



TO: Kevin Carter, District Manager

DATE: April 30, 2024

FROM: Jared R. Brown, P.E.

RE: POICID 2024 Utility CIP Update

Please accept this memorandum as an update to the utility portion of the Capital Improvement Plan (CIP). Line items from the 2022 CIP which were unable to be verified have been carried through with only adjustment to costs to account for inflation and current market conditions. Please refer to previous CIPs for detailed information regarding each action item. Below is a table which provides a preliminary budgetary cost estimate for these projects in 2024 dollars with brief description of each project. Projects are not listed in priority.

CAPITAL IMPROVEMENT PLAN UTILITY COMPONENT				
Project No.	Description	Year Range	2024 CIP Budget	Notes
Plant Related				
1	Replace Aquastore Finished Water Tank Dome	1-5	\$322,000	Replace Aquastore Model 3124 finished water tank dome as a maintenance item
2	Plant Facility Gate Replacement	1-5	\$17,000	
3	Wastewater Disc Filter	1-5	\$317,000	One new disk filter unit for reliability of effluent TSS reduction. Costs to include filter unit, piping, electric controls, installation, startup, O&M Manual, all as specified by Hole Montes Bowman, engineers for the plant DEP operating permit renewal
4	Wastewater Plant Aeration Piping Replacement	1-5	\$305,000	
5	Plant Facility Existing Building Evaluation	1-5	\$37,000	
6	Water Storage Tank Addition (132,000 gal. Alternate)	1-5	\$864,000	New 132,000 gallon finished water storage tank addition by Florida Aquastore. Site preparation and interconnect piping buy FUS
7	Second Effluent Disc Filter	1-5	\$328,000	Second effluent disk filter unit to replace upflow sand filter. Convert sand filter tankage to surge tank.
8	Wastewater Plant Bar Screen Replacement	1-5	\$123,000	Add second static screen, relocate screens to area of old-inoperable rotor screen. Evaluate the static screens with structure to allow screenings dumpster access.
9	Water Storage Tank Addition (250,000 gal.)	1-5	\$1,013,000	New 250,000-gallon water storage tank addition by Florida Aquastore Model 4226. Interconnecting piping installation by FUS
10	Facilities Conversion	1-5	\$301,000	Facilities conversion to eliminate canal pump unit from supplemental irrigation supply source. Steps: a. Convert existing 132,000-gallon Aquastore finished water tank to reuse storage with piping modifications. b. Install effluent transfer pump station (as existing two storage tanks are "low pro-file" gravity fed from WWTP chlorine tank). c. Modification of existing irrigation pump station for suction from 132,000-gallon storage tank.

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11	Fire/Irrigation High Service Pump Replacement	1-5	\$358,000	
12	Water System High Service Pump Replacement	1-5	\$284,000	
13	Plant Facility Existing Building Demolition/Renovation	1-5	\$138,000	Demolish – remove building from site, leave part of east wall with plant electric power cabinets, transformer, effluent turbidity, pH, chlorine residual monitoring & alarm system and construct a shed structure to “weather protect” the existing online systems.
14	Wastewater MBR Equipment Removal	1-5	\$41,000	Demolish, remove from site, refurbish structure, and clear for use as storage bay.
15	Fire Hydrant Removal – North Hotel	1-5	\$4,000	
16	Wastewater Pump Station Evaluation	1-5	\$52,000	Inspection of each of the six (6) wastewater pump stations for pump operation, capacity, and compliance with current standards.
17	Wastewater Collection System Evaluation	1-5	\$138,000	Video inspection of all 6" & 8" gravity sewer and visual assessment of all wastewater manholes for damage and signs of groundwater infiltration
18	Wastewater Transmission System Isolation Valve Replacement	1-5	\$121,000	Replacement of the estimated ten (10) 6" or 8" plug valves throughout the wastewater transmission system. Exact size and quantity unknown
19	Wastewater Pump Station Rehabilitation	1-5	\$759,000	Partial rehabilitation of the six (6) wastewater pump stations based on assessment report: replacement of pumps, rails, piping, and control panels to current standards
20	Water System Isolation Valve Replacement	1-10	\$426,000	Replacement of the estimated fifty two (52) 4", 6" and 8" gate valve throughout the potable water distribution system. Exact size and quantity unknown
21	Fire/Irrigation System Isolation Valve Replacement	1-10	\$224,000	Replacement of the estimated twenty four (24) 6", 8", and 10" valves throughout the irrigation and fire protection system. Exact size and quantity unknown
22	Wellfield Raw Water Main Replacement (AC to HDPE)	1-5	\$1,311,000	
23	Wellfield VFD's, Control Valves & Telemetry	1-5	\$377,000	
24	Wastewater Collection System Rehabilitation	5-10	TBD	Rehabilitation scope dependent upon Wastewater Collection System Evaluation report
25	Union Road AC Water Main Replacement	5-10	\$886,000	Replacement of the approximately 3,500 linear feet of 8" asbestos concrete water main with 8" PVC or HDPE with grouting of the abandoned main.
26	Orchid Cove Water Main Interconnect	5-10	\$106,000	Extension of the existing 8" watermain to connect to the north and south dead ends within Orchid Cove to provide system looping in enhanced performance. Includes two crossings of Union Road

