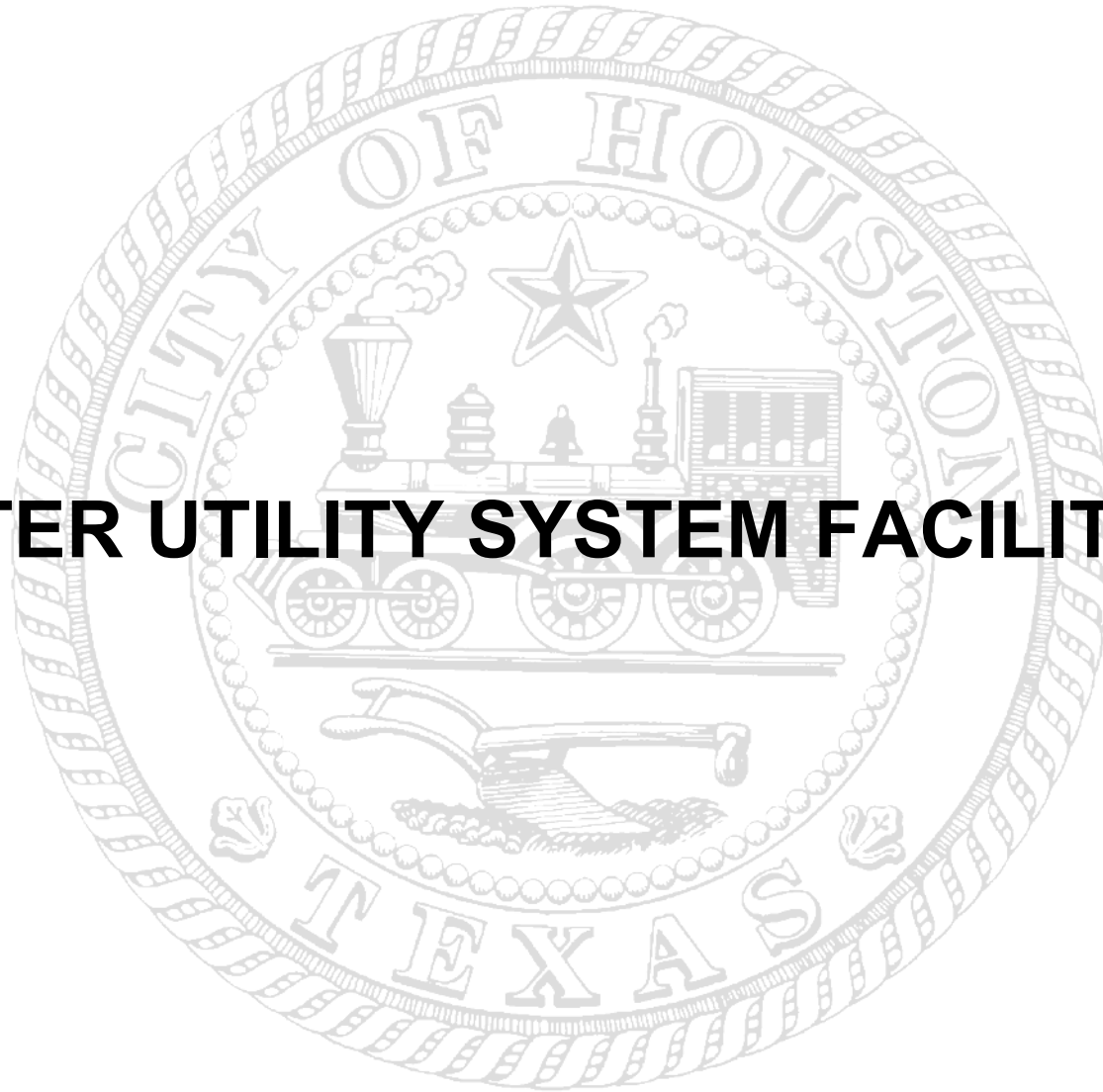


WATER UTILITY SYSTEM FACILITIES



Water Utility System

The Water Utility System (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 FY2016 – 2020 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					2016-2020
	2016	2017	2018	2019	2020	
Planning						
Acquisition-Land	7,900	4,274	390	500	500	13,564
Design	52,415	132,667	53,213	18,362	24,613	281,270
Construction	221,677	135,509	497,802	897,582	213,669	1,966,239
Equipment Acquisition	3,031	2,835	2,869	3,750	3,250	15,735
Salary Recovery						
Other	78,161	235,938	26,478	27,400	35,805	403,782
Total Allocation	363,184	511,223	580,752	947,594	277,837	2,680,590
Source of Funds						
8500 - PWE-W&S Syst Consolidated Constr Fd	193,941	160,208	162,401	175,272	173,438	865,260
Proposed TWDB	82,152	220,399	31,985	140,154	14,734	489,424
Proposed TWDB (8500)	10,461	12,600	5,869	6,089		35,019
Proposed W&S Ctr Cap	76,630	118,016	380,497	626,079	89,665	1,290,887
Total Funds	363,184	511,223	580,752	947,594	277,837	2,680,590

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project	Fiscal Year Planned Appropriations					2016-2020
		2016	2017	2018	2019	2020	
S-000012	Southeast Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,500	8,000		14,525	6,250	30,275
	Project Total	1,500	8,000		14,525	6,250	30,275
