$27,840,000.00
Contingency			
Contingency	\$0.00	\$448,357,214.00	\$448,357,214.00
Subtotal for Contingency	\$0.00	\$448,357,214.00	\$448,357,214.00
Total	\$966,090,000.00	\$3,234,310,000.00	\$4,200,400,000.00

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
APPROVING AN APPLICATION FOR FINANCIAL ASSISTANCE TO
THE CITY OF HOUSTON
IN THE FORM OF A MULTI-YEAR COMMITMENT
THROUGH THE PROPOSED PURCHASE OF
\$966,090,000 CITY OF HOUSTON, TEXAS
COMBINED UTILITY SYSTEM REVENUE BONDS,
PROPOSED SERIES 2025 THROUGH PROPOSED SERIES 2027

(25-)

Recitals:

The City of Houston (City), located in Harris County, has filed an application for financial assistance in the amount of \$966,090,000 to finance the planning, design, and construction of a water supply project identified as Project No. 51102 (Project).

The City qualifies for financial assistance from the Texas Water Development Board (TWDB) in the form of a multi-year commitment through the TWDB's proposed purchase of \$966,090,000 City of Houston, Texas Combined Utility System Revenue Bonds, Proposed Series 2025 through Proposed Series 2027 (Obligations), together with all authorizing documents, all as is more specifically set forth in the application and in recommendations of the Executive Administrator's staff.

The City has offered a pledge of a first lien on the net revenues of the combined utility system as sufficient security for the repayment of the Obligations.

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.

Subject to the City's use of an approved debt service structure, the interest rate subsidy applicable to each subsequent proposed series may be different than the interest rate subsidy available for State Fiscal Year 2025 and will be set through each financing agreement executed between the TWDB and the City.

The interest rate subsidies as approved by the Board at its April 10, 2025 meeting, are based on assumptions necessary to generate an optimum debt service structure for the anticipated TWDB SWIFT bond issuance and are subject to modification as necessary to preserve and maintain the integrity of the SWIFT Program. The subsidies will be available to the City without regard to the source of funds.

The City requests a waiver of the requirement that a portion of the financial assistance received from the TWDB be used to mitigate the City's system water loss because the City is currently addressing the loss.

In accordance with Texas Water Code § 17.124, the TWDB has considered all matters required by law and in particular the following:

1. The needs of the area to be served by the water supply project, the benefit of the water supply project to the area, the relationship of the water supply project to the overall, statewide water needs, and the relationship of the water supply project to the approved regional and state water plans.
2. And the availability of revenue to the City, from all sources, for the ultimate repayment of the cost of the water supply project, including interest.

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; or the requirements of Chapter 17, Subchapters D, E, and L, and the TWDB's rules set forth in 31 TAC Chapter 363, Subchapter A.
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 public interest requires state assistance in the financing of this project, in accordance with Texas Water Code § 17.125(a)(1).
4. The City has adopted and implemented a water conservation plan in accordance with Texas Water Code § 16.4021 and 31 TAC § 363.1309(b)(1).
5. The City has completed its current water audit and filed it with the TWDB in accordance with Texas Water Code §§ 16.0121 and 16.053(j) and 31 TAC § 358.6.
6. Based on the conditions described above, the City is satisfactorily addressing the City's system water loss, which supports a waiver of the requirement that a portion of the financial assistance received from the TWDB be used to mitigate the City's system water loss in accordance with Texas Water Code § 16.0121(g).
7. The City 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).

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

1. For the reasons stated above, the TWDB waives the requirements of Texas Water Code § 16.0121(g).
2. The TWDB will provide financial assistance to City of Houston in the amount of \$966,090,000 from the State Water Implementation Revenue Fund for Texas or from the Financial Assistance Account of the Texas Water Development Fund II to be evidenced by the TWDB's proposed purchase of one or more City of Houston, Texas Combined Utility System Revenue Bonds as follows.

- a. \$350,000,000 Proposed Series 2025, to expire on December 31, 2025;
 - b. \$300,000,000 Proposed Series 2026, to expire on December 31, 2026; and
 - c. \$316,090,000 Proposed Series 2027, to expire on December 31, 2027.
3. The Executive Administrator is authorized to determine the source account, whether the State Water Implementation Revenue Fund for Texas or the Financial Assistance Account of the Texas Water Development Fund II for each subsequent series.

