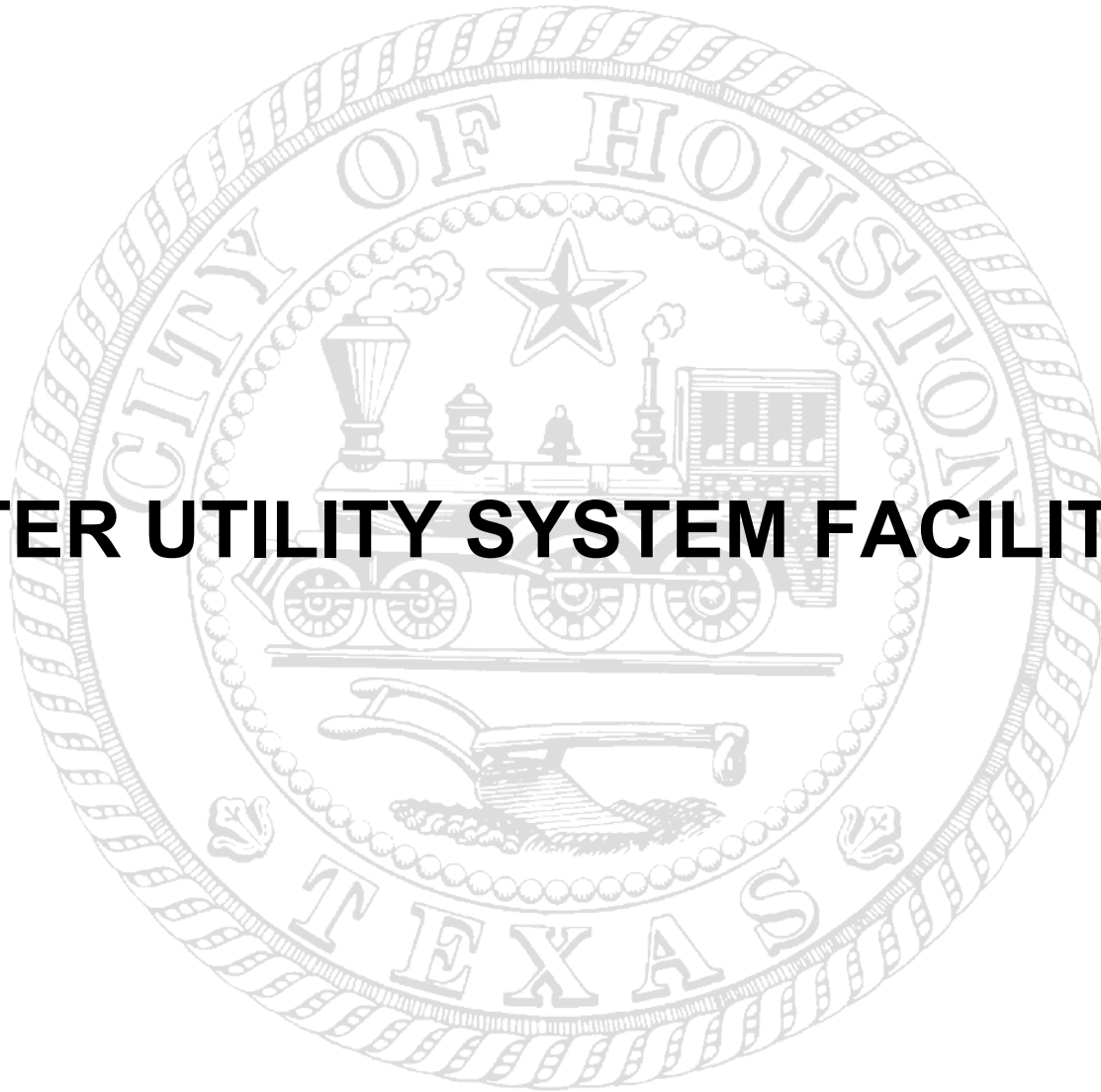


WATER UTILITY SYSTEM FACILITIES



Water Utility System

The Water Utility System (System) relies on 87% Surface Water and 13% Groundwater sources. Surface water is sourced from Lake Conroe and Lake Houston in the San Jacinto River System and Lake Livingston in the Trinity River System. In aggregate, these supplies are sufficient to meet the City's expected water demands beyond the year 2060. However, additional water supply strategies have been developed to meet the long-term needs. In addition, the System continues to shift its supply source from groundwater to surface water in accordance with state mandates. The System provides water to the citizens of Houston as well as municipalities, municipal utility districts, and water authorities outside the City limits. The service population is approximately 4 million.