S-000019	Emergency Needs for Water Utility						
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,000	1,000	690	1,000	1,000	4,690
	Project Total	1,000	1,000	690	1,000	1,000	4,690
S-000020	Miscellaneous Water Needs						
	8500 - PWE-W&S Syst Consolidated Constr Fd	120	715	120	735	120	1,810
	Project Total	120	715	120	735	120	1,810
S-000035	Neighborhood Water Main Replacement						
	8500 - PWE-W&S Syst Consolidated Constr Fd	3,960	4,842	4,108	8,234	4,256	25,400
	Proposed TWDB (8500)	7,430	9,765	5,869	6,089		29,153
	Project Total	11,390	14,607	9,977	14,323	4,256	54,553
S-000056	East Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	20,817	16,261	20,361	30,151		87,590
	Project Total	20,817	16,261	20,361	30,151		87,590
S-000065	NE Water Purification Plant Expansion						
	8500 - PWE-W&S Syst Consolidated Constr Fd	330	3,300	2,834	30,276	330	37,070
	Proposed TWDB	1,319	13,199	11,337	121,105	1,321	148,281
	Proposed W&S Ctr Cap	8,653	86,623	340,586	587,722	8,670	1,032,254
	Project Total	10,302	103,122	354,757	739,103	10,321	1,217,605
S-000066	Northeast Water Purification Plant						
	8500 - PWE-W&S Syst Consolidated Constr Fd	31,181		7,091	9,010	9,156	56,438
	Proposed W&S Ctr Cap	21,307		5,009	6,365	6,469	39,150
	Project Total	52,488		12,100	15,375	15,625	95,588

