



# STORM DRAINAGE SYSTEM

# Storm Drainage System

The Storm Drainage System Program designs and constructs drainage improvement projects in areas of the City with a demonstrated need of flood protection for Houston and its residents. The Storm Water Drainage System includes collection of rainfall runoff via roadside ditches and/or streets with underground pipe (storm sewer) and the conveyance of storm water via off-road channels and underground structures to a receiving system and detention structures designed manage the rate of flow into a receiving system. The receiving system can be a bayou, tributary channel, or another storm sewer. The program includes investments in channel and detention capacity made in partnership with the Harris County Flood Control District.

The Capital Improvement Plan (CIP) provides an estimate of delivery by fiscal year for the next five years. The FY2021-2025 CIP includes \$863 million for Storm Drainage System improvements funded primarily through drainage fees assessed on non-exempted benefitted property and a dedication of ad valorem revenue to the Dedicated Drainage and Street Renewal Fund (DDSRF). An additional \$86 million of Water and Wastewater improvements are planned to accompany Storm Drainage System projects.

The Storm Drainage System Program consists of the following major components:

**Capital Improvement Projects:**

- The City uses objective criteria to develop a ranked list of the highest priority need areas across the City and prioritize candidate storm drainage projects based on their benefits and costs. Projects are developed in accordance with the City's design criteria to convey 2-year rainfall events within the collection system (roadside ditch and/or storm sewer) and reduce the risk of structural flooding during 100-year storm events. Properties within special flood hazard areas or the 100-year flood zone will be protected from localized event flooding, but may not be protected from flooding related to inadequate level of service of the receiving system.

**Local Drainage Program (LDP) & Storm Water Action Team (SWAT) Projects:**

- These programs address localized storm water drainage system problems including inadequate level of service due to underground storm sewer capacity, roadside ditch grade deterioration and encroachments, inlet capacity, and/or structural failure of the storm sewer or outfall. Engineering and construction are accomplished by work order contracts in order to address these problems quickly and cost effectively. The FY2021-2025 CIP commits approximately \$148 million to these programs.

**Storm Drainage System Projects deferred to future CIPs:**

The following projects were previously listed in Adopted CIPs and will be prioritized for construction as additional funding is identified in future CIPs.

M-000247-0001	Nottingham and Yorkshire Area
M-410007-0001	Gulfway Terrace Sec 1 Area
M-410019-0001	Sharpstown Area 2
M-410021-0001	Pinewood Village 2
M-410022-0001	Garden Oaks and Shepherd Park (East)
M-410027-0002	Richmond Plaza 1 (North)
M-410036-0002	Spring Shadows Area

Project Allocation	Fiscal Year Planned Appropriations					2021-2025
	2021	2022	2023	2024	2025	
Planning						
Acquisition-Land		338	566			904
Design	13,327	17,844	11,711	10,000	8,000	60,882
Construction	244,876	85,496	74,273	121,316	93,419	619,380
Equipment Acquisition						
Salary Recovery						
Other	72,173	26,000	28,000	28,000	28,000	182,173
<b>Total Allocation</b>	<b>330,375</b>	<b>129,678</b>	<b>114,550</b>	<b>159,316</b>	<b>129,419</b>	<b>863,338</b>
<b>Source of Funds</b>						
4042 - DDSRF CAPITAL FUND-DRAINAGE CHARGE	96,194	98,428	88,550	107,601	102,808	493,581
4046 - DDSRF CAPITAL FUND-AD VALOREM TAX	17,804	20,250	15,000	40,715	16,611	110,380
4510 - Contribution for Capital Projects	60,883					60,883
5000 - Federal Government - Grant Funded	34,867	10,000	10,000	10,000	10,000	74,867
5430 - Federal State Local - HPW Pass thru DDSR	120,627	1,000	1,000	1,000		123,627
8500 - HPW-W&S Syst Consolidated Constr Fd						
<b>Total Funds</b>	<b>330,375</b>	<b>129,678</b>	<b>114,550</b>	<b>159,316</b>	<b>129,419</b>	<b>863,338</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 up to 90% of eligible costs.