The commitment is subject to the following:

Standard Conditions:

1. This commitment is contingent on a future sale of bonds by the TWDB or on the availability of funds on hand as determined by the TWDB.
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 City has complied with all of the requirements of the laws under which the Obligations were issued; that the Obligations were issued in conformance with the Constitution and laws of the State of Texas; and that the Obligations are valid and binding obligations of the City.
3. This commitment is contingent upon the City'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 City executing a separate financing agreement, approved as to form and substance by the Executive Administrator, and submitting the executed agreement to the TWDB consistent with the terms and conditions described in it.
5. Interest rate subsidies for non-level debt service structure are subject to adjustment by the Executive Administrator.
6. The City 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.

Required Obligation Conditions:

7. The Obligations must provide that the Obligations can be called for early redemption 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 provide that the City will comply with all applicable TWDB laws and rules related to the use of the financial assistance.

9. The Obligations must provide that the City must comply with all conditions as specified in the final environmental finding of the Executive Administrator when issued, including the standard emergency discovery conditions for threatened and endangered species and cultural resources.
10. The Obligations must contain a provision requiring the City to maintain insurance coverage sufficient to protect the TWDB's interest in the project.
11. The Obligations must include a provision wherein the City, 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 City'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 the 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 SEC rule 15c2-12, the continuing disclosure undertaking being for the benefit of the TWDB and the beneficial owners of the City's Obligations, if the TWDB sells or otherwise transfers the Obligations, and the beneficial owners of the TWDB's bonds if the City is an obligated person with respect to the bonds under SEC Rule 15c2-12.
12. The Obligations must require the City to levy a tax 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.
13. The Obligations must require the City to use any surplus financial assistance proceeds from the Obligations remaining after completion of the Project and completion of a final accounting in a manner approved by the Executive Administrator.
14. The Obligations must provide 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.
15. Financial assistance proceeds are public funds. Therefore, the Obligations must require that these proceeds 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.
16. Financial assistance proceeds shall not be used by the City when sampling, testing, removing, or disposing of contaminated soils or media at the Project site. The Obligations must provide that the City is solely responsible for liability resulting from acts or omissions of the City, its employees, contractors, or agents arising from the sampling, analysis, transport, storage, treatment, recycling, and disposition of any contaminated sewage sludge, contaminated sediments or contaminated media that may be generated by the City, its contractors, consultants, agents, officials, and

employees as a result of activities relating to the Project to the extent permitted by law.

17. The Obligations must require the City to 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.
18. 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-only form in accordance with 31 TAC § 363.42(c)(1).
19. The City must abide by all applicable construction contract requirements related to the use of iron and steel products produced in the United States, as required by Texas Government Code, Chapter 2252, Subchapter G and Texas Water Code § 17.183.
20. The City must immediately notify TWDB in writing of any suit against it by the Attorney General of Texas under Texas Government Code § 2.103 and Texas Penal Code § 1.10(f), related to federal laws regulating firearms, firearm accessories, and firearm ammunition.
21. The Obligations must require the City to submit annually an audit prepared by a certified public accountant in accordance with generally accepted auditing standards.
22. The Obligations must include a provision that, if the collateral or credit pledged by the City securing the Obligations is rated by a nationally-recognized statistical rating agency, the City, or other obligated person, will not discontinue the rating issued by a nationally-recognized statistical rating agency until the underlying Obligations are retired or no longer held by TWDB.

Tax-Exempt Conditions:

23. The Obligations must prohibit the City 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 section 141 of the Internal Revenue Code as amended (Code) and the Treasury Regulations promulgated under it (Regulations).
24. 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 section 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 issued to provide 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 the proceeds are needed for the facilities to be financed;
 - b. amounts invested in a bona fide debt service fund within the meaning of section 1.148-1(b) of the Regulations; and
 - c. amounts deposited in any reasonably required reserve or replacement fund to the extent the amounts do not exceed the lesser 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.
25. The Obligations must require the City to take all necessary steps to comply with the requirement that amounts earned on the investment of gross proceeds of the Obligations be rebated to the federal government in order to satisfy the requirements of section 148 of the Code. The Obligations must provide that the City 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 the accounting for at least six years after the final Computation Date. The City may, however, to the extent permitted by law, commingle Gross Proceeds of its financial assistance with other money of the City, provided that the City separately accounts for each receipt and expenditure of the Gross Proceeds and the obligations acquired with the Gross Proceeds;
 - 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 section 148(f) of the Code, section 1.148-3 of the Regulations, and the associated rulings. The City shall maintain a copy of the calculations for at least six years after the final Computation Date;
 - c. pay to the United States the amount described in paragraph (b) above within 30 days after each Computation Date 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 of TWDB's Bonds for federal income tax purposes;
 - d. exercise reasonable diligence to ensure that no errors are made in the calculations required by paragraph (b) and, if an error is made, to discover and promptly correct the error within a reasonable amount of time, including payment to the United States of any interest and any penalty required by the Regulations.

