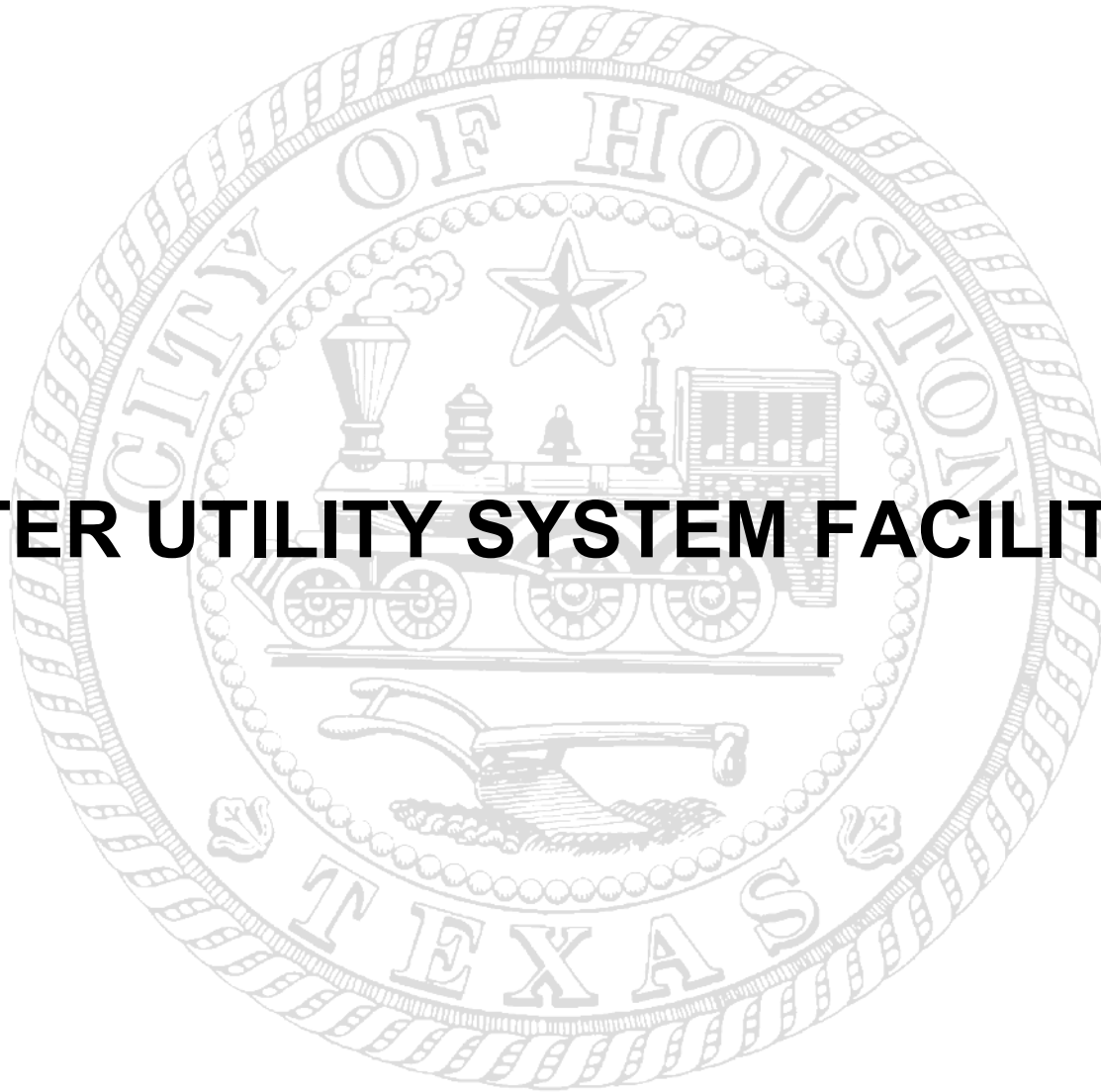


WATER UTILITY SYSTEM FACILITIES



Water Utility System

The Water Utility System relies on both surface and ground water 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 supplies must be 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 \$2.7 billion of improvements financed by a combination of pay-as-you-go, revenue bonds and proposed contributed capital.

