

# WASTEWATER TREATMENT FACILITIES



# Wastewater Treatment System

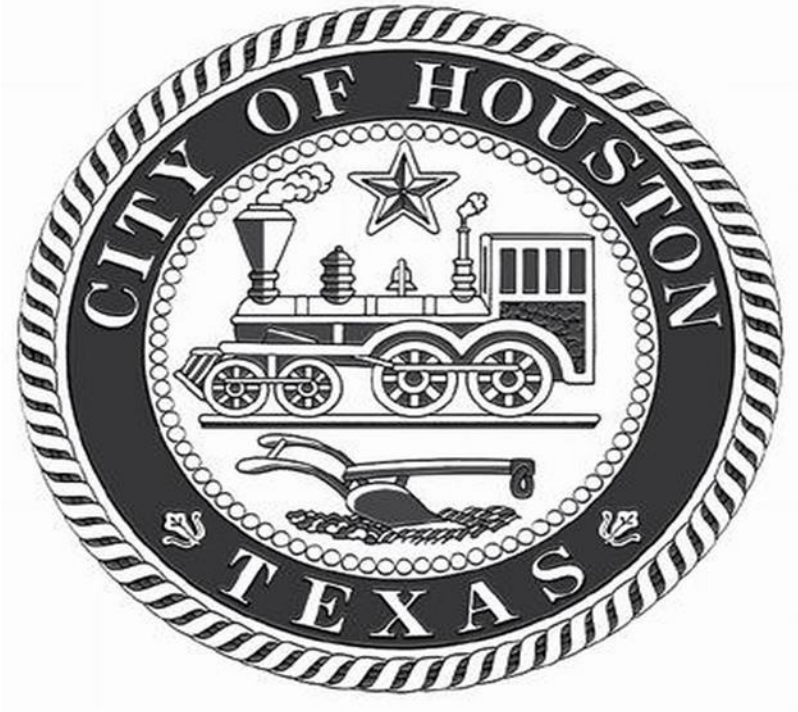
The Wastewater Treatment System (System) collects, conveys and processes wastewater from an estimated 3 million people, generated in a service area, which includes the City of Houston, several municipalities and unincorporated communities in the Houston metropolitan area. The system consists of over 6,200 miles of sanitary sewer lines, 325 miles of wastewater pressure force mains, over 383 sanitary lift stations and 40 wastewater treatment plants. The average daily wastewater flow through the system is estimated at 250 million gallons per day (MGD). As reflected by state permits, the effective treatment capacity of the system is 564 MGD.

The program of improvements provides for the continued upgrade of the System and compliance with the regulations issued by the Texas Commission on Environmental Quality (TCEQ) and the U.S. Environmental Protection Agency (EPA).

The Capital Improvement Plan (CIP) provides an estimate of delivery by fiscal year for the next five years. The FY2019-2023 CIP includes approximately \$1.1 billion of Wastewater Treatment System improvements financed by a combination of pay-as-you-go and revenue bonds.

## Highlights of the Fiscal Year 2019 - 2023 Adopted CIP include:

- A robust asset management program to maintain and extend service life of facilities including:
  - Rehabilitate neighborhood sewers to improve service, remove excessive infiltration, prevent sanitary sewer overflows and eliminate sewage backups
  - Renew and rehabilitate the citywide force main system and various lift stations
  - Upgrade, rehabilitate or renew various wastewater treatment plants
  - Evaluate and rehabilitate large diameter sewers
- Long Range Planning to evaluate consolidation of lift stations and/or wastewater treatment plants.



Project Allocation	Fiscal Year Planned Appropriations					2019-2023
	2019	2020	2021	2022	2023	
Planning						
Acquisition-Land						
Design	15,559	9,856	3,584	4,466	1,336	34,802
Construction	189,124	204,626	220,595	199,069	229,439	1,042,852
Equipment Acquisition						
Salary Recovery						
Other	4,309	8,272	3,522	3,564	3,608	23,275
<b>Total Allocation</b>	<b>208,992</b>	<b>222,754</b>	<b>227,701</b>	<b>207,099</b>	<b>234,383</b>	<b>1,100,928</b>
<b>Source of Funds</b>						
8500 - HPW-W&S Syst Consolidated Constr Fd	208,992	222,754	227,701	207,099	234,383	1,100,928
<b>Total Funds</b>	<b>208,992</b>	<b>222,754</b>	<b>227,701</b>	<b>207,099</b>	<b>234,383</b>	<b>1,100,928</b>

Some projects in this section are related to the impact of Hurricane Harvey DR4332 and it is the City's intent to seek reimbursement from the Federal Emergency Management Agency (FEMA) and any other eligible sources for such expenditures, with the FEMA share being 90% of eligible costs.