26. The Obligations must include a provision prohibiting the City from taking any action that would cause the interest on the Obligations to be includable in gross income for federal income tax purposes.
27. The Obligations must provide that the City will not cause or permit the Obligations to be treated as “federally guaranteed” obligations within the meaning of section 149(b) of the Code.
28. The Obligations must contain a covenant that the City will refrain from using the proceeds of the Obligations to pay debt service on another issue of the borrower’s obligations in contravention of section 149(d) of the Code (related to “advance refundings”).
29. The Obligations must provide that neither the City nor a party related to it 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 City by the TWDB.

Pledge Conditions:

30. The Obligations shall be on parity with any existing obligations that are secured with the same pledge of security as the proposed Obligations.
31. The Obligations shall be governed by the additional debt test and reserve requirement as provided in the outstanding City of Houston, Texas Combined Utility System Revenue Bonds, Series 2021C.

Conditions To Close or for Release of Funds:

32. Before closing, the City must 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.
33. Before closing, if not previously provided with the application, the City 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.
34. Before closing, when any portion of financial assistance is to be held in escrow or in trust, the City 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.
35. Before closing, the City shall provide certification that the average weighted maturity of the Obligations purchased by the TWDB does not exceed 120% of the average reasonably expected economic life of the Project.

36. Before closing, the City'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 City when rendering this opinion.
37. Before closing, the City'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 City when rendering this opinion.
38. The transcript must include a No Arbitrage Certificate or similar Federal Tax Certificate setting forth the City's reasonable expectations regarding the use, expenditure, and investment of the proceeds of the Obligations.
39. The transcript must include evidence that the information reporting requirements of section 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 section 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.
40. Before closing, the City shall submit to the escrow agent a closing memo signed by the executive administrator.

Special Conditions:

41. Before the release of funds for the costs of planning, engineering, architectural, legal, title, fiscal, economic investigation, studies, surveys, or designs for that portion of the Project that proposes surface water or groundwater development, the Executive Administrator must have either issued a written finding that the City has the right to use the water that the Project financed by the TWDB will provide or a written determination that a reasonable expectation exists that such a finding will be made before the release of funds for construction.
42. Before the release of construction funds for that portion of a Project that proposes surface water or groundwater development, the Executive Administrator must have issued a written finding that the City has the right to use the water that the Project financed by the TWDB will provide.

APPROVED and ordered of record this, the 24th day of July 2025.

TEXAS WATER DEVELOPMENT BOARD

L'Oreal Stepney, P.E., Chairwoman

DATE SIGNED: _____

ATTEST:

Bryan McMath, 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:

Validation Required:

Validation Performed:

Service connections:

Length of main lines (miles):

Water Loss GCD:

Retail population:

Connections per mile:

Water Loss GPCD:

ILI:

Real Loss GMD:

WATER LOSS THRESHOLDS

Water Loss Project:

Waiver Requested:

Wholesale Adjusted:

Threshold Type:

Apparent Loss GCD		Real Loss GCD	
Reported	Threshold	Reported	Threshold

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.

GMD means gallons per mile 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 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.



CITY OF HOUSTON

Houston Public Works

John Whitmire

Mayor

Randy Macchi
Director
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Houston, Texas 77251-1562

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June 12, 2025

Bryan McMath, Executive Administrator
Texas Water Development Board
Water Supply & Infrastructure – Regional Water Project Development
Stephen F. Austin Building
1700 N. Congress Avenue, 5th Floor
Austin, Texas 78711-3231

Dear Mr. MacMath:

I am writing to request a waiver for the water loss audit requirement under Texas Administrative Code Section 16.0121 for our upcoming State Water Implementation Fund for Texas (SWIFT) Application for the City of Houston's (City) East Water Purification Plant Expansion (Application No. 16555). The City has worked and will continue to work diligently to reduce the water loss in our system.

