Woodlands Project Summary - Water

San Jacinto River Authority - Woodlands Division

2021-2030 Projects

PAGE No.	PROJECT ID	PROJECT NAME	PREVIOUS BUDGET	2021 ESTIMATE	2022 ESTIMATE	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	2026 ESTIMATE	2027 ESTIMATE	2028 ESTIMATE	2029 ESTIMATE	2030 ESTIMATE	Total
5	WAEST1	Elevated Storage Tank No. 1 Rehabilitation	$ 39,438	$ 733,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 772,438
6	WA21WR	Water Well No. 23 Rehabilitation	$ -	$ 325,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 325,000
7	WA21WL	Water Line Renewal	$ -	$ 439,000	$ 3,813,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,252,000
8	WAEPSW	Enterprise Software	$ -	$ 125,000	$ 125,000	$ 125,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 375,000
9	WA23WR	Water Well Nos. 7 & 33 Rehabilitation	$ -	$ -	$ -	$ 424,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 424,000
10	WATCPL	Trade Center Water Line Loop to Harper's Landing	$ -	$ -	$ -	$ 511,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 511,000
11	WA23WL	Water Line Renewal	$ -	$ -	$ -	$ 619,000	$ 2,683,000	$ 2,750,000	$ -	$ -	$ -	$ -	$ -	$ 6,052,000
12	WA25WR	Water Well Nos. 9 & 19 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ 446,000	$ -	$ -	$ -	$ -	$ -	$ 446,000
13	WA25WL	Water Line Renewal	$ -	$ -	$ -	$ -	$ -	$ 750,000	$ 2,792,000	$ 2,834,000	$ -	$ -	$ -	$ 6,376,000
14	WA5GT2	Water Plant No. 5 Ground Storage Tank No. 2	$ -	$ -	$ -	$ -	$ -	$ 882,000	$ 4,927,000	$ -	$ -	$ -	$ -	$ 5,809,000
15	WAET5R	Elevated Storage Tank No. 5 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ 809,000	$ -	$ -	$ -	$ -	$ 809,000
16	WA27WL	Water Line Renewal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 773,000	$ 2,876,000	$ 2,919,000	$ -	$ 6,568,000
17	WA27WR	Water Well Nos. 5 & 29 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 459,000	$ -	$ -	$ -	$ 459,000
18	WA2GT1	Water Plant No. 2 Ground Storage Tank No. 1 Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 788,000	$ 4,399,000	$ -	$ -	$ 5,187,000
19	WAET7R	Elevated Storage Tank No. 7 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 619,000	$ -	$ -	$ 619,000
20	WAET3R	Elevated Storage Tank No. 3 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,205,000	$ -	$ 1,205,000
21	WA29WR	Water Well Nos. 11 & 27 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 473,000	$ -	$ 473,000
22	WAET4R	Elevated Storage Tank No. 4 Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 926,000	$ 926,000
23	WAWW40	Water Well No. 40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,426,000	$ 1,426,000
24	WA123A	Abandon Water Well Nos. 1, 2 and 3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 571,000	$ 571,000
	TOTALS		$ 39,438	$ 1,622,000	$ 3,938,000	$ 1,679,000	$ 2,683,000	$ 4,828,000	$ 8,528,000	$ 4,854,000	$ 7,894,000	$ 4,597,000	$ 2,923,000	$ 43,585,438

Woodlands Project Summary - Wastewater

San Jacinto River Authority - Woodlands Division

2021-2030 Projects

PAGE No.	PROJECT ID	PROJECT NAME	PREVIOUS BUDGET	2021 ESTIMATE	2022 ESTIMATE	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	2026 ESTIMATE	2027 ESTIMATE	2028 ESTIMATE	2029 ESTIMATE	2030 ESTIMATE	Total
25	WW19LS	Lift Station No. 13 Rehabilitation	$ 235,306	$ 1,905,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,140,306
26	WWP2DR	Wastewater Treatment Facility No. 2 Digester Nos. 1, 2 and 3 Rehab	$ 230,000	$ 1,270,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,500,000
27	WW02FR	WWTF No. 2 Tertiary Filter Improvements (2nd and 3rd Filter)	$ -	$ 917,000	$ 2,741,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,658,000
28	WW21LS	Lift Station Rehabilitation	$ -	$ 159,000	$ 245,000	$ 252,000	$ 259,000	$ 265,000	$ 268,000	$ 273,000	$ 277,000	$ 280,000	$ 286,000	$ 2,564,000
29	WW21FM	LS No. 8 Rehabilitation and Forcemain Replacement	$ -	$ 992,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 992,000
30	WW01CR	WWTF No. 1 Clarifier Rehabilitation	$ -	$ -	$ 264,000	$ 1,485,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,749,000
31	WWLSGN	Generators at Lift Stations	$ -	$ -	$ 245,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 245,000
32	WW22FM	Forcemain Renewal - LS Nos. 7 and 11	$ -	$ -	$ 123,000	$ 924,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,047,000
33	WWF3PW	WWTF No. 3 PPW Pressure System Rehabilitation	$ -	$ -	$ -	$ 364,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 364,000
34	WW23GR	Gravity Main Rehabilitation	$ -	$ -	$ -	$ 819,000	$ 6,156,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,975,000
35	WW23FM	Forcemain Renewal - LS Nos. 9, 10, & 21	$ -	$ -	$ -	$ 486,000	$ 3,652,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,138,000
36	WWP2HW	Wastewater Treatment Facility No. 2 Headworks Rehabilitation	$ -	$ -	$ -	$ 420,000	$ 2,367,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,787,000
37	WWP1EC	Wastewater Treatment Facility No. 1 Effluent Channel Rehabilitation	$ -	$ -	$ -	$ 910,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 910,000
38	WWF1LS	WWTF No. 1 Lift Station Rehabilitation	$ -	$ -	$ -	$ -	$ 566,000	$ 3,190,000	$ -	$ -	$ -	$ -	$ -	$ 3,756,000
39	WW2SCR	WWTF No. 2 Belt Press and Conveyor Replacement	$ -	$ -	$ -	$ -	$ 554,000	$ 3,123,000	$ -	$ -	$ -	$ -	$ -	$ 3,677,000
40	WW2HPF	2-Hour Peak Flow Projects	$ -	$ -	$ -	$ -	$ 574,000	$ 5,590,000	$ 15,825,000	$ 16,518,000	$ 9,689,000	$ 7,492,000	$ 3,486,000	$ 59,174,000
41	WW24FM	Forcemain Renewal - LS Nos. 1, 13, 14, & 19	$ -	$ -	$ -	$ -	$ 345,000	$ 2,588,000	$ -	$ -	$ -	$ -	$ -	$ 2,933,000
42	WW25GR	Gravity Main Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ 552,000	$ 4,105,000	$ -	$ -	$ -	$ -	$ 4,657,000
43	WWF1GN	WWTF No. 1 Generator Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ 174,000	$ 975,000	$ -	$ -	$ -	$ 1,149,000
44	WW27GR	Gravity Main Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 886,000	$ 6,598,000	$ -	$ -	$ 7,484,000
45	WW1D1R	WWTF No. 1 Digester No. 1 Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 276,000	$ 1,545,000	$ -	$ 1,821,000
46	WWP2BR	Wastewater Treatment Facility No. 2 Blower Replacement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,649,000	$ 1,649,000
47	WW02CR	WWTF No. 2 Clarifier Rehabilitation	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000	$ 2,000,000
48	WWP2BC	Wastewater Treatment Facility No. 2 Basin Coating	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,803,000	$ 3,803,000
	TOTALS		$ 465,306	$ 5,243,000	$ 3,618,000	$ 5,660,000	$ 14,473,000	$ 15,308,000	$ 20,372,000	$ 18,652,000	$ 16,840,000	$ 9,317,000	$ 11,224,000	$ 121,172,306

Woodlands Project Summary - TWDB Bond Fund

San Jacinto River Authority - Woodlands Division

2021 - 2030 Projects

PAGE No.	PROJECT ID	PROJECT NAME	PREVIOUS BUDGET	2021 ESTIMATE	2022 ESTIMATE	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	2026 ESTIMATE	2027 ESTIMATE	2028 ESTIMATE	2029 ESTIMATE	2030 ESTIMATE	Total
49	WWF1AB	WWTF No. 1 Replacement of Aeration Basin Nos. 1 and 2	$ 12,812,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,812,000
50	WW21GR	Gravity Main Rehabilitation	$ 644,423	$ 984,577	$ 9,187,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,816,000
	TOTALS		$ 13,456,423	$ 984,577	$ 9,187,000									$ 23,628,000

* WWF1AB (TWDB Bond Fund) and WW1AB (Capacity, 6th & Final Accounting, $2,037,000) projects are combined.

Woodlands Project Summary - Capacity

San Jacinto River Authority - Woodlands Division

2021 - 2030 Projects

PAGE No.	PROJECT ID	PROJECT NAME	PREVIOUS BUDGET	2021 ESTIMATE	2022 ESTIMATE	2023 ESTIMATE	2024 ESTIMATE	2025 ESTIMATE	2026 ESTIMATE	2027 ESTIMATE	2028 ESTIMATE	2029 ESTIMATE	2030 ESTIMATE	Total
51	WW1AB	WWTF No. 1 Aeration Basin Nos. 1 and 2 Capacity Increase	$ 2,037,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,037,000
	TOTALS		$ 2,037,000	$ -										$ 2,037,000

* WWF1AB (TWDB Bond Fund) and WW1AB (Capacity, 6th & Final Accounting, $2,037,000) projects are combined.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Elevated Storage Tank No. 1 Rehabilitation	WAEST1	2020-2021	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Elevated Storage Tank No. 1 is a 500,000 gallon tank and was constructed in 1977. Based on a Dunham Engineering report completed in 2013 and a follow-up inspection completed in 2019, it is recommended to completely replace the interior and exterior coating systems.

To protect the metal structure from corrosion and to extend the useful life of the tank, periodic protective coating system replacement is required. Interior coating systems meet their protective value in about 12-15 years and require system replacement in order to continue to provide adequate corrosion protection. The useful life of an exterior coating is expected to be 10-12 years depending on the type of paint and thickness applied.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	August 2019	☐ DBB	☐ O&M
PSA/WO Issued:	October 2019	☐ CMAR	☐ Bonds
Final Proposal Docs:	April 2020	☑ CSP	☑ R&R
Proposals/Bids Received:	June 2020	☐ Other	☐ Other
Constr. Contract to Board:	August 2020		
Substantial Completion:	March 2021	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 39,438	$ 39,438	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 666,000	$ -	$ 666,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 67,000	$ -	$ 67,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 772,438	$ 39,438	$ 733,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well No. 23 Rehabilitation	WA21WR	2021	The Woodlands

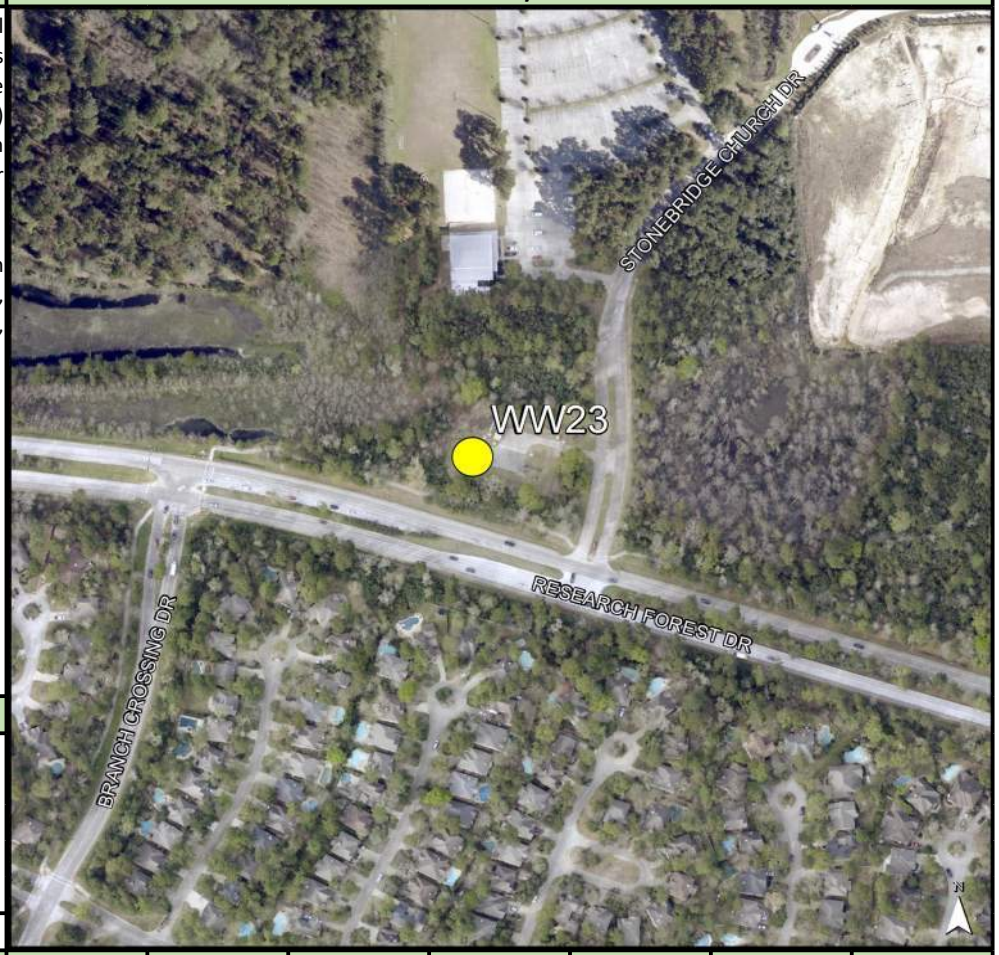
PROJECT DESCRIPTION/JUSTIFICATION:

The Woodlands began receiving treated surface water in 2015; however, peak water demands will continue to be met by existing ground water wells. Consequently, continued well rehabilitation is necessary in order to prolong service life, minimize risk of failure and reduce increased maintenance of the wells. SJRA completes an annual inspection of each water well to determine which well(s) may require rehabilitation. The targeted well(s) are compared to the long-term water production needs of The Woodlands, then evaluated based on the well retirement plan for rehabilitation or abandonment.

Water Well No. 23 has been identified for rehabilitation due to a sudden drop in performance which occurred in June 2019. A construction contract was assembled for an inspection of the water well, which took place in January 2020. Based upon the inspection, the column piping, shaft, oil tubing, and water measuring pipe require replacement, and the pump bowl assembly requires replacement.