**WASTEWATER TREATMENT FACILITIES - Summary of Funds**  
**2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project		Fiscal Year Planned Appropriations					2019-2023	
			2019	2020	2021	2022	2023		
<b>R-000019</b>	<b>Emergency Needs for Wastewater Utility</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,020	1,040	1,061	1,082	1,104	5,307	
	<b>Project Total</b>		1,020	1,040	1,061	1,082	1,104	5,307	
<b>R-000020</b>	<b>Miscellaneous Needs for Public Utility</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		286	5,335	244	141	144	6,149	
	<b>Project Total</b>		286	5,335	244	141	144	6,149	
<b>R-000035</b>	<b>Wastewater Force Main Renewal</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		9,358	12,440	7,022	6,349	38,989	74,158	
	<b>Project Total</b>		9,358	12,440	7,022	6,349	38,989	74,158	
<b>R-000265</b>	<b>Wastewater Treatment Plant Improvements</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		3,117	31,315	54,493	4,328	19,872	113,126	
	<b>Project Total</b>		3,117	31,315	54,493	4,328	19,872	113,126	
<b>R-000266</b>	<b>Neighborhood Sewer Rehab Program</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		25,500	26,000	31,830	48,690	49,680	181,700	
	<b>Project Total</b>		25,500	26,000	31,830	48,690	49,680	181,700	
<b>R-000267</b>	<b>Lift Station Renewal &amp; Replacement</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		24,323	43,789	47,293	47,170	41,974	204,550	
	<b>Project Total</b>		24,323	43,789	47,293	47,170	41,974	204,550	
<b>R-000298</b>	<b>Almeda Sims Wastewater Treatment Plant</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd			12,126			1,325	13,451	
	<b>Project Total</b>			12,126			1,325	13,451	
<b>R-000500</b>	<b>WW Improvements under M/N</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		12,776	6,085	25,472	18,964	16,084	79,381	
	<b>Project Total</b>		12,776	6,085	25,472	18,964	16,084	79,381	

**WASTEWATER TREATMENT FACILITIES - Summary of Funds**  
**2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2019-2023	
			2019	2020	2021	2022	2023		
<b>R-000509</b>	<b>69th Street Wastewater Treatment Plant</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		19,857	9,360		4,328	11,040	44,585	
	<b>Project Total</b>		19,857	9,360		4,328	11,040	44,585	
<b>R-000521</b>	<b>Sewer Line Replacement by Other Govt</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		3,289	7,232	1,400	1,400	1,400	14,721	
	<b>Project Total</b>		3,289	7,232	1,400	1,400	1,400	14,721	
<b>R-000536</b>	<b>Wastewater Treatment Plant Consolidation</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		77,142	23,686	44,562	9,738	49,459	204,587	
	<b>Project Total</b>		77,142	23,686	44,562	9,738	49,459	204,587	
<b>R-000800</b>	<b>Collection System-Sponsor Participation</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,020	1,040	2,122	2,164	2,208	8,554	
	<b>Project Total</b>		1,020	1,040	2,122	2,164	2,208	8,554	
<b>R-000801</b>	<b>Sewer Service to Unserved Areas</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		11,829					11,829	
	<b>Project Total</b>		11,829					11,829	
<b>R-002011</b>	<b>Neighborhood Sewer Systems Improvements</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		7,745	30,461		49,382		87,588	
	<b>Project Total</b>		7,745	30,461		49,382		87,588	
<b>R-002013</b>	<b>Large Diameter Sewer (LDS) Rehab</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		7,140	7,280	7,427	7,574		29,421	
	<b>Project Total</b>		7,140	7,280	7,427	7,574		29,421	
<b>R-002015</b>	<b>Wastewater Substitute Service Program</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		3,570	4,524	3,714	4,707		16,514	
	<b>Project Total</b>		3,570	4,524	3,714	4,707		16,514	

**WASTEWATER TREATMENT FACILITIES - Summary of Funds**  
**2019-2023 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2019-2023	
			2019	2020	2021	2022	2023		
<b>R-900001</b>	<b>Upgrades to 611 Walker Mech, Elect</b>								
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,020	1,040	1,061	1,082	1,104	5,307	
	<b>Project Total</b>		1,020	1,040	1,061	1,082	1,104	5,307	
<b>Total Appropriations:</b>			208,992	222,754	227,701	207,099	234,383	1,100,928	