**STORM DRAINAGE SYSTEM - Summary of Funds  
2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project		Fiscal Year Planned Appropriations					2021-2025
			2021	2022	2023	2024	2025	
<b>M-000288</b>	<b>Easthaven Blvd (Bryant to Ledge)</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		11,074				11,074	
	8500 - HPW-W&S Syst Consolidated Constr Fd		2,034				2,034	
	<b>Project Total</b>		<b>13,107</b>				<b>13,107</b>	
<b>M-000294</b>	<b>Cullen Drainage and Paving</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR					12,924	12,924	
	8500 - HPW-W&S Syst Consolidated Constr Fd					1,855	1,855	
	<b>Project Total</b>					<b>14,779</b>	<b>14,779</b>	
<b>M-000295</b>	<b>Scott Street Drainage and Paving</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR					10,277	10,277	
	8500 - HPW-W&S Syst Consolidated Constr Fd					1,267	1,267	
	<b>Project Total</b>					<b>11,543</b>	<b>11,543</b>	
<b>M-410002</b>	<b>Potomac &amp; Nantucket Area Drng and Paving</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR					13,201	13,201	
	8500 - HPW-W&S Syst Consolidated Constr Fd					3,001	3,001	
	<b>Project Total</b>					<b>16,202</b>	<b>16,202</b>	
<b>M-410005</b>	<b>Spring Shadows (North)</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR					14,785	14,785	
	<b>Project Total</b>					<b>14,785</b>	<b>14,785</b>	
<b>M-410006</b>	<b>Arlington Heights Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		7,530			10,297	17,827	
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX		5,250				5,250	
	8500 - HPW-W&S Syst Consolidated Constr Fd		4,798			4,918	9,716	
	<b>Project Total</b>		<b>17,578</b>			<b>15,215</b>	<b>32,793</b>	

**STORM DRAINAGE SYSTEM - Summary of Funds**  
**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025
			2021	2022	2023	2024	2025	
<b>M-410008</b>	<b>Freeway Manor South Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				11,338		11,338	
	8500 - HPW-W&S Syst Consolidated Constr Fd				1,444		1,444	
	<b>Project Total</b>				12,782		12,782	
<b>M-410010</b>	<b>Freeway Manor: North of Edgebrook</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				17,601		17,601	
	8500 - HPW-W&S Syst Consolidated Constr Fd				3,888		3,888	
	<b>Project Total</b>				21,489		21,489	
<b>M-410013</b>	<b>Melrose Park Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR					4,556	4,556	
	<b>Project Total</b>					4,556	4,556	
<b>M-410014</b>	<b>Wynnewood Acres Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR			8,018			8,018	
	<b>Project Total</b>			8,018			8,018	
<b>M-410015</b>	<b>Magnolia Park Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		9,363			7,121	8,199	24,683
	8500 - HPW-W&S Syst Consolidated Constr Fd		3,522			3,409	5,187	12,118
	<b>Project Total</b>		12,885			10,530	13,386	36,801
<b>M-410016</b>	<b>Westridge and Braes Terrace Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				7,342		7,342	
	8500 - HPW-W&S Syst Consolidated Constr Fd			11,063			11,063	
	<b>Project Total</b>			18,405			18,405	

**STORM DRAINAGE SYSTEM - Summary of Funds**  
**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025
			2021	2022	2023	2024	2025	
<b>M-410017</b>	<b>Garden Oaks and Shepherd Park (West)</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		21,869				21,869	
	8500 - HPW-W&S Syst Consolidated Constr Fd		4,340				4,340	
	<b>Project Total</b>		26,209				26,209	
<b>M-410019</b>	<b>Sharpstown Area 2</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		2,122				2,122	
	<b>Project Total</b>		2,122				2,122	
<b>M-410023</b>	<b>Richmond Plaza (South) Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		18,536				18,536	
	8500 - HPW-W&S Syst Consolidated Constr Fd		1,660				1,660	
	<b>Project Total</b>		20,196				20,196	
<b>M-410024</b>	<b>Southland Area</b>							
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX			12,291			12,291	
	8500 - HPW-W&S Syst Consolidated Constr Fd			1,362			1,362	
	<b>Project Total</b>			13,653			13,653	
<b>M-410025</b>	<b>Inwood Forest Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR	2,710	338	8,894			11,942	
	8500 - HPW-W&S Syst Consolidated Constr Fd			6,509			6,509	
	<b>Project Total</b>	2,710	338	15,403			18,451	
<b>M-410028</b>	<b>Westbury Area</b>							
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX				13,425		13,425	
	8500 - HPW-W&S Syst Consolidated Constr Fd				9,165		9,165	
	<b>Project Total</b>				22,590		22,590	

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**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025
			2021	2022	2023	2024	2025	
<b>M-410029</b>	<b>Chateau Forest West Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				6,479			6,479
	8500 - HPW-W&S Syst Consolidated Constr Fd				8,235			8,235
	<b>Project Total</b>				14,714			14,714
<b>M-410030</b>	<b>Fuqua 48 in STW</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR			201				201
	<b>Project Total</b>			201				201
<b>M-410031</b>	<b>72 In. SWT line Midtown/Montrose</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				1,467			1,467
	<b>Project Total</b>				1,467			1,467
<b>M-410032</b>	<b>West Alabama 72 in. SWT</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		519					519
	<b>Project Total</b>		519					519
<b>M-410033</b>	<b>Avalon Place</b>							
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX		2,804					2,804
	<b>Project Total</b>		2,804					2,804
<b>M-410035</b>	<b>Northside High School Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR			3,544	566			4,110
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX					16,611		16,611
	8500 - HPW-W&S Syst Consolidated Constr Fd					1,636		1,636
	<b>Project Total</b>		3,544	566		18,247		22,357
<b>M-410038</b>	<b>Central Park Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR				3,711			3,711
	<b>Project Total</b>		3,711					3,711