No well lowering or capacity increase is planned.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	January 2021	☑ CSP	☑ R&R
Proposals/Bids Received:	March 2021	☐ Other	☐ Other
Constr. Contract to Board:	May 2021		
Substantial Completion:	October 2021	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 29,000	$ -	$ 29,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 293,000	$ -	$ 293,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 3,000	$ -	$ 3,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 325,000	$ -	$ 325,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Line Renewal	WA21WL	2021-2022	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The SJRA owns and maintains approximately 120 miles of potable water distribution lines 12-inches and larger diameter in the Woodlands. The existing distribution system contains 47 miles of asbestos cement (AC) lines. Approximately 20 miles of all water lines are more than 40 years old, and the majority of which are made of AC material. Industry asset management practices suggest that AC water lines have the higher frequency of failure, and average useful life of 50 years. Historically, SJRA has experienced on average 9 failures per year, and is trending upward. Due to the aging water distribution infrastructure and increasing rate of breaks, water line renewal is necessary to decrease repair frequencies, improve reliability to end-users and maintain requested level of service. This project is part of a phased asset management approach to continuously replace water lines in the system, with a plan to replace all AC water lines within the next 20 years. Other projects as described in WA23WL, WA25WL, and WA27WL will accomplish the goal of replacing all of the AC pipe in the system. The AC lines will be replaced with PVC or HDPE lines with an average expected useful life of more than 80 years.

Using the SJRA Asset Management Plan strategy, Likelihood of Failure, Consequence of Failure, and Mitigation Factors were used to score and prioritize replacement of the AC water lines. From this, approximately 14,000 linear feet (2.7 miles) of water main in the Grogan's Mill and Metro Center areas were identified for the first project scope. These segments include approximately 2,600 LF of 12-inch water line along Six Pines Drive, approximately 6,600 LF of 12-inch water line along Grogan's Mill Road, and approximately 5,000 LF of 12-inch water line along Lake Woodlands Drive. These locations include replacement of water lines under major roadway intersections including Grogan's Mill, Woodlands, Parkway, Lake Woodlands Drive, and Timberloch Place.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	June 2020	☐ DBB	☐ O&M
PSA/WO Issued:	August 2020	☐ CMAR	☐ Bonds
Final Proposal Docs:	April 2021	☑ CSP	☑ R&R
Proposals/Bids Received:	June 2021	☐ Other	☐ Other
Constr. Contract to Board:	August 2021		
Substantial Completion:	2023	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 101,000	$ -	$ 101,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 338,000	$ -	$ 338,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 3,466,000	$ -	$ -	$ 3,466,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 347,000	$ -	$ -	$ 347,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 4,252,000	$ -	$ 439,000	$ 3,813,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Enterprise Software	WAEPSW	2021-2023	The Woodlands

With software obsolescence and the changing paradigms over recent years as to the deployment of Enterprise Resource Planning (ERP) systems. It is time for the SJRA to evaluate our existing software. Some of the components will be reaching End of Life (EOL) in the near future and can no longer be updated or enhanced in our present deployment. This initial project will include a number of phases:

1. Initial Requirements Gathering (This includes the primary stakeholder's "Must Haves")
2. Review of interconnections and dependencies between the ERP and other enterprise software applications.
3. Evaluation of new technologies to meet the above-mentioned needs and provide additional functionality for improved productivity and enhanced workflows.
4. Investigation as to the best deployment methodology, i.e., On Premiss, Cloud AKA Software as a Service (SaaS), or a Hybrid Model.

Upon completion of the above steps we will engage Subject Matter Experts (Internal and External) to complete a robust Request for Proposal (RFP). This will allow us to provide a clear vision for the intended outcome as well as a more concise view of overall project costs. Financial considerations include an in-depth comparison of Total Cost of Ownership (TCO). An on-premises deployment has a greater up-front capital expenditure with lower ongoing maintenance costs. SaaS (Cloud) typically have lower costs to entry with higher recurring costs. The reservation of these funds will place us in good standing for a successful budgeted deployment.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	N/A	☐ CSP	☑ R&R
Proposals/Bids Received:	2021	☑ Other	☐ Other
Constr. Contract to Board:	N/A		
Substantial Completion:	2023	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ 375,000	$ -	$ 125,000	$ 125,000	$ 125,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 375,000	$ -	$ 125,000	$ 125,000	$ 125,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well Nos. 7 & 33 Rehabilitation	WA23WR	2023	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The Woodlands began receiving treated surface water in 2015, however, peak water demands will continue to be met by existing ground water wells. Consequently, continued well rehabilitation is necessary in order to prolong service life, minimize risk of failure and reduce increased maintenance of the wells. SJRA completes an semi-annual inspection of each water well to determine which well(s) may require rehabilitation. The targeted well(s) are compared to the long-term water production needs of The Woodlands, then evaluated based on the well retirement plan for rehabilitation or abandonment.

Based upon an evaluation of the 38 water wells, Well Nos. 7 and 33 are anticipated to have the need for rehabilitation based upon date of last previous rehabilitation and production capabilities. Rehabilitation of Well Nos. 7 and 33 will begin with an inspection of all well related equipment and a video of the well. Based upon the inspection, the project may include replacement of pump and well equipment; wire brushing the well screen section; jetting out and removing fill material from the bottom of the well; and performing acid chemical treatment of the well screen sections. Rehabilitation may also include adding gravel pack material to the well if needed.

No well lowering or capacity increase is planned.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2024	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 35,000	$ -	$ -	$ -	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 354,000	$ -	$ -	$ -	$ 354,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 35,000	$ -	$ -	$ -	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 424,000	$ -	$ -	$ -	$ 424,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Harper's Landing Water Line	WATCPL	2023	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The Village of Harper's Landing is located north of SH 242 and east of IH-45, and currently is served with potable water pumped from SJRA Water Plant No. 5, located on the west side of IH-45. Between the Trade Center Parkway/Harper's Landing Blvd. intersection and Elevated Storage Tank No. 7 (EST 7), only one water line exists that delivers the water to this neighborhood. In the event of the need for shut-down of this water line, Harper's Landing would have no source of potable water.

A 12-inch water line is proposed to be installed along Trade Center Parkway between Harper's Landing and EST 7, a distance of approximately 470 linear feet. This will complete the loop to the system which will provide another source of potable water to Harper's Landing. Due to multiple utilities in this area, and to minimize disturbance to the route, trenchless installation is proposed for construction.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2023	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2024	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 20,000	$ -	$ -	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 39,000	$ -	$ -	$ -	$ 39,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 392,000	$ -	$ -	$ -	$ 392,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 39,000	$ -	$ -	$ -	$ 39,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ 21,000	$ -	$ -	$ -	$ 21,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 511,000	$ -	$ -	$ -	$ 511,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Line Renewal	WA23WL	2023-2025	The Woodlands

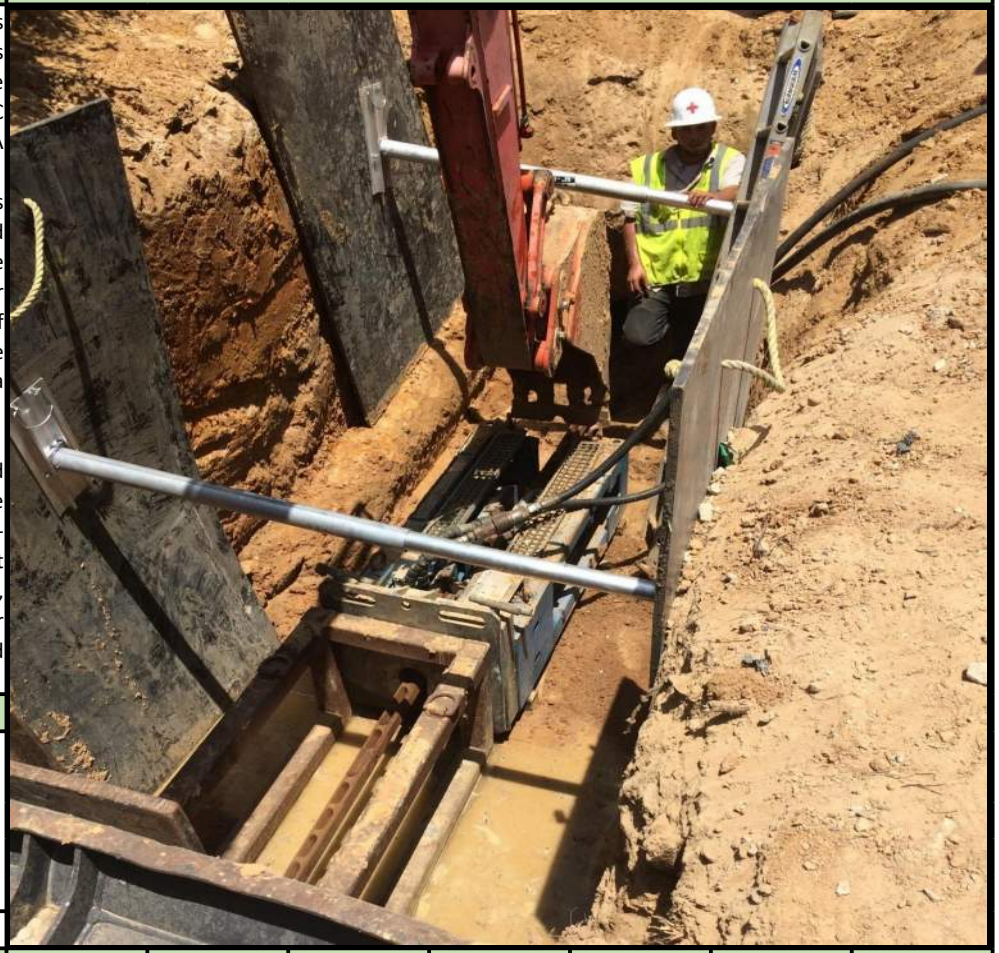
PROJECT DESCRIPTION/JUSTIFICATION:

The SJRA owns and maintains approximately 120 miles of potable water distribution lines 12-inches and larger diameter in the Woodlands. The existing distribution system contains 47 miles of asbestos cement (AC) lines. Approximately 20 miles of all water lines are more than 40 years old, and the majority of which are made of AC material. Industry asset management practices suggest that AC water lines have the higher frequency of failure, and average useful life of 50 years. Historically, SJRA has experienced on average 9 failures per year, and is trending upward.

Due to the aging water distribution infrastructure and increasing rate of breaks, water line renewal is necessary to decrease repair frequencies, improve reliability to end-users and maintain requested level of service. This project is part of a phased asset management approach to continuously replace water lines in the system, with a plan to replace all AC water lines within the next 20 years. Other projects as described in WA21WL, WA25WL, and WA27WL will accomplish the goal of replacing all of the AC pipe in the system. The AC lines will be replaced with PVC or HDPE lines with an average expected useful life of more than 80 years. This project includes replacing approximately three and a half (3.5) miles of AC pipelines throughout the Woodlands.

Using the SJRA Asset Management Plan strategy, Likelihood of Failure, Consequence of Failure, and Mitigation Factors were used to score and prioritize replacement of the AC water lines in the Woodlands Division System. From this, approximately 18,000 linear feet (3.4 miles) of 12 and 16-inch water mains in the Panther Creek and Metro Center areas were identified for the first project scope. Also, several 12-inch one-way feed AC water lines will be replaced in the Panther Creek, Metro Center and Trade Center villages. These locations include replacement of water lines under major roadway intersections including Gosling Rd., Woodlands, Parkway, Shadow Bend Place, and West Panther Creek Dr.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2023	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2024	☐ Other	☐ Other
Constr. Contract to Board:	2024		
Substantial Completion:	2025	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 143,000	$ -	$ -	$ -	$ 143,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 476,000	$ -	$ -	$ -	$ 476,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 4,939,000	$ -	$ -	$ -	$ -	$ 2,439,000	$ 2,500,000	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 494,000	$ -	$ -	$ -	$ -	$ 244,000	$ 250,000	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 6,052,000	$ -	$ -	$ -	$ 619,000	$ 2,683,000	$ 2,750,000	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well Nos. 9 & 19 Rehabilitation	WA25WR	2025	The Woodlands

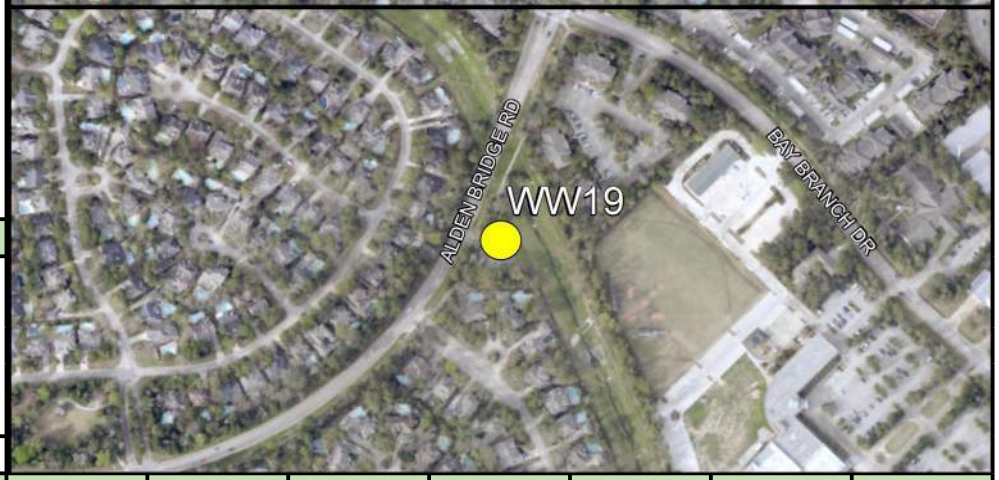
PROJECT DESCRIPTION/JUSTIFICATION:

The Woodlands began receiving treated surface water in 2015, however, peak water demands will continue to be met by existing ground water wells. Consequently, continued well rehabilitation is necessary in order to prolong service life, minimize risk of failure and reduce increased maintenance of the wells. SJRA completes an semi-annual inspection of each water well to determine which well(s) may require rehabilitation. The targeted well(s) are compared to the long-term water production needs of The Woodlands, then evaluated based on the well retirement plan for rehabilitation or abandonment.

Based upon an evaluation of the 38 water wells, Well Nos. 9 and 19 are anticipated to have the need for rehabilitation based upon date of last previous rehabilitation and production capabilities. Rehabilitation of Well Nos. 9 and 19 will begin with an inspection of all well related equipment and a video of the well. Based upon the inspection, the project may include replacement of pump and well equipment; wire brushing the well screen section; jetting out and removing fill material from the bottom of the well; and performing acid chemical treatment of the well screen sections. Rehabilitation may also include adding gravel pack material to the well if needed.