The System delivers treated surface and ground water to customers through a series of storage tanks, pump stations, transmission and distribution mains. This potable water is sold to domestic, commercial, industrial, governmental and other customers in the Houston metropolitan area. Untreated surface water is delivered for sale to governmental, industrial and agricultural customers.

The Water Utility System Capital Improvement Plan (CIP) continues to focus on replacing aging water infrastructure and meeting the demands of new growth. The CIP provides an estimate of delivery by fiscal year for the next five years. The delivery schedule is affected by unanticipated external forces outside of the control of the City, such as, private utilities, property acquisition, other agencies, outside funding partners, etc. However, the City makes every attempt to deliver a good product in a timely manner. This five-year CIP includes approximately \$2.4 billion of improvements financed by a combination of pay-as-you-go, revenue bonds and proposed contributed capital.

Highlights of the Fiscal Year 2018 - 2022 CIP include:

- Continue funding the Luce Bayou Inter-basin Transfer project to move Trinity River water to Lake Houston. Required to meet state regulation requiring the conversion to surface water and growth of the region

- Continue funding the Design-Build contract for the 320 MGD expansion of the Northeast Water Purification Plant with regional water authority funding partners
- Continue to construct surface water transmission lines to access and deliver expanded treated surface water supplies for Houston and surrounding water authorities
- Continue funding for replacement of neighborhood water mains to improve fire protection, water quality, system reliability and assure compliance with Texas Commission on Environmental Quality (TCEQ) regulations
- Rehabilitate wells, ground storage tanks and pump stations as part of long range asset management

Project Allocation	Fiscal Year Planned Appropriations					2018-2022
	2018	2019	2020	2021	2022	
Planning						
Acquisition-Land	8,311	8,588	4,766	540	551	22,756
Design	73,737	35,871	29,832	11,353	5,182	155,975
Construction	573,199	1,046,369	249,521	170,367	143,660	2,183,115
Equipment Acquisition	1,903	2,024	3,124	4,050	5,235	16,335
Salary Recovery						
Other	19,236	-3,971	-5,194	2,700	2,755	15,526
Total Allocation	676,386	1,088,882	282,048	189,010	157,382	2,393,707
Source of Funds						
8500 - PWE-W&S Syst Consolidated Constr Fd	175,592	184,997	141,260	187,643	157,382	846,875
8505 Prop W&S Cont.	346,717	610,055	9,182			965,954
8506 Proposed TWDB	11,541	125,707	1,399			138,647
8507 Water Auth NETL	67,941	105,377				173,318
8508 Proposed TWDB	48,760	62,745				111,505
8509 Water Auth SETL	16,432		86,467	16		102,915
8510 PWE SETL Constr	9,403		43,740	1,351		54,494
Total Funds	676,386	1,088,882	282,048	189,010	157,382	2,393,707

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project		Fiscal Year Planned Appropriations					2018-2022	
			2018	2019	2020	2021	2022		
S-000012	Southeast Water Purification Plant								
	8500 - PWE-W&S Syst Consolidated Constr Fd		7,126	251	10,643	9,234		27,254	
	Project Total		7,126	251	10,643	9,234		27,254	
S-000019	Emergency Needs for Water Utility								
	8500 - PWE-W&S Syst Consolidated Constr Fd		305	311	318	540	551	2,026	
	Project Total		305	311	318	540	551	2,026	
S-000020	Miscellaneous Water Needs								
	8500 - PWE-W&S Syst Consolidated Constr Fd		122	1,022	127	184		1,455	
	Project Total		122	1,022	127	184		1,455	
S-000035	Neighborhood Water Main Replacement								
	8500 - PWE-W&S Syst Consolidated Constr Fd		23,595	6,496	6,786	30,581	29,288	96,746	
	Project Total		23,595	6,496	6,786	30,581	29,288	96,746	
S-000056	East Water Purification Plant								
	8500 - PWE-W&S Syst Consolidated Constr Fd		14,907	20,656	27,031	5,854		68,447	
	Project Total		14,907	20,656	27,031	5,854		68,447	
S-000065	NE Water Purification Plant Expansion								
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,885	31,426	349			34,661	
	8505 Prop W&S Cont.		346,717	610,055	9,182			965,954	
	8506 Proposed TWDB		11,541	125,707	1,399			138,647	
	Project Total		361,143	767,189	10,930			1,139,261	
S-000066	Northeast Water Purification Plant								
	8500 - PWE-W&S Syst Consolidated Constr Fd			9,342	6,884			16,226	
	Project Total			9,342	6,884			16,226	

