

The seal of the City of Houston, Texas, is a circular emblem. It features a central five-pointed star above a steam locomotive. Below the locomotive is a plow. The words "CITY OF HOUSTON" are inscribed in an arc at the top, and "TEXAS" is inscribed at the bottom. The entire seal is rendered in a light gray, semi-transparent style.

# **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
<b>Total Allocation</b>	<b>676,386</b>	<b>1,088,882</b>	<b>282,048</b>	<b>189,010</b>	<b>157,382</b>	<b>2,393,707</b>
<b>Source of Funds</b>						
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
<b>Total Funds</b>	<b>676,386</b>	<b>1,088,882</b>	<b>282,048</b>	<b>189,010</b>	<b>157,382</b>	<b>2,393,707</b>

**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	
<b>S-000012</b>	<b>Southeast Water Purification Plant</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd	7,126	251	10,643	9,234		27,254
	<b>Project Total</b>	7,126	251	10,643	9,234		27,254
<b>S-000019</b>	<b>Emergency Needs for Water Utility</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd	305	311	318	540	551	2,026
	<b>Project Total</b>	305	311	318	540	551	2,026
<b>S-000020</b>	<b>Miscellaneous Water Needs</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd	122	1,022	127	184		1,455
	<b>Project Total</b>	122	1,022	127	184		1,455
<b>S-000035</b>	<b>Neighborhood Water Main Replacement</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd	23,595	6,496	6,786	30,581	29,288	96,746
	<b>Project Total</b>	23,595	6,496	6,786	30,581	29,288	96,746
<b>S-000056</b>	<b>East Water Purification Plant</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd	14,907	20,656	27,031	5,854		68,447
	<b>Project Total</b>	14,907	20,656	27,031	5,854		68,447
<b>S-000065</b>	<b>NE Water Purification Plant Expansion</b>						
	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
	<b>Project Total</b>	361,143	767,189	10,930			1,139,261
<b>S-000066</b>	<b>Northeast Water Purification Plant</b>						
	8500 - PWE-W&S Syst Consolidated Constr Fd		9,342	6,884			16,226
	<b>Project Total</b>		9,342	6,884			16,226

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2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

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

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2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project						2018-2022	
		2018	2019	2020	2021	2022		
<b>S-000701</b>	<b>Lg Diameter Water Line Rehab</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,696	6,756	11,645	4,838	4,055	29,991	
	<b>Project Total</b>	2,696	6,756	11,645	4,838	4,055	29,991	
<b>S-000702</b>	<b>Valve Replacement &amp; Installation Program</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,260	2,076	2,436	2,160		8,932	
	<b>Project Total</b>	2,260	2,076	2,436	2,160		8,932	
<b>S-000800</b>	<b>Sponsor Participation-Water Mains Prog.</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,527	1,038	1,059	2,160	2,204	7,988	
	<b>Project Total</b>	1,527	1,038	1,059	2,160	2,204	7,988	
<b>S-000890</b>	<b>Lake Houston Dam Projects</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	2,545		10,590	10,800	11,020	34,955	
	<b>Project Total</b>	2,545		10,590	10,800	11,020	34,955	
<b>S-000894</b>	<b>San Jacinto River Authority</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	1,731	606	1,377	427	840	4,980	
	<b>Project Total</b>	1,731	606	1,377	427	840	4,980	
<b>S-000900</b>	<b>Surface Water Transmission Program</b>							
	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	
	<b>Project Total</b>	200,404	235,069	159,596	57,440	61,759	714,267	
<b>S-000901</b>	<b>Condition Assessment and Rehabilitation</b>							
	8500 - PWE-W&S Syst Consolidated Constr Fd	7,015		5,646			12,661	
	<b>Project Total</b>	7,015		5,646			12,661	

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2018-2022 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

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



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