No well lowering or capacity increase is planned.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	2025	☑ CSP	☑ R&R
Proposals/Bids Received:	2025	☐ Other	☐ Other
Constr. Contract to Board:	2025		
Substantial Completion:	2026	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 37,000	$ -	$ -	$ -	$ -	$ -	$ 37,000	$ -	$ -	$ -	$ -	$ -
Construction	$ 372,000	$ -	$ -	$ -	$ -	$ -	$ 372,000	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 37,000	$ -	$ -	$ -	$ -	$ -	$ 37,000	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 446,000	$ -	$ -	$ -	$ -	$ -	$ 446,000	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

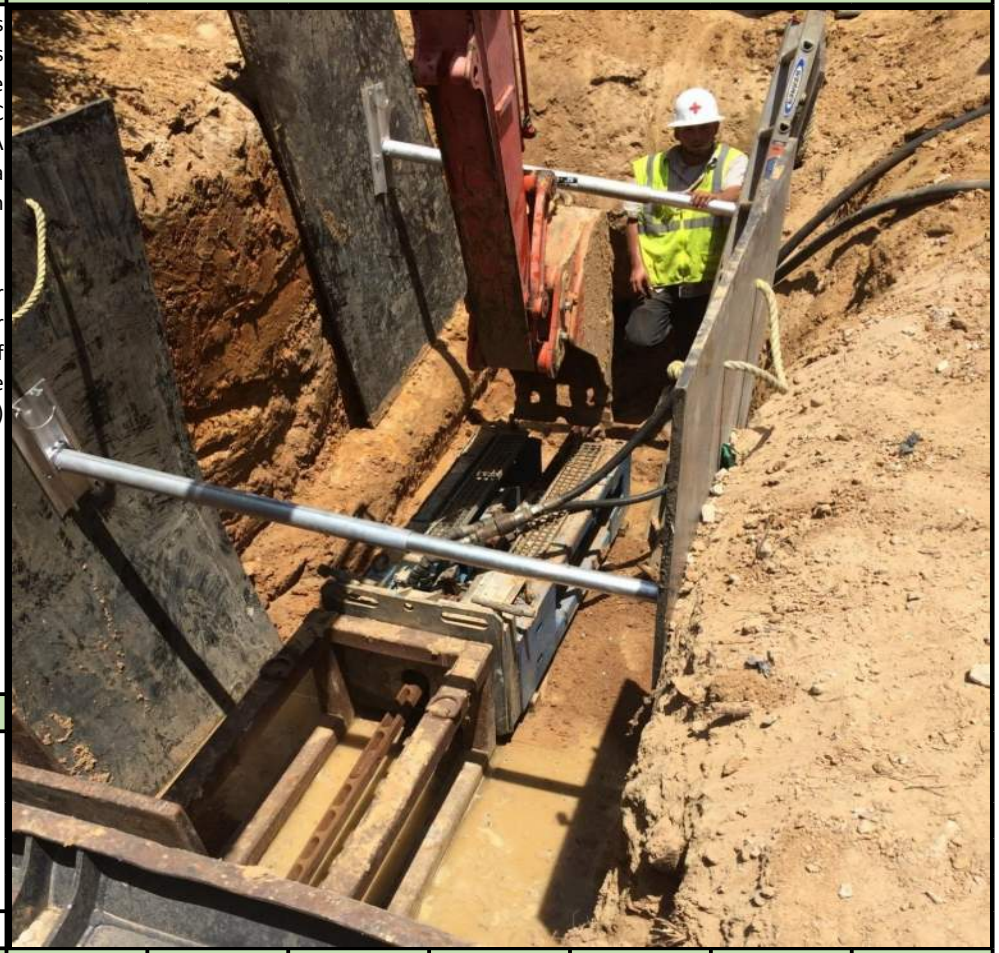
PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Line Renewal	WA25WL	2025-2027	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The SJRA owns and maintains approximately 120 miles of potable water distribution lines 12-inches and larger diameter in the Woodlands. The existing distribution system contains 47 miles of asbestos cement (AC) lines. Approximately 20 miles of all water lines are more than 40 years old, and the majority of which are made of AC material. Industry asset management practices suggest that AC water lines have the higher frequency of failure, and average useful life of 50 years. Historically, SJRA has experienced on average 9 failures per year, and is trending upward. This project is part of a phased asset management approach to continuously replace water lines in the system, with a plan to replace all AC water lines within the next 20 years.

This project is part of a phased asset management approach to continuously replace old AC water lines in the system, to ensure that all the AC lines are replaced within the next 20 years. Other projects as described in WA21WL, WA23WL, and WA27WL will accomplish the goal of replacing all of the AC pipe in the system. The AC lines will be replaced with PVC or HDPE lines with an average expected useful life of more than 80 years. This project includes replacing approximately four (4) miles of AC pipelines throughout the Woodlands.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2025	☐ DBB	☐ O&M
PSA/WO Issued:	2025	☐ CMAR	☐ Bonds
Final Proposal Docs:	2025	☑ CSP	☑ R&R
Proposals/Bids Received:	2026	☐ Other	☐ Other
Constr. Contract to Board:	2026		
Substantial Completion:	2027	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 250,000	$ -	$ -	$ -	$ -	$ -	$ 250,000	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ -	$ -
Construction	$ 5,114,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,538,000	$ 2,576,000	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 512,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 254,000	$ 258,000	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 6,376,000	$ -	$ -	$ -	$ -	$ -	$ 750,000	$ 2,792,000	$ 2,834,000	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Plant No. 5 Ground Storage Tank No. 2	WA5GT2	2025-2026	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

An additional Ground Storage Tank (GST) will be required at Water Plant No. 5 to provide additional storage capability. Water plants with only one tank cannot be kept in operation if the tank is out of service. Building a second tank will allow for continuous use of the water plant when maintenance or repairs are being made to either tank. Water Plant No. 5 currently serves the SH 242 / IH-45 area of The Woodlands, which includes multiple hospitals. This water plant has one ground storage tank, which when out of service for maintenance or repairs, would reduce water availability to this area as well as Harper's Landing. Construction of a second ground storage tank will allow for continued operations of the water plant when one tank is out of service.

The proposed GST No. 2 shall have a storage capacity of 2.0 million gallons, equal to GST No. 1. Two equally sized tanks will be sufficient to meet peak day demands, will simplify control settings, and will minimize call-to-run for surface water and ground water supplies, providing less wear on the supply facilities.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2025	☐ DBB	☐ O&M
PSA/WO Issued:	2025	☐ CMAR	☐ Bonds
Final Proposal Docs:	2025	☑ CSP	☐ R&R
Proposals/Bids Received:	2025	☐ Other	☑ Other
Constr. Contract to Board:	2026		Capacity
Substantial Completion:	2027	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 441,000	$ -	$ -	$ -	$ -	$ -	$ 441,000	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 441,000	$ -	$ -	$ -	$ -	$ -	$ 441,000	$ -	$ -	$ -	$ -	$ -
Construction	$ 4,479,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,479,000	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 448,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 448,000	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 5,809,000	$ -	$ -	$ -	$ -	$ -	$ 882,000	$ 4,927,000	$ -	$ -	$ -	$ -

*Budget includes contingency.

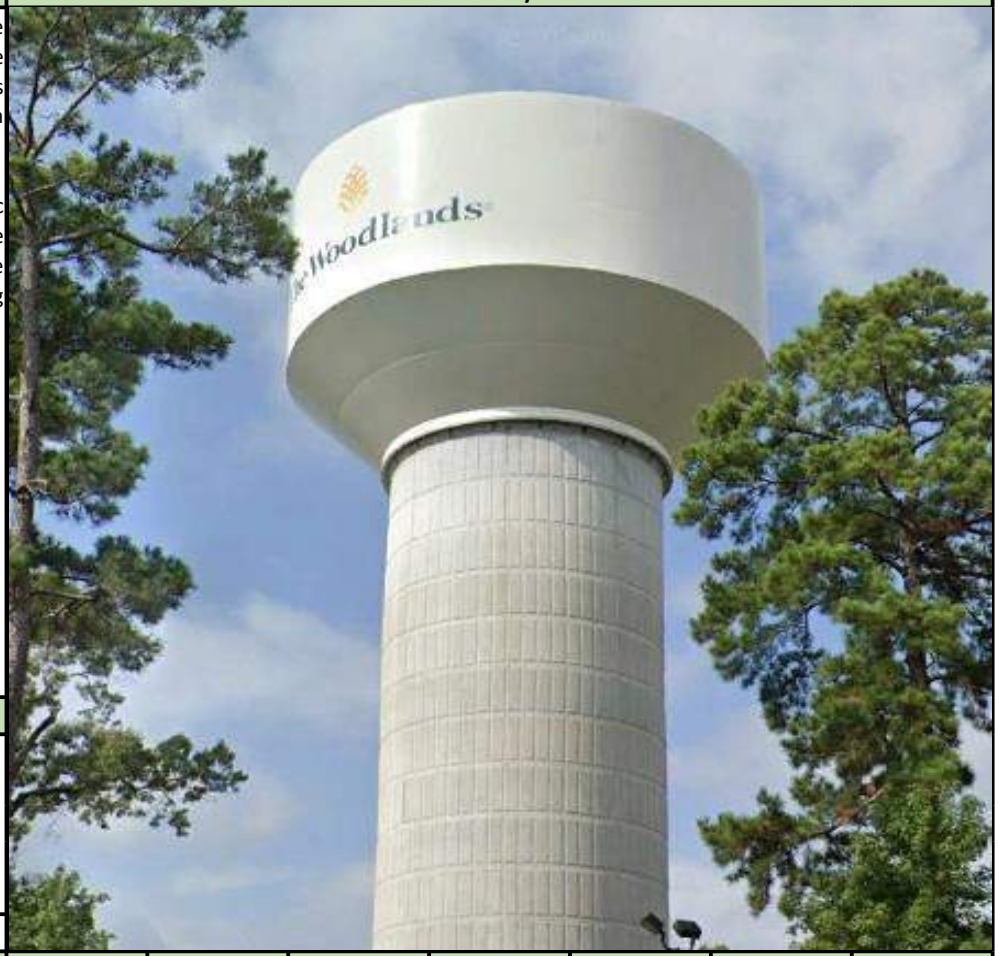
PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Elevated Storage Tank No. 5 Rehabilitation	WAET5R	2026	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Elevated Storage Tank No. 5 is a 1,000,000 gallon tank and was constructed in 2000. Based on the Dunham Engineering report completed in 2013, the exterior and interior coating systems were replaced in 2015. This project (2024) will include recoating of the tank exterior and interior surfaces for maintenance and to continue to protect the exterior and interior from corrosion. An inspection of the tank will be completed in 2024 to identify any additional rehabilitation work.

To protect the metal structure from corrosion and to extend the useful life of the tank, periodic protective coating system replacement is required. Interior coating systems meet their protective value in about 12-15 years and require system replacement in order to continue to provide adequate corrosion protection. The useful life of an exterior coating is expected to be 10-12 years depending on the type of paint and thickness applied.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2026	☐ DBB	☐ O&M
PSA/WO Issued:	2026	☐ CMAR	☐ Bonds
Final Proposal Docs:	2026	☑ CSP	☑ R&R
Proposals/Bids Received:	2026	☐ Other	☐ Other
Constr. Contract to Board:	2026		
Substantial Completion:	2027	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 67,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 67,000	$ -	$ -	$ -	$ -
Construction	$ 675,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 675,000	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 67,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 67,000	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 809,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 809,000	$ -	$ -	$ -	$ -

*Budget includes contingency.

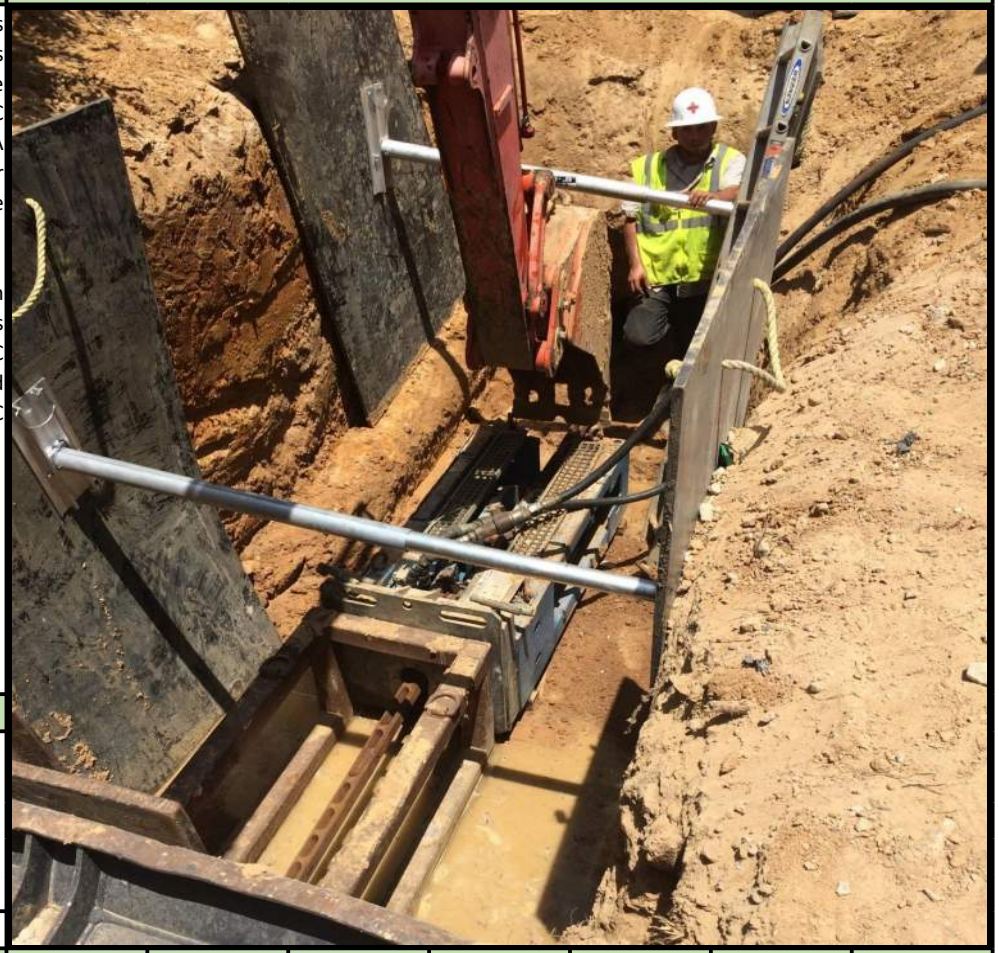
PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Line Renewal	WA27WL	2027-2029	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The SJRA owns and maintains approximately 120 miles of potable water distribution lines 12-inches and larger diameter in the Woodlands. The existing distribution system contains 47 miles of asbestos cement (AC) lines. Approximately 20 miles of all water lines are more than 40 years old, and the majority of which are made of AC material. Industry asset management practices suggest that AC water lines have the higher frequency of failure, and average useful life of 50 years. Historically, SJRA has experienced on average 9 failures per year, and is trending upward. Due to the aging water distribution infrastructure and increasing rate of breaks, water line renewal is necessary to decrease repair frequencies, improve reliability to end-users and maintain requested level of service.