The City has a strong history of adopting and implementing water loss strategies to meet the growing and dynamic challenges of the City's water needs. Over the last few years, the City has undertaken several key activities that will help further reduce the water loss in the system. Some of these activities include:

- **Procuring Water Loss Study Consultant.** The City undertook a Water Loss Audit and Revenue Enhancement Study in 2017 with a formal review in 2021. Now the City is in the process of contracting a consulting firm to develop an updated Water Loss Audit and Revenue Enhancement Study in 2025. This will entail a review of the utility's water loss program, validation of the distribution system, assumptions, and meter accuracy, and development of recommendations for ways to further reduce the City's water loss.
- **Utilization of advanced machine learning techniques.** As part of proactive measures to mitigate water loss by preventing future pipe breaks and water loss, the City has utilized advanced machine learning techniques to identify critical pipe segments within the water distribution network that are vulnerable to breaks. This predictive approach allows the City to proactively prioritize and replace critical water mains, thereby reducing the volume of water lost from pipe breaks. The City has already programmed Capital improvement projects that will replace about 6% of the water mains that are most vulnerable for future breaks using this predictive program.
- **Installation of Advanced Metering Infrastructure (AMI).** Since 2020, the City has invested over \$6 million in replacing or newly installing more than 2,000 large mechanical meters (3-inch diameter or larger) with advanced magnetic or ultrasonic models. These modern meters provide enhanced accuracy, leading to improved billing efficiency and more effective water loss detection and prevention. This initiative is a key component of our ongoing efforts to modernize infrastructure, optimize resource management, and ensure accurate consumption measurement for our customers. In this same time period, the City has also installed 48 additional radio towers which communicate with the meters to transmit read information for accurate billings. Both the new meters and

the radio towers will lead to more accurate customer billings which in turn presents a more accurate accounting of our water consumption rather than inconsistencies falling into the water loss category.

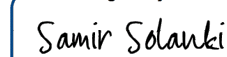
- **Installation of Remote Read Devices.** In 2024, the City launched a Water Bill Improvement Program for Single Family Residents to enhance billing accuracy and reduce estimated readings. Between April and December 2024, approximately 110,000 remote-read devices were installed. The primary goal of this initiative is to eliminate estimated billings, ensuring more accurate water usage tracking and billing. These estimated reads have historically underestimated water use and have created difficulty in producing a true volume for usage causing water loss to increase. With this program, the City has introduced a new policy for malfunctioning devices: manual meter reads will be conducted until a replacement remote-read device is installed. Billings with estimated volumes will no longer be issued. This ongoing effort aims to further improve the reliability and measurement of the water being sold rather than being classified as lost or unaccounted consumption. In addition, this effort will also help to track near –real-time system’s water consumption that would be helpful to identify leaky areas.
- **Dedicated leak detection crews.** The City has a dedicated crew equipped with acoustic leak detection technology to assist in locating leaks when water is observed on the ground that indicates a water main break, but the source is unknown. Though this crew is a reactive measure, it reduces the time to repair and address leaks.
- **Unbilled Contract Accounts.** The City has engaged in a review of its drinking water contract accounts to ensure that all accounts are being properly metered and billed, as any failure to routinely meter and bill these accounts can contribute significantly to the City’s reported water loss.

The City is working with TWDB to utilize remaining funds on a Drinking Water loan for Water Line replacement projects. Further, the City has programed roughly \$600M in our 2025-2030 Capital Improvement Plan for water line replacements. Annual water line repairs average \$60M in cost.

Given the above proactive water loss control efforts that the City of Houston has implemented, we are requesting that the significant resources the City has dedicated to water loss reduction be considered as mitigation for the SWIFT loan for the East Water Purification Plant Expansion Project (Application No. 16555).

If you have any questions, please do not hesitate to contact me at (832)395-2658 or Sabrina Jackson (832) 395-2683 or Jennifer Nguyen at (832)395-2586.

DocuSigned by:

Samir Solanki

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Samir Solanki

Chief Financial Officer

Houston Public Works



City of Houston Harris County