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2016-2020	
		2016	2017	2018	2019	2020		
S-000067	Luce Bayou Inter-Basin Transfer							
	8500 - PWE-W&S Syst Consolidated Constr Fd		17,483				17,483	
	Proposed TWDB	57,654	194,280				251,934	
	Project Total	57,654	211,763				269,417	
S-000100	New / Replacement Ground Water Wells							
	8500 - PWE-W&S Syst Consolidated Constr Fd	4,676	5,500	40	5,686	40	15,942	
	Project Total	4,676	5,500	40	5,686	40	15,942	
S-000101	Pre-Engineering for Water Projects							
	8500 - PWE-W&S Syst Consolidated Constr Fd	460			484		944	
	Project Total	460			484		944	
S-000200	Water Well Renewal Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	575	3,570	595	3,690	615	9,045	
	Project Total	575	3,570	595	3,690	615	9,045	
S-000500	Water Improvements under M/N							
	8500 - PWE-W&S Syst Consolidated Constr Fd	17,257	21,966	24,178	24,600	33,300	121,301	
	Project Total	17,257	21,966	24,178	24,600	33,300	121,301	
S-000521	Water Main Replacement by Other Govt							
	8500 - PWE-W&S Syst Consolidated Constr Fd	950	1,000	1,000	1,000	1,000	4,950	
	Project Total	950	1,000	1,000	1,000	1,000	4,950	
S-000600	Water Storage Tank Rehabilitation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,700	10,459	500	6,150	5,000	23,809	
	Project Total	1,700	10,459	500	6,150	5,000	23,809	
S-000700-A	Water Main Grid Extensions Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,081	2,708		2,710		7,499	
	Project Total	2,081	2,708		2,710		7,499	

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2016-2020	
		2016	2017	2018	2019	2020		
S-000701	Lg Diameter Water Line Rehab							
	8500 - PWE-W&S Syst Consolidated Constr Fd	10,656		12,900		11,789	35,345	
	Project Total	10,656		12,900		11,789	35,345	
S-000702	Valve Replacement & Installation Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,140	2,180	2,220		2,300	8,840	
	Project Total	2,140	2,180	2,220		2,300	8,840	
S-000800	Sponsor Participation-Water Mains Prog.							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,000	709	1,000	1,000	1,000	4,709	
	Project Total	1,000	709	1,000	1,000	1,000	4,709	
S-000890	Lake Houston Water Supply Projects							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,500			10,000	15,000	27,500	
	Project Total	2,500			10,000	15,000	27,500	
S-000900	Surface Water Transmission Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	60,708	41,098	68,319	7,949	44,890	222,964	
	Proposed TWDB	23,179	12,920	20,648	19,049	13,413	89,209	
	Proposed W&S Ctr Cap	46,642	31,207	34,678	31,992	73,028	217,547	
	Project Total	130,529	85,225	123,645	58,990	131,331	529,720	
S-000901	Condition Assessment and Rehabilitation							
	8500 - PWE-W&S Syst Consolidated Constr Fd	67	696	6,784		7,576	15,123	
	Proposed W&S Ctr Cap	28	186	224		1,498	1,936	
	Project Total	95	882	7,008		9,074	17,059	
S-000902	Raw Water Transmission Lines							
	8500 - PWE-W&S Syst Consolidated Constr Fd		6,301				6,301	
	Project Total		6,301				6,301	

**WATER UTILITY SYSTEM FACILITIES - Summary of Funds
2016-2020 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2016-2020	
		2016	2017	2018	2019	2020		
S-000936	Well Collection Line and Flow Meters							
	8500 - PWE-W&S Syst Consolidated Constr Fd	3,793						3,793
	Project Total	3,793						3,793
S-000956	Automatic Meter Reading Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd			669	750	750		2,169
	Proposed TWDB (8500)	600	635					1,235
	Project Total	600	635	669	750	750		3,404
S-000958	Meter Replacement & Upgrade Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd			2,200	3,000	2,500		7,700
	Proposed TWDB (8500)	2,431	2,200					4,631
	Project Total	2,431	2,200	2,200	3,000	2,500		12,331
S-001000	Pump Station Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	23,565	12,182	6,050	13,776	26,311		81,884
	Project Total	23,565	12,182	6,050	13,776	26,311		81,884
S-002015	Water Substitute Service Program							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,105	238	742	246	250		3,581
	Project Total	2,105	238	742	246	250		3,581
S-NA0000	Water Contingencies							
	8500 - PWE-W&S Syst Consolidated Constr Fd	800			300	5		1,105
	Project Total	800			300	5		1,105
	Total Appropriations:	363,184	511,223	580,752	947,594	277,837		2,680,590



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