This project is part of a phased asset management approach to continuously replace water lines in the system, with a plan to replace all AC water lines within the next 20 years. Other projects as described in WA21WL, WA23WL, and WA25WL will accomplish the goal of replacing all of the AC pipe in the system. The AC lines will be replaced with PVC or HDPE lines with an average expected useful life of more than 80 years. This project includes replacing approximately four (4) miles of AC pipelines throughout the Woodlands.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2027	☐ DBB	☐ O&M
PSA/WO Issued:	2027	☐ CMAR	☐ Bonds
Final Proposal Docs:	2027	☑ CSP	☑ R&R
Proposals/Bids Received:	2028	☐ Other	☐ Other
Constr. Contract to Board:	2028		
Substantial Completion:	2030	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 258,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 258,000	$ -	$ -	$ -
Engineering/Design	$ 515,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 515,000	$ -	$ -	$ -
Construction	$ 5,269,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,615,000	$ 2,654,000	$ -
CPS, CM&I, and CMT	$ 526,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 261,000	$ 265,000	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 6,568,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 773,000	$ 2,876,000	$ 2,919,000	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well Nos. 5 & 29 Rehabilitation	WA27WR	2027	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The Woodlands began receiving treated surface water in 2015, however, peak water demands will continue to be met by existing ground water wells. Consequently, continued well rehabilitation is necessary in order to prolong service life, minimize risk of failure and reduce increased maintenance of the wells. SJRA completes an semi-annual inspection of each water well to determine which well(s) may require rehabilitation. The targeted well(s) are then compared to the long term water production needs to meet the needs of The Woodlands and are then evaluated based on the well retirement plan for either rehabilitation or abandonment.

Based upon an evaluation of the 38 water wells, Well Nos. 5 and 29 are anticipated to have the need for rehabilitation based upon date of last previous rehabilitation and production capabilities. Rehabilitation of Well Nos. 5 and 29 will begin with an inspection of all well related equipment and a video of the well. Based upon the inspection, the project may include replacement of pump and well equipment; wire brushing the well screen section; jetting out and removing fill material from the bottom of the well; and performing acid chemical treatment of the well screen sections. Rehabilitation may also include adding gravel pack material to the well if needed.

No well lowering or capacity increase is planned.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	2027	☑ CSP	☑ R&R
Proposals/Bids Received:	2027	☐ Other	☐ Other
Constr. Contract to Board:	2027		
Substantial Completion:	2028	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 38,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,000	$ -	$ -	$ -
Construction	$ 383,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 383,000	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 38,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,000	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 459,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 459,000	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Plant No. 2 Ground Storage Tank No. 1 Replacement	WA2GT1	2027-2028	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Ground Storage Tank 1 (GST No. 1) at Water Plant 2 is a concrete storage tank with a capacity of 2.0 million gallons (MG), and was originally constructed in 1982. The typical useful life for concrete ground storage tanks storing potable water is 50 years. GST No. 1 will reach the end of its useful life by year 2032, and should be replaced before then in order to maintain adequate storage capacity and reliable potable water service. Also, in 2017, structural deficiencies were identified during an annual inspection and repairs made to maintain service life.

The project will include demolition of the existing 2 MG concrete ground storage tank, construction of a new 2.0 MG concrete ground storage tank, and replacement of associated piping and appurtenances.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2027	☐ DBB	☐ O&M
PSA/WO Issued:	2027	☐ CMAR	☐ Bonds
Final Proposal Docs:	2027	☑ CSP	☑ R&R
Proposals/Bids Received:	2027	☐ Other	☐ Other
Constr. Contract to Board:	2028		
Substantial Completion:	2028	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 394,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 394,000	$ -	$ -	$ -
Engineering/Design	$ 394,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 394,000	$ -	$ -	$ -
Construction	$ 3,999,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,999,000	$ -	$ -
CPS, CM&I, and CMT	$ 400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400,000	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 5,187,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 788,000	$ 4,399,000	$ -	$ -

*Budget includes contingency.

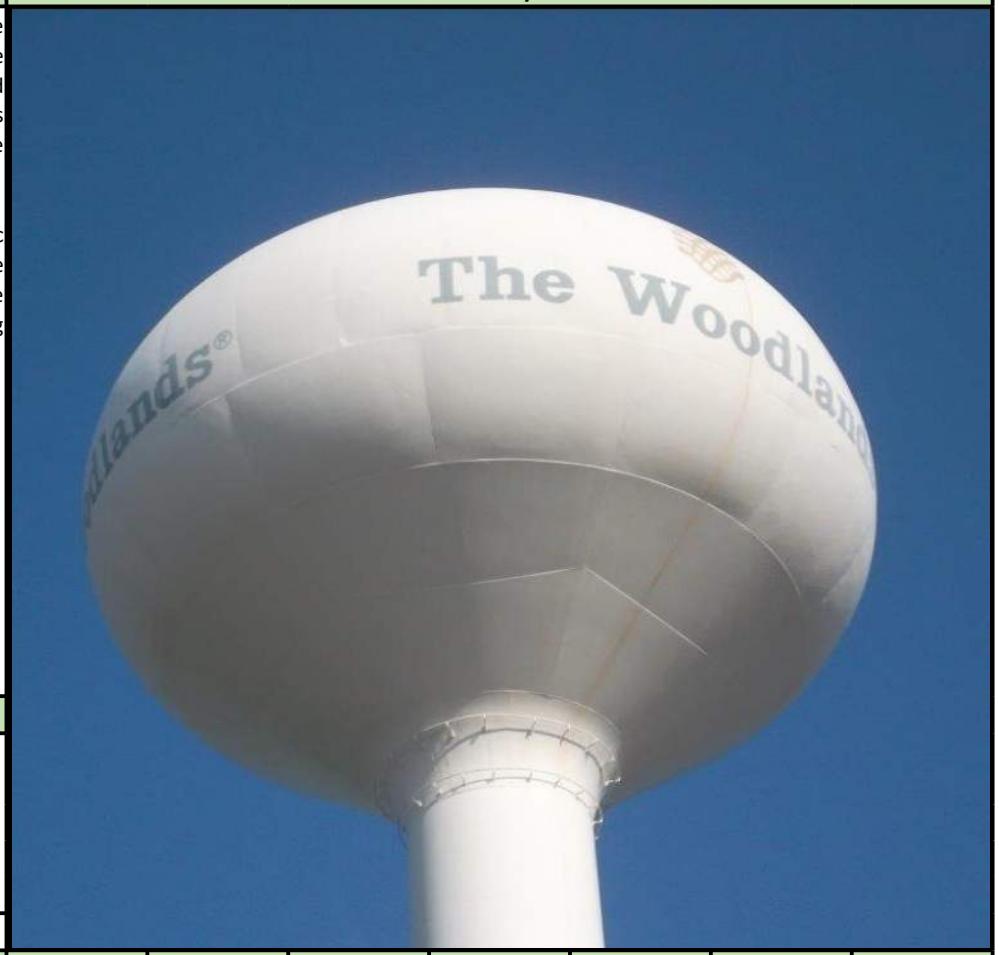
PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Elevated Storage Tank No. 7 Rehabilitation	WAET7R	2028	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Elevated Storage Tank No. 7 is a 500,000 gallon tank and was constructed in 1977. Based on the Dunham Engineering report completed in 2013, the exterior and interior coating systems were replaced in 2016. A follow-up inspection of the tank will be completed in 2027 to identify the need and scope for any additional rehabilitation work. Anticipated rehabilitation of the tank includes recoating of the tank exterior and interior surfaces for maintenance and to continue to protect the exterior and interior from corrosion.

To protect the metal structure from corrosion and to extend the useful life of the tank, periodic protective coating system replacement is required. Interior coating systems meet their protective value in about 12-15 years and require system replacement in order to continue to provide adequate corrosion protection. The useful life of an exterior coating is expected to be 10-12 years depending on the type of paint and thickness applied.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2028	☐ DBB	☐ O&M
PSA/WO Issued:	2028	☐ CMAR	☐ Bonds
Final Proposal Docs:	2028	☑ CSP	☑ R&R
Proposals/Bids Received:	2028	☐ Other	☐ Other
Constr. Contract to Board:	2028		
Substantial Completion:	2029	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 52,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 52,000	$ -	$ -
Construction	$ 515,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 515,000	$ -	$ -
CPS, CM&I, and CMT	$ 52,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 52,000	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 619,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 619,000	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Elevated Storage Tank No. 3 Rehabilitation	WAET3R	2029	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Elevated Storage Tank No. 3 is a 750,000 gallon tank and was constructed in 1990. Based on the Dunham Engineering report completed in 2013, the exterior and interior coating systems were replaced in 2017. A follow-up inspection of the tank will be completed in 2028 to identify the need and scope for any additional rehabilitation work. Anticipated rehabilitation of the tank includes recoating of the tank exterior and interior surfaces for maintenance and to continue to protect the exterior and interior from corrosion.

To protect the metal structure from corrosion and to extend the useful life of the tank, periodic protective coating system replacement is required. Interior coating systems meet their protective value in about 12-15 years and require system replacement in order to continue to provide adequate corrosion protection. The useful life of an exterior coating is anticipated to be 10-12 years depending on the type of paint and thickness applied.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2029	☐ DBB	☐ O&M
PSA/WO Issued:	2029	☐ CMAR	☐ Bonds
Final Proposal Docs:	2029	☑ CSP	☑ R&R
Proposals/Bids Received:	2029	☐ Other	☐ Other
Constr. Contract to Board:	2029		
Substantial Completion:	2030	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -
Construction	$ 1,005,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,005,000	$ -
CPS, CM&I, and CMT	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100,000	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,205,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,205,000	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well Nos. 11 & 27 Rehabilitation	WA29WR	2029	The Woodlands

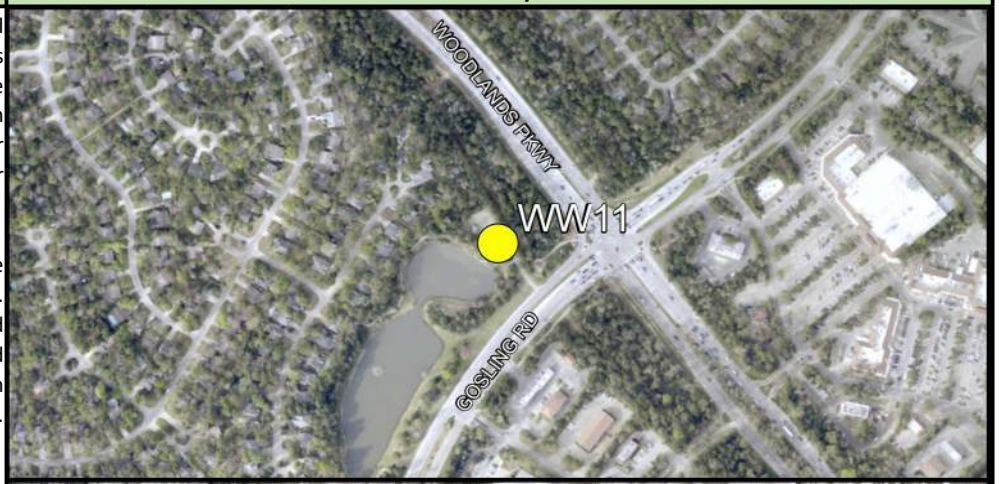
PROJECT DESCRIPTION/JUSTIFICATION:

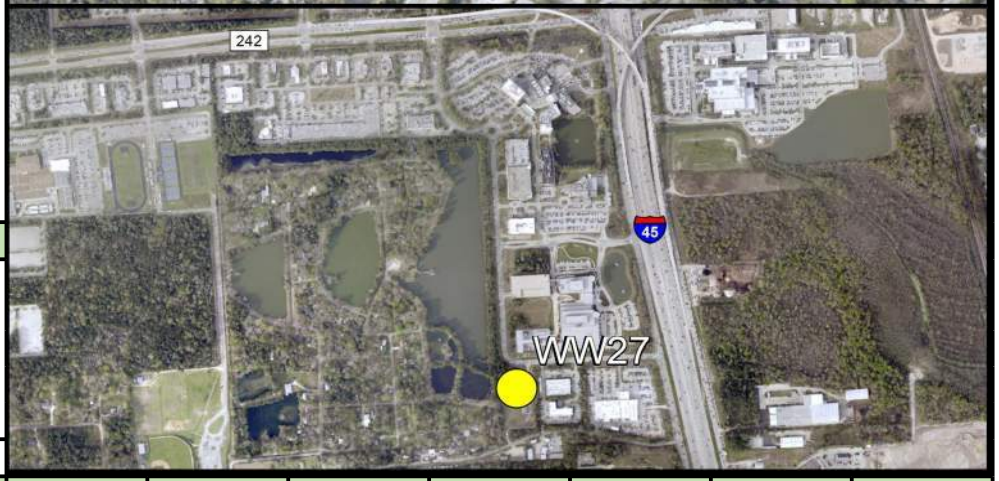
The Woodlands began receiving treated surface water in 2015, however, peak water demands will continue to be met by existing ground water wells. Consequently, continued well rehabilitation is necessary in order to prolong service life, minimize risk of failure and reduce increased maintenance of the wells. SJRA completes an semi-annual inspection of each water well to determine which well(s) may require rehabilitation. The targeted well(s) are compared to the long-term water production needs of The Woodlands, then evaluated based on the well retirement plan for rehabilitation or abandonment.

Based upon an evaluation of the 38 water wells, Well Nos. 11 and 27 are anticipated to have the need for rehabilitation based upon date of last previous rehabilitation and production capabilities. Rehabilitation of Well Nos. 11 and 27 will begin with an inspection of all well related equipment and a video of the well. Based upon the inspection, the project may include replacement of pump and well equipment; wire brushing the well screen section; jetting out and removing fill material from the bottom of the well; and performing acid chemical treatment of the well screen sections. Rehabilitation may also include adding gravel pack material to the well if needed.

No well lowering or capacity increase is planned.

