

Key Largo Wastewater Treatment District Board of Commissioners Meeting Agenda Item Summary

Meeting Date:
August 16, 2022

Agenda Item Number: M-1

Action Required:
No


Department: Construction Sponsor: Ed Castle

Subject:
FY23 Capital Budget Information

Summary of Discussion:

WEC has prepared a summary of the proposed capital projects for FY23 for informational purposes prior to presentation of the final FY23 budget, to be presented at the September 6th, 2022 Board meeting.

<u>Reviewed / Approved</u>	<u>Financial Impact</u>	<u>Attachments</u>
Operations: _____	\$ 12,575,708.00	1. Table of Proposed FY23 Capital Projects with Descriptions
Administration: _____		
Finance: _____	Funding Source:	
District Counsel: _____	Grants/R&R Fund	
District Clerk: _____	Budgeted:	
Engineering: _____	Yes	

Approved By:  Date: 8-11-22
General Manager



**KEY LARGO WASTEWATER TREATMENT DISTRICT
FY2023 CAPITAL PRELIMINARY BUDGET for Weiler Engineering Presentation at 8.16.22 KLWTD Board Meeting**

Dept 5900 - CAPITAL IMPROVEMENTS				
401-5900-311.006.00-2021-002	Capital Outlay: Odor Control @ Vac Stations	\$	1,100,000	Project included new odor control units for all vacuum stations and includes replacing the generators at Vac A and Vac D. At Vac A and Vac D, the odor control and the generators will be moved outside. The rest are already outside. A screening block wall is included at Vac A for Archdiocese
401-5900-311.006.00-2021-002	-Engineering: Odor Control @ Vac Stations	\$	143,000	Engineering associated with the above project.
401-5900-630.000.00-2018-007	Capital Outlay: VPS Piping Mod	\$	650,000	This is the fourth and final step in the Emergency Trailer and VPS project. The Contractor will modify piping and electrical to allow connection of the emergency trailer to each of the Vacuum Stations (except F). The work includes all necessary communications and programming for the system to function. Startup services and training are included. This project was put out to bid but no bids were received. WEC is negotiating with a qualified contractor to get acceptable pricing.
401-5900-311.006.00-2018-007	- Engineering: VPS Piping Mod	\$	38,000	Engineering associated with the above project. Work includes design of the piping and electrical modifications, inspections during construction, processing of pay applications and final project closeout.
401-5900-630.000.00-2021-003	Capital Outlay: Tanks Coating	\$	23,500	Southland's existing contract for coatings of concrete tanks at the WWTP has been expanded to include repairs to the sidewalks at the Admin Building and to coat the vacuum pump stations structures. Most of this work will be completed in FY22. This remainder represents final release of retainage.
401-5900-311.006.00-2021-003	- Engineering: Tanks Coating/Vac Stations/Admin	\$	2,000	Engineering associated with the above project. Work includes review of record drawings, final releases of liens, processing of final pay application and final project closeout.
401-5900-630.000.00-2022-001	Capital Outlay: Effluent Filtration Upg	\$	1,500,000	This project included installation of a third disc filter of upgraded design. A third filter will provide the additional capacity and redundancy needed for periods of high flow or poor effluent quality, or when one of the existing disc filters is out of service. A piping mainfold will be needed at the booster pumps. An elevated platform will hold the new filter unit.
401-5900-311.006.00-2022-001	-Engineering: Effluent Filtration Upgrade	\$	152,250	Engineering associated with the above project. Work includes design and permitting of the new filtration system, including civil, structural and mechanical design. Construction inspections and construction administration and final closeout are included in the scope.
401-5900-630.000.00-2022-003	Cap Outlay: Replace Lift Sta KL Trl Pk	\$	350,000	The District assumed ownership of an existing concrete pump station during the original construction. The pumps and control panel were upgraded at that time. The concrete tank has deteriorated and a new pump station is needed, keeping the old one in service till the new one is operational.
401-5900-311.006.00-2022-003	- Engineering: Lift Sta at KL Trailer Park	\$	15,000	Engineering associated with the above project. Work included design and permitting, construction inspections and administration and final closeout
401-5900-630.000.00-2022-004	Capital Outlay: Vac System Monitoring	\$	3,424,000	This project includes installation of monitoring systems in all vacuum pits, buffer tanks, grinder pump stations and conventional pump stations. The monitoring system will generate reports on performance and will send emergency notifications whenever high levels are reached. This is the expected amount of expenditure in FY2023. The project will extend into FY2024. Total project capital cost is \$7,575,677.36
401-5900-311.006.00-2022-004	- Engineering: Vac System Monitoring	\$	300,000	Engineering associated with the above project. Work included design and permitting, construction inspections and administration and final closeout
401-5900-630.000.00-2022-006	Cap Outlay: Sewage Pump Repl/Piping Mod	\$	30,000	Purchase of materials for installation of the remaining stainless steel pumps at the vacuum stations. Materials include concrete for the pump bases, conduit and wiring, conduit hangers, concrete anchors, etc.