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project							2018-2022	
			2018	2019	2020	2021	2022		
S-000100	New / Replacement Ground Water Wells								
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,484	3,467	1,763	1,015	6,557	15,286	
	Project Total		2,484	3,467	1,763	1,015	6,557	15,286	
S-000101	Pre-Engineering for Water Projects								
	8500 - PWE-W&S Syst Consolidated Constr Fd		1,018					1,018	
	Project Total		1,018					1,018	
S-00019A	Real Estate Annual Appropriation								
	8500 - PWE-W&S Syst Consolidated Constr Fd		4,469	4,671	4,766	540	551	14,997	
	Project Total		4,469	4,671	4,766	540	551	14,997	
S-000200	Water Well Renewal Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		606	3,830	4,612	4,039	5,124	18,211	
	Project Total		606	3,830	4,612	4,039	5,124	18,211	
S-000500	Water Improvements under M/N								
	8500 - PWE-W&S Syst Consolidated Constr Fd		14,667	19,280	5,283	11,787	175	51,191	
	Project Total		14,667	19,280	5,283	11,787	175	51,191	
S-000521	Water Main Replacement by Other Govt								
	8500 - PWE-W&S Syst Consolidated Constr Fd		4,683					4,683	
	Project Total		4,683					4,683	
S-000600	Water Storage Tank Rehabilitation								
	8500 - PWE-W&S Syst Consolidated Constr Fd		5,090	5,709	5,825	4,374	5,565	26,563	
	Project Total		5,090	5,709	5,825	4,374	5,565	26,563	
S-000700-A	Water Main Grid Extensions Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		3,054	3,114		3,240		9,408	
	Project Total		3,054	3,114		3,240		9,408	

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project							2018-2022	
			2018	2019	2020	2021	2022		
S-000701	Lg Diameter Water Line Rehab								
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,696	6,756	11,645	4,838	4,055	29,991	
	Project Total		2,696	6,756	11,645	4,838	4,055	29,991	
S-000702	Valve Replacement & Installation Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,260	2,076	2,436	2,160		8,932	
	Project Total		2,260	2,076	2,436	2,160		8,932	
S-000800	Sponsor Participation-Water Mains Prog.								
	8500 - PWE-W&S Syst Consolidated Constr Fd		1,527	1,038	1,059	2,160	2,204	7,988	
	Project Total		1,527	1,038	1,059	2,160	2,204	7,988	
S-000890	Lake Houston Dam Projects								
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,545		10,590	10,800	11,020	34,955	
	Project Total		2,545		10,590	10,800	11,020	34,955	
S-000894	San Jacinto River Authority								
	8500 - PWE-W&S Syst Consolidated Constr Fd		1,731	606	1,377	427	840	4,980	
	Project Total		1,731	606	1,377	427	840	4,980	
S-000900	Surface Water Transmission Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		57,868	66,947	29,388	56,073	61,759	272,035	
	8507 Water Auth NETL		67,941	105,377				173,318	
	8508 Proposed TWDB		48,760	62,745				111,505	
	8509 Water Auth SETL		16,432		86,467	16		102,915	
	8510 PWE SETL Constr		9,403		43,740	1,351		54,494	
	Project Total		200,404	235,069	159,596	57,440	61,759	714,267	
S-000901	Condition Assessment and Rehabilitation								
	8500 - PWE-W&S Syst Consolidated Constr Fd		7,015		5,646			12,661	
	Project Total		7,015		5,646			12,661	

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project							2018-2022	
			2018	2019	2020	2021	2022		
S-000956	Automatic Meter Reading Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		681	779	794	810	827	3,890	
	Project Total		681	779	794	810	827	3,890	
S-000958	Meter Replacement & Upgrade Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		1,222	1,246	2,330	3,240	4,408	12,445	
	Project Total		1,222	1,246	2,330	3,240	4,408	12,445	
S-001000	Pump Station Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		6,210		6,858	34,397	23,356	70,821	
	Project Total		6,210		6,858	34,397	23,356	70,821	
S-002015	Water Substitute Service Program								
	8500 - PWE-W&S Syst Consolidated Constr Fd		755	255	265	270		1,545	
	Project Total		755	255	265	270		1,545	
S-900001	Upgrades to 611 Walker								
	8500 - PWE-W&S Syst Consolidated Constr Fd		1,018	1,038	1,059	1,080	1,102	5,297	
	Project Total		1,018	1,038	1,059	1,080	1,102	5,297	
S-950000	Northeast Quadrant Building								
	8500 - PWE-W&S Syst Consolidated Constr Fd		7,126					7,126	
	Project Total		7,126					7,126	
S-NA0000	Water Contingencies								
	8500 - PWE-W&S Syst Consolidated Constr Fd		-2,071	-5,320	-6,571			-13,962	
	Project Total		-2,071	-5,320	-6,571			-13,962	
Total Appropriations:			676,386	1,088,882	282,048	189,010	157,382	2,393,707	



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