PROJECT MAP/PICTURE





PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	N/A	☐ DBB	☐ O&M
PSA/WO Issued:	N/A	☐ CMAR	☐ Bonds
Final Proposal Docs:	2029	☑ CSP	☑ R&R
Proposals/Bids Received:	2029	☐ Other	☐ Other
Constr. Contract to Board:	2029		
Substantial Completion:	2030	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 39,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 39,000	$ -
Construction	$ 395,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 395,000	$ -
CPS, CM&I, and CMT	$ 39,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 39,000	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 473,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 473,000	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Elevated Storage Tank No. 4 Rehabilitation	WAET4R	2030-2031	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Elevated Storage Tank No. 4 is a 750,000 gallon tank and was constructed in 1990. Based on the Dunham Engineering report completed in 2013, the exterior and interior coating systems were replaced in 2017 per the engineer's recommendation. A follow-up inspection of the tank will be completed in 2028 to identify the need and scope for any additional rehabilitation work. Anticipated rehabilitation of the tank includes recoating of the tank exterior and interior surfaces for maintenance and to continue to protect the exterior and interior from corrosion.

To protect the metal structure from corrosion and to extend the useful life of the tank, periodic protective coating system replacement is required. Interior coating systems meet their protective value in about 12-15 years and require system replacement in order to continue to provide adequate corrosion protection. The useful life of an exterior coating is expected to be 10-12 years depending on the type of paint and thickness applied.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2030	☐ DBB	☐ O&M
PSA/WO Issued:	2030	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☐ Other
Constr. Contract to Board:	2031		
Substantial Completion:	2031	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 71,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,000
Engineering/Design	$ 71,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,000
Construction	$ 713,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 713,000
CPS, CM&I, and CMT	$ 71,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 926,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 926,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Water Well No. 40	WAWW40	2030-2031	The Woodlands

The Woodlands began receiving treated surface water in 2015; however, peak water demands will continue to be met by ground water. As of 2030, several water wells in the Woodlands system will have met or exceeded their useful life of 50 years, and will be recommended for abandonment. For peak demands, and to not decrease the amount of groundwater production capability, construction of a high production Upper Jasper Aquifer water well is recommended. Land will need to be acquired to allow for an estimated 1/2 acre site. The proposed water well is planned to be capable of producing 3,000 gallons per minute.

This project will also include the installation of a 24-inch well collection line from the water well to the nearest SJRA Woodlands Division water plant.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2029	☐ DBB	☐ O&M
PSA/WO Issued:	2030	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☐ Other
Constr. Contract to Board:	2031		
Substantial Completion:	2032	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 634,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 634,000
Engineering/Design	$ 634,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 634,000
Construction	$ 6,125,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 613,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ 158,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,000
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 8,164,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,426,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Abandon Water Well Nos. 1, 2 and 3	WA123A	2030	The Woodlands

The expected useful life of a water well is 50 years, unless operational or structural issues arise that would reduce the life of the well.

Water Well Nos. 1, 2 and 3 were installed in 1974, 1982 and 1979, respectively. By 2030, these water wells will be near or over 50 years of age, and in some cases, have already had operational and/or structural issues which prohibit or reduce their rehabilitation potential. These water wells reside in the Lower Pressure Plane of the Woodlands system. Water Well No. 1 pumps from the Evangeline Aquifer and Water Well Nos. 2 and 3 pump from the Upper Jasper Aquifer.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2029	☐ DBB	☐ O&M
PSA/WO Issued:	2029	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☐ Other
Constr. Contract to Board:	2030		
Substantial Completion:	2031	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 48,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 48,000
Construction	$ 475,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 475,000
CPS, CM&I, and CMT	$ 48,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 48,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 571,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 571,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Lift Station No. 13 Rehabilitation	WW19LS	2019-2021	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Each year, a comprehensive evaluation of all off-site lift stations (30) in The Woodlands is conducted. This evaluation includes visual inspection and condition assessment ranking of each lift station by SJRA staff which results in a prioritized list of lift stations to be rehabilitated. Based on this list, rehabilitation of Lift Station No. 13 constructed in 1984, is recommended. Lift Station No. 13 (located on Flintridge Drive) is showing signs of deterioration, including degradation of concrete structure due to corrosive gas.

For Lift Station No. 13, the rehabilitation includes coating the wet well, as well as structural and mechanical improvements. This rehabilitation also will include converting from a dry well to a submersible station, installation of a new control panel and a natural gas generator on a raised platform. During Hurricane Harvey, flood waters reach a 6-foot high level at the facility, which fully submerged the lift station including all controls and underground pumps. The installation of a raised platform to raise the controls and generator above the 6-foot level will assist in keeping the lift station operational during flood events. By rehabilitating the concrete structure with a coating that is resistant to wastewater gases, it is estimated that the effective useful life of the structure can be maintained 10-15 years with continued preventative maintenance.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	August 2018	☐ DBB	☐ O&M
PSA/WO Issued:	December 2018	☐ CMAR	☐ Bonds
Final Proposal Docs:	August 2019	☑ CSP	☑ R&R
Proposals/Bids Received:	June 2020	☐ Other	☑ Other
Constr. Contract to Board:	August 2020		
Substantial Completion:	September 2021	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 74,636	$ 74,636	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 160,670	$ 160,670	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 1,732,000	$ -	$ 1,732,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 173,000	$ -	$ 173,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,140,306	$ 235,306	$ 1,905,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Wastewater Treatment Facility No. 2 Digester Nos. 1, 2 and 3 Rehab	WWP2DR	2020-2021	The Woodlands

The digester complex at Wastewater Treatment Facility No. 2, which is comprised of four equal-sized basins, was installed in 2002. In May 2019, Digester No. 2 was taken out of service following a shift in the aeration draft tube structure, which resulted in damage to the aeration drop piping. Following inspection of this digester, as well as Digester Nos. 1 and 3, it was found that the draft tube aeration systems were heavily corroded in all three digesters. It was also found that the structures supporting the catwalks have began to corrode, possibly compromising the structural integrity of the catwalks. The proposed rehabilitation of Digester Nos. 1, 2 and 3 would entail removal of the existing aeration system and replacement with a coarse air system similar to that installed in Digester No. 4, which was installed in 2012. The current aeration system has an air to water efficiency of 50%, whereas the diffused system is 80%.

The project includes replacement of the aeration system in Digester Nos. 1, 2 and 3, removal of the catwalks and support structures, upgrade of the decant system at Digester Nos. 3 and 4 to include telescoping valves, installation of belt press feed pumps that facilitate direct suction from Digester No. 3 to the belt presses, and installation of actuated inlet gates to the digester basins. Upgrades of the decant system, belt press feed pumps, and the inlet gates are included in the project to allow for more flexibility in operations.

An evaluation was conducted to determine the capital and O&M cost of replacing the existing unit with a similar unit versus a modification to a newer technology (diffused aeration). To replace the existing unit with a similar unit, capital and O&M costs were $342.42/MG and $211.49/MG, respectively. The capital and O&M cost to modify to diffused aeration is $180.25/MG and $84.11/MG, respectively.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	September 2019	☐ DBB	☐ O&M
PSA/WO Issued:	April 2020	☐ CMAR	☐ Bonds
Final Proposal Docs:	July 2020	☑ CSP	☑ R&R
Proposals/Bids Received:	August 2020	☐ Other	☐ Other
Constr. Contract to Board:	September 2020		
Substantial Completion:	May 2021	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 115,000	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 115,000	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 1,155,000	$ -	$ 1,155,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 115,000	$ -	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,500,000	$ 230,000	$ 1,270,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 2 Tertiary Filter Improvements (2nd and 3rd Filter)	WW02FR	2021-2022	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Wastewater Treatment Facility (WWTF) No. 2 utilizes tertiary filters to treat effluent prior to disinfection. Filters 1 and 2 are sand filters, while Filter 3 was replaced with a new cloth media filter in 2016. The current sand filters are rated for 2 MG of flow each, with the one installed cloth media filter rated for 6 MG of flow. The TCEQ discharge permit allows for 15.6 MG of flow during a rain event, of which only 10.0 MG is able to be treated with the current filters.

The existing sand filters have been in service since 2006, have a service life of 15-25 years, are rated for 2 MG each, and have experienced performance issues which limit wastewater flows through WWTF No. 2. This project will replace the remaining two sand filters with cloth media filters which will eliminate the performance issues, allow all flow during a rain event to pass through the filters and have a 30 year service life.

An evaluation was conducted to determine the capital and O&M cost of replacing the existing unit with a similar unit versus a modification to a newer technology (cloth media). To replace the existing unit with a similar unit, capital and O&M costs were $106.85/MG and $27.40, respectively. The capital and O&M cost to modify to cloth media is $41.76/MG and $7.99/MG, respectively.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	July 2020	☐ DBB	☐ O&M
PSA/WO Issued:	September 2020	☐ CMAR	☐ Bonds
Final Proposal Docs:	May 2021	☑ CSP	☑ R&R
Proposals/Bids Received:	July 2021	☐ Other	☐ Other
Constr. Contract to Board:	September 2021		
Substantial Completion:	October 2022	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 276,000	$ -	$ 276,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 276,000	$ -	$ 276,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 2,823,000	$ -	$ 365,000	$ 2,458,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 283,000	$ -	$ -	$ 283,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,658,000	$ -	$ 917,000	$ 2,741,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Lift Station Rehabilitation	WW21LS	2021-2030	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Each year, a comprehensive evaluation of all thirty lift stations in The Woodlands is conducted. This evaluation includes visual inspection and condition assessment ranking of each lift station by SJRA staff which results in a prioritized list of lift stations to be rehabilitation. In addition, the Sanitary Sewer Transmission Asset Renewal Program included a comprehensive condition assessment, with results incorporated into SJRA's prioritized list. Based on this list, several lift stations were identified as needing minor rehabilitation work, such as replacement or addition of the wet well coating, minor structural repairs, and minor electrical improvements. This project, and lift station projects in the future, will allow for on-going maintenance and rehabilitation to extend the effective useful life of the thirty lift stations, and prevent the likelihood of failure requiring emergency repairs. In addition, consideration will be taken to elevate controls and add elevated back-up power systems to facilities that are in flood-prone locations.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	July 2020	☐ DBB	☐ O&M
PSA/WO Issued:	September 2020	☐ CMAR	☐ Bonds
Final Proposal Docs:	March 2021	☑ CSP	☑ R&R
Proposals/Bids Received:	May 2021	☐ Other	☐ Other
Constr. Contract to Board:	July 2021		
Substantial Completion:	August 2022	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 213,000	$ -	$ 13,000	$ 20,000	$ 21,000	$ 22,000	$ 22,000	$ 22,000	$ 23,000	$ 23,000	$ 23,000	$ 24,000
Construction	$ 2,138,000	$ -	$ 133,000	$ 205,000	$ 210,000	$ 215,000	$ 221,000	$ 224,000	$ 227,000	$ 231,000	$ 234,000	$ 238,000
CPS, CM&I, and CMT	$ 213,000	$ -	$ 13,000	$ 20,000	$ 21,000	$ 22,000	$ 22,000	$ 22,000	$ 23,000	$ 23,000	$ 23,000	$ 24,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,564,000	$ -	$ 159,000	$ 245,000	$ 252,000	$ 259,000	$ 265,000	$ 268,000	$ 273,000	$ 277,000	$ 280,000	$ 286,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
LS No. 8 Rehabilitation and Forcemain Replacement	WW21FM	2021	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Some aging components of the existing collection system have been in service for over 40 years and will require renewal to avoid collection system failure. Through the Asset Management Program and the Sanitary Sewer Transmission Assessment and Renewal (SSTAR) Program, certain lift stations and force mains were prioritized for rehabilitation.

Lift Station No. 8 has a rated capacity of 0.21 million gallons per day (MGD) and serves a small commercial and multi-family residential area and school near Sawdust Road and Sawmill Road. The condition assessment conducted in the SSTAR Program showed significant corrosion of the structural and mechanical components of the lift station. Rehabilitation of Lift Station No. 8 is required due to condition, and is anticipated to be a full rehabilitation including pump and valve replacement, piping replacement, and wet well recoating.

The SSTAR Program hydraulic modeling also determined that the force main is undersized for the lift station flows, which results in elevated velocities in the force main, causing higher friction loss in the pipe. More pumping energy is required, which results in higher energy costs. Additionally, the SSTAR Program condition assessment showed that there has been significant deterioration of the 4-inch ductile iron force main. The project is anticipated to include replacing the existing 4" DI force main with a 6" PVC force main.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	July 2020	☐ DBB	☐ O&M
PSA/WO Issued:	September 2020	☐ CMAR	☐ Bonds
Final Proposal Docs:	March 2021	☑ CSP	☑ R&R
Proposals/Bids Received:	May 2021	☐ Other	☐ Other
Constr. Contract to Board:	July 2021		
Substantial Completion:	August 2022	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 76,000	$ -	$ 76,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 76,000	$ -	$ 76,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 764,000	$ -	$ 764,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 76,000	$ -	$ 76,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 992,000	$ -	$ 992,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Clarifier Rehabilitation	WW01CR	2022-2023	The Woodlands

Two clarifiers at Wastewater Treatment Facility (WWTF) No. 1 were installed in 1982, and one clarifier was installed in 1994. The existing metal components are beginning to show signs of corrosion. However the corrosion is being monitoring and temporarily mitigated. Typical effective useful life for wastewater treatment facility mechanical equipment is 20 years. The mechanical equipment in Clarifiers Nos. 1 and 2 have reached the end of its useful life, and the mechanical equipment in Clarifier No. 3 is near the end of its useful life. Therefore, it is recommended to replace this equipment at all three clarifiers.

The project includes replacement of the mechanical components of all three clarifiers including clarifier mechanisms, weirs and baffles, weir cleaning brushes, electrical and instrumentation systems. The stilling well of Clarifier No. 3 will also be replaced. At all three clarifiers, technologies will be incorporated for increased solids handling capability and increase the overall capacity of the clarification system.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2022	☐ DBB	☐ O&M
PSA/WO Issued:	2022	☐ CMAR	☐ Bonds
Final Proposal Docs:	2022	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2023	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 132,000	$ -	$ -	$ 132,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 132,000	$ -	$ -	$ 132,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 1,350,000	$ -	$ -	$ -	$ 1,350,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 135,000	$ -	$ -	$ -	$ 135,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,749,000	$ -	$ -	$ 264,000	$ 1,485,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Generators at Lift Stations	WWLSGN	2022	The Woodlands

Continuous operation of lift stations in the wastewater conveyance system of the Woodlands Division is critical to continued compliance of the wastewater system by allowing continued conveyance to the wastewater facilities as well as preventing sanitary sewer overflows. Installing generators at off-site lift stations allows for almost un-interrupted service during power outages. It is anticipated that this project will provide generators for Lift Station Nos. 11, 17 and 27.