Highlights of the Fiscal Year 2017 - 2021 CIP include:

- 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
- Upgrade and optimize East, Southeast, and Northeast Water Purification Plants

- Implement Luce Bayou Inter-basin Transfer from Trinity River to Lake Houston to meet demand caused by state regulation requiring the conversion to surface water
- Rehabilitate wells, ground storage tanks and pump stations
- Continue to construct surface water transmission lines to provide a reliable surface water supply for Houston and surrounding water authorities and communities

Project Allocation	Fiscal Year Planned Appropriations					2017-2021
	2017	2018	2019	2020	2021	
Planning						
Acquisition-Land	6,274	6,164	6,274	500	500	19,712
Design	147,562	88,244	21,317	30,772	15,569	303,464
Construction	235,612	570,297	961,688	252,102	176,358	2,196,057
Equipment Acquisition	3,135	2,869	2,950	2,950	3,750	15,654
Salary Recovery						
Other	173,786	864	-1,410	-3,069	-3,936	166,235
Total Allocation	566,369	668,438	990,819	283,255	192,241	2,701,121
Source of Funds						
4042 - Street & Trfc Control & Strm Drain DDSRF						
8319 - PWE-W & S Contributed CAP					56,500	56,500
8500 - PWE-W&S Syst Consolidated Constr Fd	179,741	185,000	182,507	157,079	135,741	840,068
Proposed TWDB (8319)	222,975	45,109	160,801	7,502		436,387
Proposed TWDB (8500)	3,135					3,135
Prop W&S Cap (8319)	134,561	438,329	647,511	97,664		1,318,065
Prop W&S Cap (8500)	2,121					2,121
TWDB Water Auth 8319	23,836			21,010		44,846
Total Funds	566,369	668,438	990,819	283,255	192,241	2,701,121

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2017-2021 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project	Fiscal Year Planned Appropriations					2017-2021
		2017	2018	2019	2020	2021	
S-000012	Southeast Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	13,000	7,000	6,392	6,250		32,642
	Project Total	13,000	7,000	6,392	6,250		32,642
S-000019	Emergency Needs for Water Utility						
	8500 - PWE-W&S Syst Consolidated Constr Fd	625	300	500	500	500	2,425
	Project Total	625	300	500	500	500	2,425
S-000020	Miscellaneous Water Needs						
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,025	7,120	785	120	170	10,220
	Project Total	2,025	7,120	785	120	170	10,220
S-000035	Neighborhood Water Main Replacement						
	8500 - PWE-W&S Syst Consolidated Constr Fd	26,455	33,444	17,347		4,000	81,245
	Project Total	26,455	33,444	17,347		4,000	81,245
S-000056	East Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	16,261	26,643	19,900	10,525	5,420	78,749
	Project Total	16,261	26,643	19,900	10,525	5,420	78,749
S-000065	NE Water Purification Plant Expansion						
	8500 - PWE-W&S Syst Consolidated Constr Fd	3,300	2,834	30,276	330		36,740
	Proposed TWDB (8319)	13,199	11,337	121,105	1,321		146,962
	Prop W&S Cap (8319)	86,623	340,586	587,722	8,670		1,023,601
	Project Total	103,122	354,757	739,103	10,321		1,207,303
S-000066	Northeast Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	34,021	12,013	13,478	13,478		72,990
	Prop W&S Cap (8319)	21,914	5,009	9,522	9,522		45,967
	Prop W&S Cap (8500)	2,121					2,121
	Project Total	58,056	17,022	23,000	23,000		121,078