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27	Orchid Cove Fire/Irrigation Main Interconnect	5-10	\$124,000	Extension of the existing 8" main to connect to the existing fire/irrigation main within Orchid Cove to provide system looping in enhanced performance. Includes crossings of Union Road and Peacock Lane
28	Pump Replacement (Well 1 - new submersible pump)	5-10	\$35,000	No obvious deficiencies were noted for all three production wells. Only routine maintenance is likely necessary for the next five years and no major capital improvement is planned for the production wells. In the event of pump failure for well PW-3, the line shaft turbine should be replaced with submersible pumps similar to the ones in wells EW-1 and EW-2.
29	Water RO Membrane Replacement	10-20	\$90,000	
30	Well/Pump Replacement (Full replacement for wells 2 & 3)	10-20	\$460,000	Wells EW-1 and EW-2 were reported to be constructed in 1966. Well completion reports for those two wells are not available and it is assumed that they are constructed with 8-inch diameter steel casing. Given the age (almost 60 years) of these wells and that they are nearing the end of their serviceable life, it is recommended that they both be replaced within the next twenty-year period.

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CAPITAL IMPROVEMENT PLAN UTILITY COMPONENT FIVE YEAR PROJECTS (NOTE: Projects are not listed in priority)			
Project No.	Description	Year	2024 CIP Budget
Plant Related			
1	Replace Aquastore Finished Water Tank Dome	1	\$322,000
2	Plant Facility Gate Replacement	1	\$17,000
3	Wastewater Disc Filter	1	\$317,000
4	Wastewater Plant Aeration Piping Replacement	1	\$305,000
5	Plant Facility Existing Building Evaluation	1	\$37,000
6	Water Storage Tank Addition (132,000 gal. Alternate)	2	\$864,000
7	Second Effluent Disc Filter	2	\$328,000
8	Wastewater Plant Bar Screen Replacement	2	\$123,000
9	Water Storage Tank Addition (250,000 gal.)	3	\$1,013,000
10	Facilities Conversion	3	\$301,000
11	Fire/Irrigation High Service Pump Replacement	3	\$358,000
12	Water System High Service Pump Replacement	4	\$284,000
13	Plant Facility Existing Building Demolition/Renovation	4	\$138,000
14	Wastewater MBR Equipment Removal	4	\$41,000
		Subtotal:	\$4,448,000
Collection/Distribution System Related			
15	Fire Hydrant Removal – North Hotel	1	\$4,000
16	Wastewater Pump Station Evaluation	1	\$52,000
17	Wastewater Collection System Evaluation	2	\$138,000
18	Wastewater Transmission System Isolation Valve Replacement	3	\$121,000
19	Wastewater Pump Station Rehabilitation	4	\$759,000
20	Water System Isolation Valve Replacement	4	\$426,000
21	Fire/Irrigation System Isolation Valve Replacement	4	\$224,000
		Subtotal:	\$1,724,000
Wellfield Related			
22	Wellfield Raw Water Main Replacement (AC to HDPE)	1	\$1,311,000
23	Wellfield VFD's, Control Valves & Telemetry	3	\$377,000
		Subtotal:	\$1,688,000
		Grand Total	\$7,860,000