This project is part of an ongoing effort over the past two years to install 2-3 generators at lift stations to ensure continued operation during power outages.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2021	☐ DBB	☐ O&M
PSA/WO Issued:	2022	☐ CMAR	☐ Bonds
Final Proposal Docs:	2022	☑ CSP	☑ R&R
Proposals/Bids Received:	2022	☐ Other	☐ Other
Constr. Contract to Board:	2022		
Substantial Completion:	2023	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 20,000	$ -	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 205,000	$ -	$ -	$ 205,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 20,000	$ -	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 245,000	$ -	$ -	$ 245,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Forcemain Renewal - LS Nos. 7 and 11	WW22FM	2022-2023	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Some parts of the existing collection system have been in service for over 40 years. The aging system requires renewal to avoid collection system failure. Through the Asset Management Program, specific force mains were identified as high risk for failure and were evaluated for rehabilitation or replacement.

Based on a risk analysis of all force mains, including age, pipe material and likelihood of failure, the force mains associated with Lift Station Nos. 7 and 11 were identified as candidates for rehabilitation or replacement. The Lift Station No. 7 force main was constructed in 1978 and the Lift Station No. 11 force main was constructed in 1983. The Preliminary Engineering Report (PER) conducted in 2015 recommended the replacement of the force main for Lift Station No. 7, which consists of approximately 1,700 linear feet of 10-inch ductile iron pipe, and the force main for Lift Station No. 11, which consists of approximately 1,900 linear feet of 10-inch ductile iron pipe. The PER indicated that these two force mains were good candidates for replacement based on heavy corrosion visible at the downstream manhole.

The SSTAR Program in 2019-2020 included a condition assessment of these force mains, which showed signs of corrosion based on a camera survey. Based on the condition assessment, additional investigation of these force mains will be conducted in the future to further determine the extent of corrosion.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2022	☐ DBB	☐ O&M
PSA/WO Issued:	2022	☐ CMAR	☐ Bonds
Final Proposal Docs:	2022	☑ CSP	☑ R&R
Proposals/Bids Received:	2022	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2023	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 41,000	$ -	$ -	$ 41,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 82,000	$ -	$ -	$ 82,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 840,000	$ -	$ -	$ -	$ 840,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 84,000	$ -	$ -	$ -	$ 84,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,047,000	$ -	$ -	$ 123,000	$ 924,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 3 PPW Pressure System Rehabilitation	WWF3PW	2023	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The Plant Process Water (PPW) system at Wastewater Treatment Facility (WWTF) No. 3 was installed in 2001. For this facility, the PPW system includes a hydropneumatic tank which serves to maintain pressure within the PPW system piping during periods of less PPW use and allow the PPW pumps to shut off.

The hydropneumatic tank will be removed and the system reconfigured to allow for on-demand continuous pumping, but with the flexibility to rotate the pumps so that not all are running continuously. SCADA controls will be added to allow for the pump rotation based upon run-time. Also, new pumps will be installed to replace the original pumps for this system.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2022	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2024	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 28,000	$ -	$ -	$ -	$ 28,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 28,000	$ -	$ -	$ -	$ 28,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 280,000	$ -	$ -	$ -	$ 280,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 28,000	$ -	$ -	$ -	$ 28,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 364,000	$ -	$ -	$ -	$ 364,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Gravity Main Rehabilitation	WW23GR	2023-2024	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Some wastewater lines within the collection system have been in service for over 40 years. The aging system requires rehabilitation to avoid collection system failure, sewage overflows, and permit violations. Through the Asset Management Program and the Sanitary Sewer Transmission Assessment and Renewal (SSTAR) Program, specific line segments were identified as high risk for failure and should be rehabilitated within the next few years.

The SSTAR Program conducted in 2019 and 2020 included a condition assessment consisting of closed circuit television (CCTV) inspection and analysis of expected remaining useful life. CCTV video footage showed significant deterioration of the existing gravity mains, requiring rehabilitation or replacement. Additionally, these line segments were scored with a high consequence of failure due to their criticality (loss of service) and proximity to a waterway.

The line segments included in this project include approximately 4766 linear feet of 42" ductile iron (DI) pipe located east of Lake Woodlands.

This project is part of a phased asset management approach to continuously rehabilitate sanitary sewer gravity mains in the system, to avoid collection system failure, sewage overflows, and permit violations. Other projects as described in WW21GR, WW25GR, and WW27GR will accomplish the goal of rehabilitating the gravity mains identified as being the highest risk for failure.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2022	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2024		
Substantial Completion:	2025	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 273,000	$ -	$ -	$ -	$ 273,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 546,000	$ -	$ -	$ -	$ 546,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 5,596,000	$ -	$ -	$ -	$ -	$ 5,596,000	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 560,000	$ -	$ -	$ -	$ -	$ 560,000	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 6,975,000	$ -	$ -	$ -	$ 819,000	$ 6,156,000	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Forcemain Renewal - LS Nos. 9, 10, & 21	WW23FM	2023-2024	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Some aging components of the existing collection system have been in service for over 40 years and will require renewal to avoid collection system failure. Through the Asset Management Program and the Sanitary Sewer Transmission Assessment and Renewal (SSTAR) Program, specific force mains were identified as high risk for failure and are candidates for replacement.

The Preliminary Engineering Report (PER) conducted in 2015 indicated that the condition of the force mains associated with Lift Station Nos. 9, 10, and 21 was better than others in the SJRA system, and were not in immediate need of replacement. However based on observed corrosion of similar ductile iron force mains in the SJRA system, these force mains were recommended to be reinspected in the future to determine if corrosion had progressed and the force mains should be replaced.

Based on a risk analysis of all force mains, the force mains associated with Lift Station Nos. 9, 10, and 21 were identified as potential candidates for replacement due to age, pipe material and likelihood of failure. The SSTAR Program in 2019-2020 included a condition assessment of these force mains, and showed signs of corrosion based on a camera survey, especially in the force main associated with Lift Station No. 21. Based on the condition assessment, additional investigation of these force mains will be conducted in the future to further determine the extent of corrosion.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2023	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2024	☐ Other	☐ Other
Constr. Contract to Board:	2024		
Substantial Completion:	2024	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 162,000	$ -	$ -	$ -	$ 162,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 324,000	$ -	$ -	$ -	$ 324,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 3,320,000	$ -	$ -	$ -	$ -	$ 3,320,000	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 332,000	$ -	$ -	$ -	$ -	$ 332,000	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 4,138,000	$ -	$ -	$ -	$ 486,000	$ 3,652,000	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Wastewater Treatment Facility No. 2 Headworks Rehabilitation	WWP2HW	2023-2024	The Woodlands

The Headworks at Wastewater Treatment Facility No. 2 was built as part of the original Phase I of the facility in 1996. The facility was inspected in 2018 and moderate degradation of the concrete was found. Potential rehabilitation could include cleaning, repairing/coating of concrete walls, removal of existing plates and replacement with grates for access, and installation of a permanent diversion system. Also, an access stairway is needed to safely access the splitter box.

This project will also include the replacement of the grit classifier at the headworks. The grit classifier at Wastewater Treatment Facility No. 2 was originally installed as the grit classifier at Wastewater Treatment Facility No. 1 in 2009. When the new grit chamber system was constructed at Wastewater Treatment Facility No. 1 in 2017, this grit classifier was moved and installed at Wastewater Treatment Facility No. 2 to replace the original classifier which had deteriorated and had many mechanical issues. After several years of use, it has become apparent that this classifier does not have sufficient grit classifying capacity for this facility. Therefore, a new classifier is required which will be designed specifically to meet the parameters of the wastewater treatment facility.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2023	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2024		
Substantial Completion:	2024	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 210,000	$ -	$ -	$ -	$ 210,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 210,000	$ -	$ -	$ -	$ 210,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 2,152,000	$ -	$ -	$ -	$ -	$ 2,152,000	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 215,000	$ -	$ -	$ -	$ -	$ 215,000	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,787,000	$ -	$ -	$ -	$ 420,000	$ 2,367,000	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Wastewater Treatment Facility No. 1 Effluent Channel Rehabilitation	WWP1EC	2023	The Woodlands

The Effluent Parshall Flume Channel at Wastewater Treatment Facility No. 1 was constructed in 1995 as part of the Stage IV improvements at the facility. This channel allows for both the accurate measurement of the effluent discharge from the wastewater facility prior to the storm water pump basin.

After 20 years of continuous use, the concrete in the channel has began to show signs of deterioration, including exposed aggregate in the bottom of the channel. Therefore, the channel is to be coated to maintain the useful life of the structure. As part of the project, possible options for diverting the flow from the effluent channel will be analyzed.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2023	☐ DBB	☐ O&M
PSA/WO Issued:	2023	☐ CMAR	☐ Bonds
Final Proposal Docs:	2023	☑ CSP	☑ R&R
Proposals/Bids Received:	2023	☐ Other	☐ Other
Constr. Contract to Board:	2023		
Substantial Completion:	2024	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 70,000	$ -	$ -	$ -	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 70,000	$ -	$ -	$ -	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 700,000	$ -	$ -	$ -	$ 700,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 70,000	$ -	$ -	$ -	$ 70,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 910,000	$ -	$ -	$ -	$ 910,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Lift Station Rehabilitation	WWF1LS	2024-2025	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Wastewater Treatment Facility (WWTF) No. 1, Lift Station No. 1 was constructed in 1975 and Lift Station No. 2 was constructed in 1982. To optimize operational efficiency and reduce maintenance of these facilities, Lift Station No. 2 will be converted to a full submersible lift station, which will allow for the abandonment of Lift Station No. 1, which has reached the end of its useful life. After a visual inspection of Lift Station No. 2 by SJRA staff, it was found the wet well concrete structures display corrosion and should be repaired and coated to prevent additional corrosion in the future. As part of the conversion to a full submersible lift station, the pumps, piping, valves, and electrical equipment will be replaced at Lift Station No. 2. Additionally, mechanical ventilation and odor control may be included as further means for corrosion reduction. By rehabilitating the concrete structure with a coating that is resistant to wastewater gases, it is estimated that the life of the structure can be maintained with continued preventative maintenance. This project will also include rehabilitating the asphalt pavement in front of the lift stations.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2024	☐ DBB	☐ O&M
PSA/WO Issued:	2024	☐ CMAR	☐ Bonds
Final Proposal Docs:	2024	☑ CSP	☑ R&R
Proposals/Bids Received:	2025	☐ Other	☐ Other
Constr. Contract to Board:	2025		
Substantial Completion:	2025	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 283,000	$ -	$ -	$ -	$ -	$ 283,000	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 283,000	$ -	$ -	$ -	$ -	$ 283,000	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 2,900,000	$ -	$ -	$ -	$ -	$ -	$ 2,900,000	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 290,000	$ -	$ -	$ -	$ -	$ -	$ 290,000	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,756,000	$ -	$ -	$ -	$ -	$ 566,000	$ 3,190,000	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 2 Belt Press and Conveyor Replacement	WW2SCR	2024-2025	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Wastewater Treatment Facility (WWTF) No. 2 includes a 1.5 meter belt press and sludge conveyor system, installed in 1997. Additionally, in 2003 a 2.0 meter belt press was installed. These belt filter presses and the conveyor are experiencing recurring mechanical issues which require more frequent repairs. Replacing both belt presses with modern technology will replace with what is expected to increase the percentage of solids production, decrease the chemical costs, and decrease overall operation and maintenance costs.

The current conveyor system is steep and has required modification over its service life to reduce potential safety issues. The current belt-type conveyor system will be replaced with a screw-type conveyance system. The screw-type conveyor is in an enclosed unit, which will prevent spillage of dewatered sludge onto the floor, eliminating the need for regular cleaning.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2024	☐ DBB	☐ O&M
PSA/WO Issued:	2024	☐ CMAR	☐ Bonds
Final Proposal Docs:	2024	☑ CSP	☑ R&R
Proposals/Bids Received:	2024	☐ Other	☐ Other
Constr. Contract to Board:	2025		
Substantial Completion:	2025	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 277,000	$ -	$ -	$ -	$ -	$ 277,000	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 277,000	$ -	$ -	$ -	$ -	$ 277,000	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 2,839,000	$ -	$ -	$ -	$ -	$ -	$ 2,839,000	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 284,000	$ -	$ -	$ -	$ -	$ -	$ 284,000	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,677,000	$ -	$ -	$ -	$ -	$ 554,000	$ 3,123,000	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
2-Hour Peak Flow Projects	WW2HPF	2024-2030	The Woodlands

The Wastewater System Optimization Study, which was performed in 2017, studied the effect of inflow and infiltration into the gravity sewer system in The Woodlands, Texas. The study concluded that not addressing current and future inflow and infiltration into both the SJRA Woodlands Division gravity sewer system as well as the gravity sewer system owned by the 11 Woodlands, Texas Municipal Utility Districts (MUDs) would result in future peak flow violations at the three wastewater treatment plants owned and operated by the SJRA Woodlands Division. To address this, the study recommended ten (10) projects costing approximately $70 million over a five year period. These projects are as follows:

WWT No. 2 Lift Station Pumping Improvements
WWTF No. 1 Addition of 4th Clarifier
WWTF No. 1 Disinfection System Improvements
Lift Station 24B Expansion and Force Main Replacement
Enlargement of Lift Station 24 Gravity Line
Lift Station No. 7 Expansion
Lift Station No. 6 Expansion
WWTF No. 2 Clarifier No. 4 Addition
Lift Station No. 2 Expansion
Lift Station No. 3 Expansion
Lift Station No. 8 Expansion

This project sheet consolidates these projects into a single project as the current SSTAR Program Phase I seeks to address the inflow and infiltration with gravity sewer rehabilitation projects.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2024	☐ DBB	☐ O&M
PSA/WO Issued:	2024	☐ CMAR	☐ Bonds
Final Proposal Docs:	2025	☑ CSP	☑ R&R
Proposals/Bids Received:	2025	☐ Other	☐ Other
Constr. Contract to Board:	2025		
Substantial Completion:	2031	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 4,493,000	$ -	$ -	$ -	$ -	$ 287,000	$ 1,177,000	$ 1,344,000	$ 758,000	$ 615,000	$ 312,000	$ -
Engineering/Design	$ 4,493,000	$ -	$ -	$ -	$ -	$ 287,000	$ 1,177,000	$ 1,344,000	$ 758,000	$ 615,000	$ 312,000	$ -
Construction	$ 45,626,000	$ -	$ -	$ -	$ -	$ -	$ 2,942,000	$ 11,943,000	$ 13,638,000	$ 7,690,000	$ 6,244,000	$ 3,169,000
CPS, CM&I, and CMT	$ 4,562,000	$ -	$ -	$ -	$ -	$ -	$ 294,000	$ 1,194,000	$ 1,364,000	$ 769,000	$ 624,000	$ 317,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 59,174,000	$ -	$ -	$ -	$ -	$ 574,000	$ 5,590,000	$ 15,825,000	$ 16,518,000	$ 9,689,000	$ 7,492,000	$ 3,486,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Forcemain Renewal - LS Nos. 1, 13, 14, & 19	WW24FM	2024-2025	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Some aging components of the existing collection system have been in service for over 40 years and will require renewal to avoid collection system failure. Through the Asset Management Program, specific force mains were identified as high risk for failure and will be evaluated for rehabilitation or replacement.