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**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025
			2021	2022	2023	2024	2025	
<b>M-410039</b>	<b>Cottage Grove East Area</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		6,691					6,691
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX		5,000					5,000
	8500 - HPW-W&S Syst Consolidated Constr Fd		7,030					7,030
	<b>Project Total</b>		18,721					18,721
<b>M-420126</b>	<b>Local Drainage Program (LDP)</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		12,233	12,000	12,000	12,000	12,000	60,233
	<b>Project Total</b>		12,233	12,000	12,000	12,000	12,000	60,233
<b>M-420HUD</b>	<b>CDBG Disaster Recovery Program</b>							
	5000 - Federal Government - Grant Funded		24,867					24,867
	<b>Project Total</b>		24,867					24,867
<b>M-430006</b>	<b>Storm Water Action Team (SWAT)</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		17,500	17,500	17,500	17,500	17,500	87,500
	<b>Project Total</b>		17,500	17,500	17,500	17,500	17,500	87,500
<b>M-430100</b>	<b>Pre-Engineering for Storm Water Drainage</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR			2,000		2,000		4,000
	<b>Project Total</b>			2,000		2,000		4,000
<b>M-430220</b>	<b>Project Mgmt. Incl. Testing &amp; Inspection</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		1,652	6,000	1,700	1,700	1,700	12,752
	<b>Project Total</b>		1,652	6,000	1,700	1,700	1,700	12,752
<b>M-430241</b>	<b>Stormwater Pump Station &amp; Flood Warning</b>							
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		1,000	1,000	1,000	1,000	1,000	5,000
	5430 - Federal State Local - HPW Pass thru DDSR		1,000	1,000	1,000	1,000		4,000
	<b>Project Total</b>		2,000	2,000	2,000	2,000	1,000	9,000

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**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025	
			2021	2022	2023	2024	2025		
<b>M-430296</b>	<b>Regional Stormwater Detention</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		7,355	2,355	2,355	2,355	17,355	31,775	
	4046 - DDSRF CAPITAL FUND-AD VALOREM TAX		10,000	15,000	15,000	15,000		55,000	
	5000 - Federal Government - Grant Funded		10,000	10,000	10,000	10,000	10,000	50,000	
	<b>Project Total</b>		<b>27,355</b>	<b>27,355</b>	<b>27,355</b>	<b>27,355</b>	<b>27,355</b>	<b>136,775</b>	
<b>M-430800</b>	<b>Developer Participation</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		1,000	1,000	3,000	3,000	3,000	11,000	
	<b>Project Total</b>		<b>1,000</b>	<b>1,000</b>	<b>3,000</b>	<b>3,000</b>	<b>3,000</b>	<b>11,000</b>	
<b>M-43E101</b>	<b>HMGP North Canal Project</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		13,844					13,844	
	4510 - Contribution for Capital Projects		55,377					55,377	
	5430 - Federal State Local - HPW Pass thru DDSR		54,492					54,492	
	<b>Project Total</b>		<b>123,713</b>					<b>123,713</b>	
<b>M-43HCFC</b>	<b>Harris County Flood Control Dist Agrmt</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		5,506					5,506	
	4510 - Contribution for Capital Projects		5,506					5,506	
	5430 - Federal State Local - HPW Pass thru DDSR		33,038					33,038	
	<b>Project Total</b>		<b>44,051</b>					<b>44,051</b>	
<b>M-450500</b>	<b>Storm Water Improvements Under R/S</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		10,699					10,699	
	5430 - Federal State Local - HPW Pass thru DDSR		32,097					32,097	
	<b>Project Total</b>		<b>42,796</b>					<b>42,796</b>	
<b>M-500001</b>	<b>Future Design</b>								
	4042 - DDSRF CAPITAL FUND-DRAINAGE CHAR		4,000	4,000	4,000	4,000	4,000	20,000	
	<b>Project Total</b>		<b>4,000</b>	<b>4,000</b>	<b>4,000</b>	<b>4,000</b>	<b>4,000</b>	<b>20,000</b>	

**STORM DRAINAGE SYSTEM - Summary of Funds**  
**2021-2025 CAPITAL IMPROVEMENT PLAN (\$ Thousands)**

CIP No.	Project							2021-2025		
			2021	2022	2023	2024	2025			
<b>M-NA0000</b>	<b>Funding Offset</b>									
	8500 - HPW-W&S Syst Consolidated Constr Fd		-10,552	-11,171	-27,467	-22,270	-14,862	-86,322		
	<b>Project Total</b>		-10,552	-11,171	-27,467	-22,270	-14,862	-86,322		
	<b>Total Appropriations:</b>		330,375	129,678	114,550	159,316	129,419	863,338		