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2017-2021 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project						2017-2021	
		2017	2018	2019	2020	2021		
S-000067	Luce Bayou Inter-Basin Transfer							
	8500 - PWE-W&S Syst Consolidated Constr Fd	17,483					17,483	
	Proposed TWDB (8319)	194,280					194,280	
	Project Total	211,763					211,763	
S-000100	New / Replacement Ground Water Wells							
	8500 - PWE-W&S Syst Consolidated Constr Fd	40	4,740	40	5,285	40	10,145	
	Project Total	40	4,740	40	5,285	40	10,145	
S-000101	Pre-Engineering for Water Projects							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,000					2,000	
	Project Total	2,000					2,000	
S-00019A	S Land Acquisition							
	8500 - PWE-W&S Syst Consolidated Constr Fd	500	390	500	500	500	2,390	
	Project Total	500	390	500	500	500	2,390	
S-000200	Water Well Renewal Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	3,570	4,165	3,690	4,305	3,690	19,420	
	Project Total	3,570	4,165	3,690	4,305	3,690	19,420	
S-000500	Water Improvements under M/N							
	8500 - PWE-W&S Syst Consolidated Constr Fd	20,977	6,769	1,589		1,871	31,206	
	Project Total	20,977	6,769	1,589		1,871	31,206	
S-000521	Water Main Replacement by Other Govt							
	8500 - PWE-W&S Syst Consolidated Constr Fd		100				100	
	Project Total		100				100	
S-000536	Plant Decommission Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	500					500	
	Project Total	500					500	

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2017-2021 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2017-2021	
		2017	2018	2019	2020	2021		
S-000600	Water Storage Tank Rehabilitation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	16,440	5,500	5,000	5,000	4,000	35,940	
	Project Total	16,440	5,500	5,000	5,000	4,000	35,940	
S-000700-A	Water Main Grid Extensions Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	4,330	7,000	2,971		3,000	17,301	
	Project Total	4,330	7,000	2,971		3,000	17,301	
S-000701	Lg Diameter Water Line Rehab							
	8500 - PWE-W&S Syst Consolidated Constr Fd	7,144	4,307	7,797	9,141	800	29,189	
	Project Total	7,144	4,307	7,797	9,141	800	29,189	
S-000702	Valve Replacement & Installation Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,180	2,220	2,000	2,300	2,000	10,700	
	Project Total	2,180	2,220	2,000	2,300	2,000	10,700	
S-000890	Lake Houston Water Supply Projects							
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,500	10,000	10,000	10,000	32,500	
	Project Total		2,500	10,000	10,000	10,000	32,500	
S-000900	Surface Water Transmission Program							
	4042 - Street & Trfc Control & Strm Drain DDSRF			3,499	3,569	5,807	12,875	
	8319 - PWE-W & S Contributed CAP					56,500	56,500	
	8500 - PWE-W&S Syst Consolidated Constr Fd	44,236	38,807	50,570	47,589	85,250	266,452	
	Proposed TWDB (8319)	15,496	33,772	39,696	6,181		95,145	
	Prop W&S Cap (8319)	26,024	92,734	50,267	79,472		248,497	
	TWDB Water Auth 8319	23,836			21,010		44,846	
	Project Total	109,592	165,313	144,032	157,821	147,557	724,315	

WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2017-2021 CAPITAL IMPROVEMENT PLAN (\$ Thousands)

CIP No.	Project						2017-2021	
		2017	2018	2019	2020	2021		
S-000901	Condition Assessment and Rehabilitation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	195	7,201		7,506		14,902	
	Project Total	195	7,201		7,506		14,902	
S-000902	Raw Water Transmission Lines							
	8500 - PWE-W&S Syst Consolidated Constr Fd		6,301				6,301	
	Project Total		6,301				6,301	
S-000956	Automatic Meter Reading Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd		669	750	750	750	2,919	
	Proposed TWDB (8500)	635					635	
	Project Total	635	669	750	750	750	3,554	
S-000958	Meter Replacement & Upgrade Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd		2,200	2,200	2,200	3,000	9,600	
	Proposed TWDB (8500)	2,500					2,500	
	Project Total	2,500	2,200	2,200	2,200	3,000	12,100	
S-001000	Pump Station Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	22,465	8,340	6,476	31,050	10,500	78,831	
	Project Total	22,465	8,340	6,476	31,050	10,500	78,831	
S-002015	Water Substitute Service Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,448	742	246	250	250	2,936	
	Project Total	1,448	742	246	250	250	2,936	
S-NA0000	Water Contingencies							
	4042 - Street & Trfc Control & Strm Drain DDSRF			-3,499	-3,569	-5,807	-12,875	
	8500 - PWE-W&S Syst Consolidated Constr Fd	-59,454	-6,305				-65,759	
	Project Total	-59,454	-6,305	-3,499	-3,569	-5,807	-78,634	
	Total Appropriations:	566,369	668,438	990,819	283,255	192,241	2,701,121	



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