Based on a risk analysis of all force mains, the force mains associated with Lift Station Nos. 1, 13, 14, and 19 were identified as candidates for replacement due to age, pipe material and likelihood of failure. These force mains consist of: Lift Station No. 1 approximately 1,663 linear feet of 12-inch cast iron pipe, Lift Station No. 13 approximately 2,432 linear feet of 12-inch ductile iron pipe, Lift Station No. 14 approximately 1,775 linear feet of 12-inch ductile iron pipe, and Lift Station No. 19 approximately 646 linear feet of 4-inch ductile iron pipe.

Based on observed corrosion of similar ductile iron force mains in the SJRA system, these force mains should be inspected. Upon inspection, if severe corrosion is evident, these force mains should be replaced.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2024	☐ DBB	☐ O&M
PSA/WO Issued:	2024	☐ CMAR	☐ Bonds
Final Proposal Docs:	2024	☑ CSP	☑ R&R
Proposals/Bids Received:	2025	☐ Other	☐ Other
Constr. Contract to Board:	2025		
Substantial Completion:	2026	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 115,000	$ -	$ -	$ -	$ -	$ 115,000	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 230,000	$ -	$ -	$ -	$ -	$ 230,000	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 2,353,000	$ -	$ -	$ -	$ -	$ -	$ 2,353,000	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 235,000	$ -	$ -	$ -	$ -	$ -	$ 235,000	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,933,000	$ -	$ -	$ -	$ -	$ 345,000	$ 2,588,000	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Gravity Main Rehabilitation	WW25GR	2025-2026	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

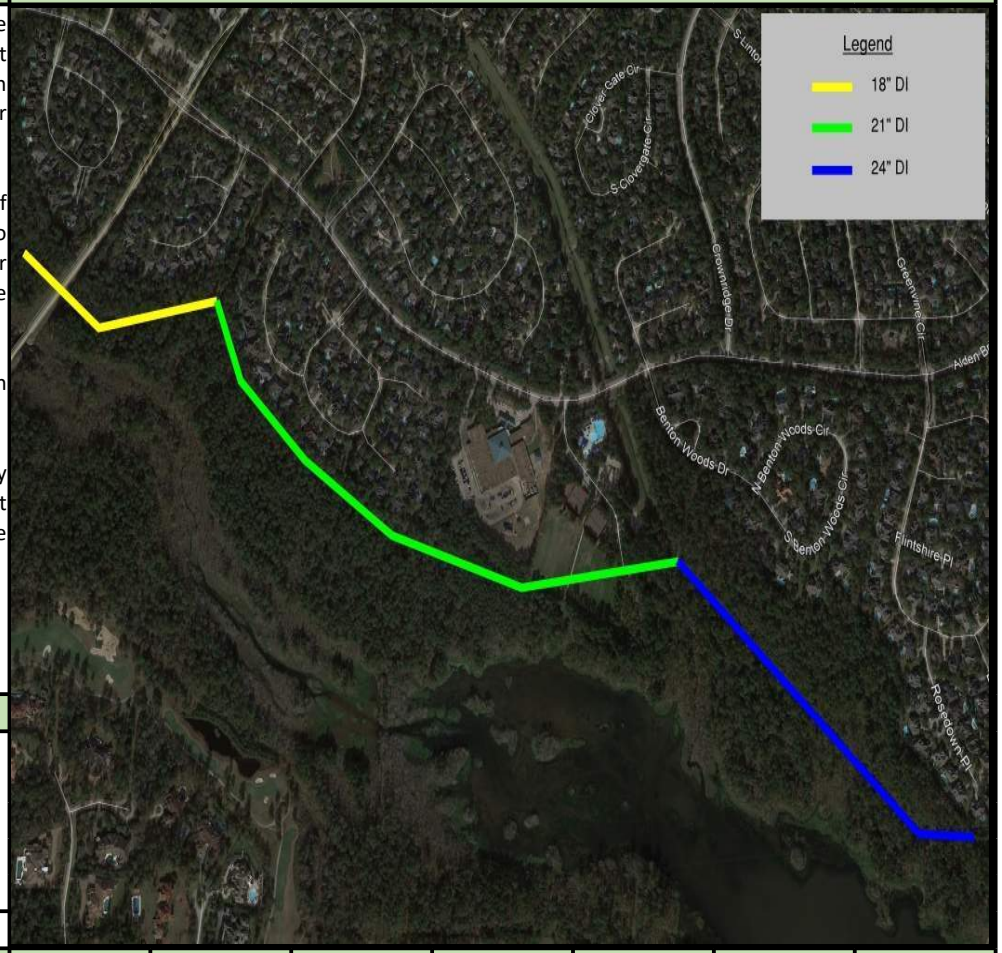
Some wastewater lines within the collection system have been in service for over 40 years. The aging system requires rehabilitation to avoid collection system failure, sewage overflows, and permit violations. Through the Asset Management Program and the Sanitary Sewer Transmission Assessment and Renewal (SSTAR) Program, specific line segments were identified as high risk for failure and should be rehabilitated within the next few years.

The SSTAR Program conducted in 2019 and 2020 included a condition assessment consisting of closed circuit television (CCTV) inspection and analysis of expected remaining useful life. CCTV video footage showed significant deterioration of the existing gravity mains, requiring rehabilitation or replacement. Additionally, these line segments were scored with a high consequence of failure due to their proximity to a sensitive environmental waterway.

The line segments included in this project include approximately 1344 linear feet of 18" ductile iron (DI) pipe, 3310 linear feet of 21" DI pipe, and 2036 linear feet of 24" DI pipe.

This project is part of a phased asset management approach to continuously rehabilitate sanitary sewer gravity mains in the system, to avoid collection system failure, sewage overflows, and permit violations. Other projects as described in WW21GR, WW23GR, and WW27GR will accomplish the goal of rehabilitating the gravity mains identified as being the highest risk for failure.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2024	☐ DBB	☐ O&M
PSA/WO Issued:	2025	☐ CMAR	☐ Bonds
Final Proposal Docs:	2025	☑ CSP	☑ R&R
Proposals/Bids Received:	2025	☐ Other	☐ Other
Constr. Contract to Board:	2026		
Substantial Completion:	2027	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 184,000	$ -	$ -	$ -	$ -	$ -	$ 184,000	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 368,000	$ -	$ -	$ -	$ -	$ -	$ 368,000	$ -	$ -	$ -	$ -	$ -
Construction	$ 3,732,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,732,000	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 373,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 373,000	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 4,657,000	$ -	$ -	$ -	$ -	$ -	$ 552,000	$ 4,105,000	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Generator Replacement	WWF1GN	2026-2027	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

The 2,000 kW diesel standby generator at Wastewater Treatment Facility No. 1 was installed in 2000. This generator provides the primary backup power source for Wastewater Treatment Plant No. 1 in the event of power outage. In order to maintain reliable power backup for the wastewater facility, it is recommended to replace this generator before it is anticipated to reach the end of its useful life, which is approximately 30 years. Also, continued maintenance costs rise as replacement parts become less available. A new diesel standby generator of the same size is expected to replace the current generator.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2026	☐ DBB	☐ O&M
PSA/WO Issued:	2026	☐ CMAR	☐ Bonds
Final Proposal Docs:	2026	☑ CSP	☑ R&R
Proposals/Bids Received:	2026	☐ Other	☐ Other
Constr. Contract to Board:	2027		
Substantial Completion:	2027	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 87,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 87,000	$ -	$ -	$ -	$ -
Engineering/Design	$ 87,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 87,000	$ -	$ -	$ -	$ -
Construction	$ 886,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 886,000	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 89,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 89,000	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,149,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 174,000	$ 975,000	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Gravity Main Rehabilitation	WW27GR	2027-2028	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

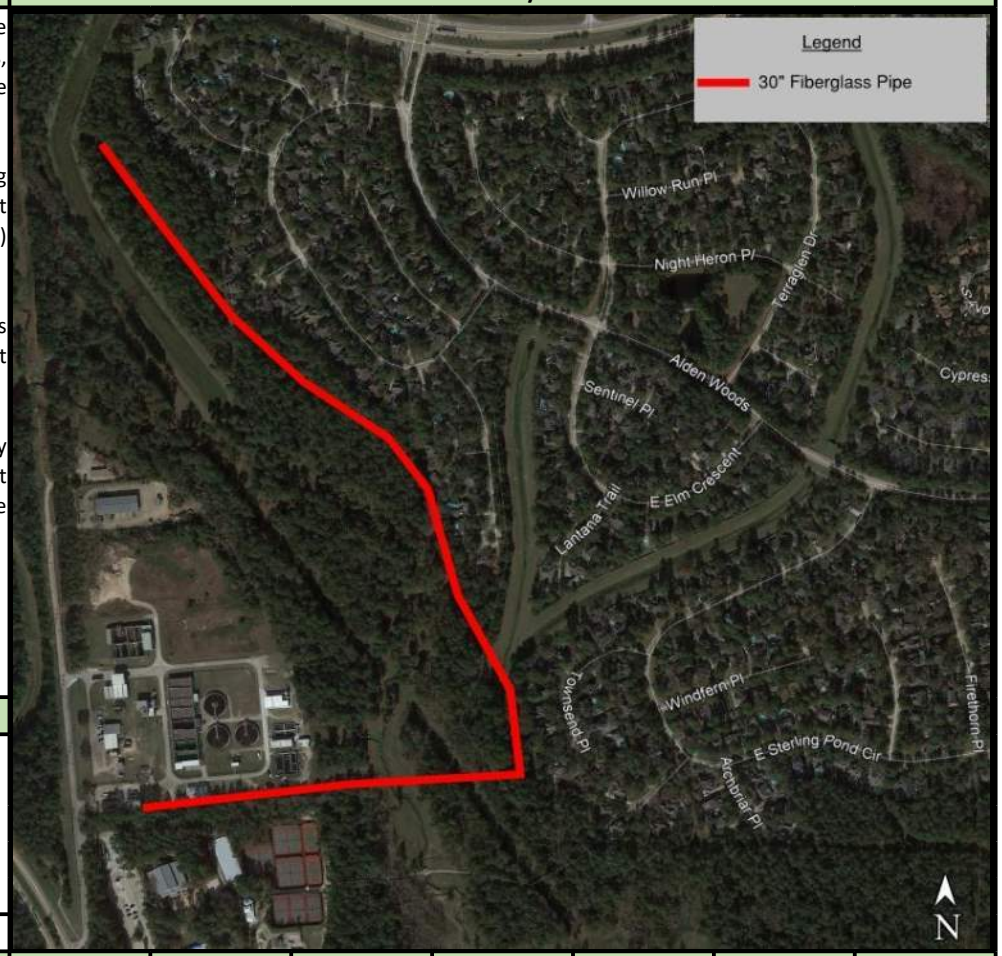
Some wastewater lines within the collection system have been in service for over 40 years. The aging system requires rehabilitation or renewal to avoid collection system failure, sewage overflows, and permit violations. Through the Asset Management Program, specific line segments were identified as high risk for failure and should be rehabilitated within the next few years.

The SSTAR Program conducted in 2019 and 2020 included assessment of the expected remaining useful life for collection system assets. Aging fiberglass pipe was identified as a high-risk asset, but the exact condition of the existing pipe is unknown. Additional closed circuit television (CCTV) inspection will be conducted to confirm the need for this project and its timing.

The line segments included in this project include approximately 4248 linear feet of 30" fiberglass reinforced plastic (FRP) pipe located north of Research Forest Drive, near Wastewater Treatment Facility No. 2.

This project is part of a phased asset management approach to continuously rehabilitate sanitary sewer gravity mains in the system, to avoid collection system failure, sewage overflows, and permit violations. Other projects as described in WW21GR, WW23GR, and WW25GR will accomplish the goal of rehabilitating the gravity mains identified as being the highest risk for failure.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2026	☐ DBB	☐ O&M
PSA/WO Issued:	2027	☐ CMAR	☐ Bonds
Final Proposal Docs:	2027	☑ CSP	☑ R&R
Proposals/Bids Received:	2028	☐ Other	☐ Other
Constr. Contract to Board:	2028		
Substantial Completion:	2029	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 295,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 295,000	$ -	$ -	$ -
Engineering/Design	$ 591,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 591,000	$ -	$ -	$ -
Construction	$ 5,998,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,998,000	$ -	$ -
CPS, CM&I, and CMT	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 600,000	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 7,484,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 886,000	$ 6,598,000	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Digester No. 1 Replacement	WW1D1R	2028-2029	The Woodlands

Digester No. 1 at Wastewater Treatment Facility No. 1 was constructed in 1982. Over the course of several wastewater facility expansions, this digester has been modified numerous times to allow for its continued use. However, the digester does not perform at an efficient hydraulic capacity for the current facility operations. In addition, as the basin will be reaching the end of its effective useful life by 2028. Therefore, a new basin is planned to be constructed adjacent to Digester 2 and Digester 1 will be demolished. The new basin will be designed to handle ultimate peak flow as required from the analysis performed for the 6th and Final Accounting.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2028	☐ DBB	☐ O&M
PSA/WO Issued:	2028	☐ CMAR	☐ Bonds
Final Proposal Docs:	2028	☑ CSP	☑ R&R
Proposals/Bids Received:	2029	☐ Other	☐ Other
Constr. Contract to Board:	2029		
Substantial Completion:	2030	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 138,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 138,000	$ -	$ -
Engineering/Design	$ 138,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 138,000	$ -	$ -
Construction	$ 1,405,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,405,000	$ -
CPS, CM&I, and CMT	$ 140,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 140,000	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,821,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 276,000	$ 1,545,000	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Wastewater Treatment Facility No. 2 Blower Replacement	WWP2BR	2030	The Woodlands

Phase I of Wastewater Treatment Facility No. 2 was constructed in 1995. The blowers for the aeration basins and the post-aeration blowers at the filter basin are original to the 1995 construction and have reached the end of their useful life. The blowers are planned to be replaced with high-efficiency positive displacement blowers of equal capacity. The size of the blowers at the aeration basin will be increased from 150 hp to 200 hp.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2030	☐ DBB	☐ O&M
PSA/WO Issued:	2030	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☐ Other
Constr. Contract to Board:	2030		
Substantial Completion:	2031	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 127,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 127,000
Engineering/Design	$ 127,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 127,000
Construction	$ 1,268,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,268,000
CPS, CM&I, and CMT	$ 127,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 127,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 1,649,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,649,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 2 Clarifier Rehabilitation	WW02CR	2030-2031	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

Two clarifiers at Wastewater Treatment Facility (WWTF) No. 2 were installed in 1995, and one clarifier was installed in 2003. The existing metal components are beginning to show signs of corrosion, however, the corrosion is currently being monitored and temporarily mitigated. Typical effective useful life for wastewater treatment facility mechanical equipment is 20 years. The mechanical equipment in all three clarifiers have reached the end of their useful life. Therefore, it is recommended to replace this equipment at all three clarifiers.

The project includes replacement of the mechanical components of Clarifier Nos. 1, 2 and 3 including clarifier mechanisms, weirs and baffles, weir cleaning brushes, electrical, and instrumentation. This includes replacement of single skimmer arms with dual skimmer arm, and replacement of the Clarifier No. 3 stilling well.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2030	☐ DBB	☐ O&M
PSA/WO Issued:	2030	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☑ Other
Constr. Contract to Board:	2031		
Substantial Completion:	2031	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 158,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,000
Engineering/Design	$ 158,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 158,000
Construction	$ 1,531,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,531,000
CPS, CM&I, and CMT	$ 153,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 153,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,000,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Wastewater Treatment Facility No. 2 Basin Coating	WWP2BC	2030	The Woodlands

Wastewater Treatment Facility No. 2 was primarily constructed in two phases, with Phase I occurring in 1995 and Phase II occurring in 2003. Long-term exposure to corrosive gas in the wastewater facility will degrade the concrete structures over-time. The basins at Wastewater Treatment Facility No. 2 exposed to the most corrosive gases are the aeration basins, digester, and thickener. To remedy any damage and prevent further concrete degradation, the basins will be coated with a material which will provide additional structural integrity as well as protect the concrete from further degradation. This coating is estimated to extend the service life of the basins by another 15-20 years.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	2029	☐ DBB	☐ O&M
PSA/WO Issued:	2030	☐ CMAR	☐ Bonds
Final Proposal Docs:	2030	☑ CSP	☑ R&R
Proposals/Bids Received:	2030	☐ Other	☐ Other
Constr. Contract to Board:	2030		
Substantial Completion:	2031	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 317,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 317,000
Construction	$ 3,169,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,169,000
CPS, CM&I, and CMT	$ 317,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 317,000
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 3,803,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,803,000

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Replacement of Aeration Basin Nos. 1 and 2	WWF1AB	2018-2020	The Woodlands

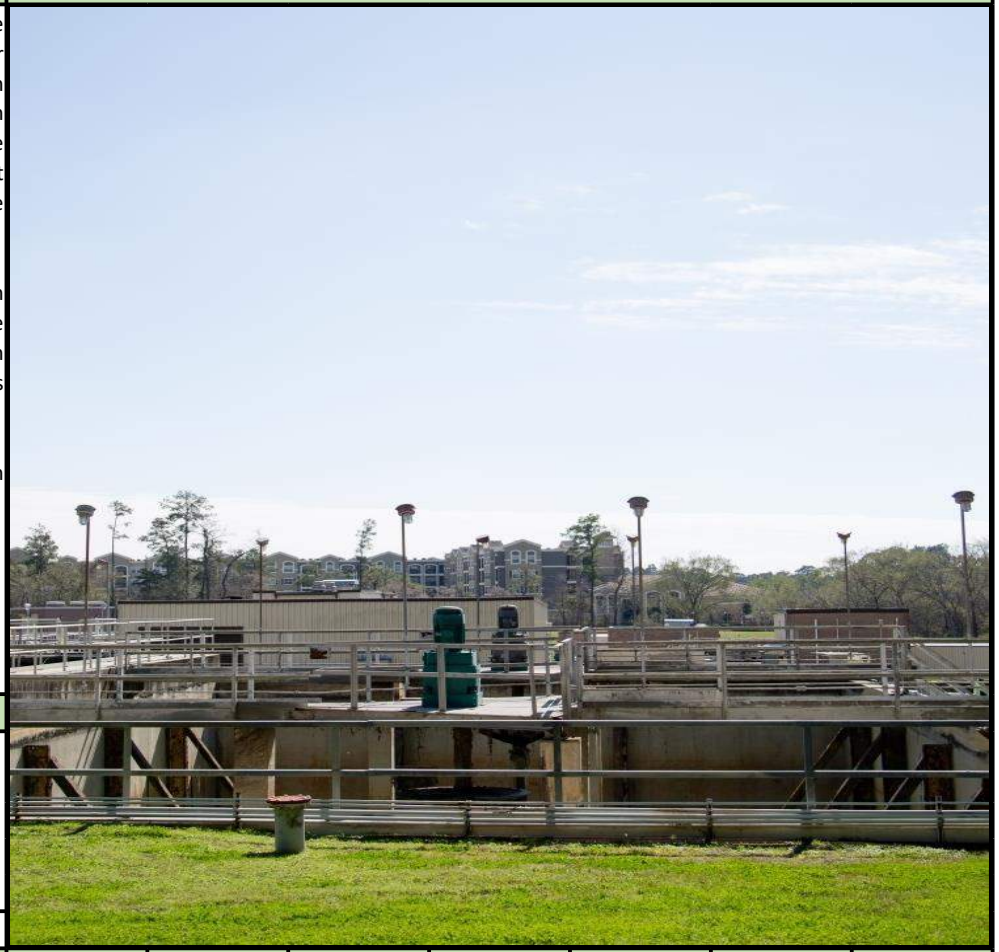
PROJECT DESCRIPTION/JUSTIFICATION:

Aeration Basin Nos. 1 and 2 at Wastewater Treatment Facility (WWTF) No. 1 were part of the original plant construction in 1974. Aeration Basin 1 is currently not in operation due to poor condition, and the current treatment capacity of Aeration Basin 2 is limited due to aeration limitations. A comprehensive evaluation of WWTF No. 1 was performed in 2014, which recommended that Aeration Basin Nos. 1 and 2 be repaired or replaced and that both basins be upgraded to a more efficient fine bubble diffused aeration system. A Preliminary Engineering Report (PER) completed in 2019 recommended replacing Aeration Basin Nos. 1 and 2 and upgrading to fine bubble diffused aeration.

Based on the recommendations provided in the PER, final design of the project will be completed in 2020. The project scope includes replacement of Aeration Basin Nos. 1 and 2 including a fine bubble diffused aeration system, replacement of the aeration basin splitter box, replacement of aeration basin blowers and digester blowers, addition of two new aeration basin blowers, and miscellaneous related improvements.

Continued growth within The Woodlands will require these basins to be operational in the future in order to meet Texas Commission on Environmental Quality (TCEQ) discharge permit requirements.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	October 2017	☐ DBB	☐ O&M
PSA/WO Issued:	January 2018	☐ CMAR	☑ Bonds
Final Proposal Docs:	April 2020	☑ CSP	☐ R&R
Proposals/Bids Received:	June 2020	☐ Other	☐ Other
Constr. Contract to Board:	August 2020		
Substantial Completion:	March 2022	☑ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 654,000	$ 654,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 537,000	$ 537,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 10,564,000	$ 10,564,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 1,057,000	$ 1,057,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 12,812,000	$ 12,812,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
Gravity Main Rehabilitation	WW21GR	2020-2022	The Woodlands

PROJECT DESCRIPTION/JUSTIFICATION:

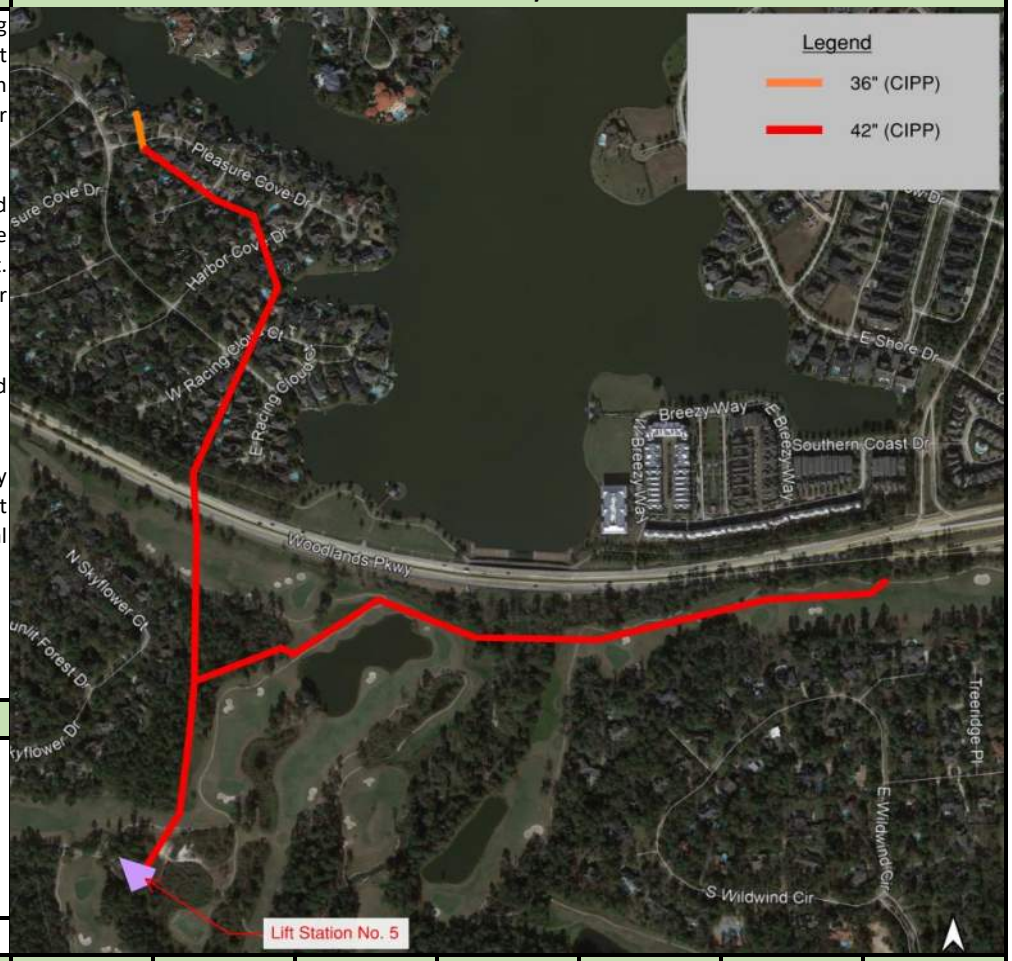
Some wastewater lines within the collection system have been in service for over 40 years. The aging system requires rehabilitation to avoid collection system failure, sewage overflows, and permit violations. Through the Asset Management Program and the Sanitary Sewer Transmission Assessment and Renewal (SSTAR) Program, specific line segments were identified as high risk for failure and should be replaced or rehabilitated in the near term.

The SSTAR Program conducted in 2019 and 2020 included a condition assessment consisting of closed circuit television (CCTV) inspection and analysis of expected remaining useful life. CCTV video footage showed significant deterioration of the existing gravity mains, requiring rehabilitation or replacement. Additionally, these line segments were scored with a high consequence of failure, due to their location, difficulties with access, and their criticality.

The line segments included in this project include approximately 157 linear feet of 36" DI pipe and 6496 linear feet of 42" DI pipe.

This project is part of a phased asset management approach to continuously rehabilitate sanitary sewer gravity mains in the system, to avoid collection system failure, sewage overflows, and permit violations. Other projects as described in WW23GR, WW25GR, and WW27GR will accomplish the goal of rehabilitating the gravity mains identified as being the highest risk for failure.

PROJECT MAP/PICTURE



PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	April 2020	☐ DBB	☑ O&M
PSA/WO Issued:	August 2020	☐ CMAR	☑ Bonds
Final Proposal Docs:	October 2021	☑ CSP	☐ R&R
Proposals/Bids Received:	December 2021	☐ Other	☐ Other
Constr. Contract to Board:	March 2022		
Substantial Completion:	May 2023	☐ Capitalized	☑ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ 407,000	$ 407,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 815,000	$ 237,423	$ 577,577	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 8,352,000	$ -	$ -	$ 8,352,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 835,000	$ -	$ -	$ 835,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ 407,000	$ -	$ 407,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 10,816,000	$ 644,423	$ 984,577	$ 9,187,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.

PROJECT NAME:	PROJECT ID	FISCAL YEAR	DIVISION
WWTF No. 1 Aeration Basin Nos. 1 and 2 Capacity Increase	WW1AB	2018-2020	The Woodlands

Aeration Basin Nos. 1 and 2 at Wastewater Treatment Facility (WWTF) No. 1 were part of the original plant construction in 1974. Aeration Basin 1 is currently not in operation due to poor condition, and the current treatment capacity of Aeration Basin 2 is limited due to aeration limitations. A comprehensive evaluation of WWTF No. 1 was performed in 2014, which recommended that Aeration Basin Nos. 1 and 2 be repaired or replaced and that both basins be upgraded to a more efficient fine bubble diffused aeration system. A Preliminary Engineering Report (PER) completed in 2019 recommended replacing Aeration Basin Nos. 1 and 2 and upgrading to fine bubble diffused aeration.

Based on the recommendations provided in the PER, final design of the project will be completed in 2020. The project scope includes replacement of Aeration Basin Nos. 1 and 2 including a fine bubble diffused aeration system, replacement of the aeration basin splitter box, replacement of aeration basin blowers and digester blowers, addition of two new aeration basin blowers, and miscellaneous related improvements.

Continued growth within The Woodlands will require these basins to be operational in the future in order to meet Texas Commission on Environmental Quality (TCEQ) discharge permit requirements.

PROJECT MAP/PICTURE

PROJECT SCHEDULE		DELIVERY	FUNDING
Initiate Cons. Selection:	October 2017	☐ DBB	☐ O&M
PSA/WO Issued:	January 2018	☐ CMAR	☐ Bonds
Final Proposal Docs:	April 2020	☑ CSP	☐ R&R
Proposals/Bids Received:	June 2020	☐ Other	☑ Other
Constr. Contract to Board:	August 2020		Capacity
Substantial Completion:	March 2022	☐ Capitalized	☐ Expensed

BUDGET*	TOTAL	PREVIOUS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Planning/Permitting/PER	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Engineering/Design	$ 117,000	$ 117,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Construction	$ 1,745,000	$ 1,745,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPS, CM&I, and CMT	$ 175,000	$ 175,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land Acquisition	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Equipment Purchase	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	$ 2,037,000	$ 2,037,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

*Budget includes contingency.