401-5900-311.006.00-2022-006	-Engineering-Sewage Pump Replacements	\$		No engineering associated with the above project.
401-5900-630.006.00-2022-009	Capital Outlay: Power Conditioning @ WWTP/Electrical Upgrades	\$	750,000	Power conditioning and electrical upgrades includes replacement of deteriorated conduit and wiring at the WWTP, followed by installation of isolation transformers to mitigate power surges, voltage fluctuations and "dirty" power to protect PLCs and electrical equipment. This project will extend into FY2024. Total project capital cost is estimated at \$1,981,500.00
401-5900-311.006.00-2022-009	-Engineering -Power Conditioning @ WWTP/Electrical Upgrades	\$	110,000	Engineering associated with the above project. Work includes design, construction inspections and administration and project closeout.
401-5900-650.003.00-Svc ConRv	Service Connection Construction Revision	\$	220,000	This is an estimated amount of potential District expenses for extending service to un-served or under-served properties. This would include improvements to the vacuum system and the grinder pump system. (It is understood that in many cases, the cost of extending service may be recovered from the property owner's SIC fees)
401-5900-311.006.00-Svc ConRv	- Engineering: Service Connection Revision	\$	15,000	Engineering associated with the above projects. Work included design and permitting of connection extensions or modifications.
401-5900-650.999.00-2023-001	Cap Outlay Headworks & Screening Upgrades	\$	840,000	This included replacement of the existing rotary screens with static screens. The rotary screens are troublesome and are mechanical/electrical in nature. The proposed static screens are stainless steel with no moving parts and no need for electricity.
401-5900-311.006.00-2023-001	- Engineering: Headworks & Screening Upgrades	\$	75,000	Engineering associated with the above project. Work includes design, construction inspections and administration and project closeout.
401-5900-650.999.00-2023-002	Cap Outlay Ventilation Upgrades @ Vac Stations	\$	185,000	This work includes installation of additional louvers and exhaust fans at the vacuum stations to help reduce operating temperatures in vacuum skid areas.
401-5900-311.006.00-2023-002	- Engineering: Ventilation Upgrades @ Vac Stations	\$	14,000	Engineering associated with the above project. Work includes design, construction inspections and administration and project closeout.
401-5900-650.999.00-2023-003	Cap Outlay Piping & Valve Upgrades @ Vac Sta	\$	400,000	
401-5900-311.006.00-2023-003	- Engineering: Piping Upgrades @ Vac Stations	\$	25,000	The existing iron suction header trees at the vacuum stations are corroding and need to be replaced. The District plans on having these replaced with corrosion-resistant PVC. This may be an R&R funded project.
401-5900-650.999.00-2023-004	Cap Outlay Two Driveways @ Vac I	\$	85,000	The Field Operations department has requested installation of two access driveways at Vac I.
401-5900-311.006.00-2023-005	- Engineering: Two Driveways @ Vac I	\$	20,000	Engineering associated with the above project. Work includes design, FDOT permitting, construction inspections and administration and project closeout.
401-5900-650.999.00-2023-005	Cap Outlay Direct Potable Reuse Demonstration Prelim	\$	-	No capital expenses anticipated in FY 2023.
401-5900-311.006.00-2023-006	- Engineering: Direct Potable Reuse Demonstration Prelim	\$	87,500	Engineering costs associated with the Direct Potable Reuse demonstration project. Work included research of technical and permitting requirements, coordination with FKAA and FDEP, prepare applications for Alternative Water Supply grant funding. Work also includes preliminary design and technical specifications.
401-5900-650.999.00-2023-006	Cap Outlay Vac Stations Lightning Protection	\$	250,000	The vacuum stations currently have no lightning protection. This project includes installation of lightning protection at all vacuum stations.
401-5900-311.006.00-2023-007	Engineering: Vac Stations Lightning Protection	\$	20,000	Engineering associated with the above project. Work includes design, construction inspections and administration and project closeout.

Engineering without Capital Projects in FY23				
401-5900-311.006.00-2022-000	Engineering: Capital Prelim Design & Bgt	\$ 25,000		This item is intended to cover engineering efforts for capital planning, budget preparation, grants coordination and similar activities. The WWTP has had a number of projects occur since the main WWTP work was completed. We have record drawings each major project subsequent to the main WWTP work. WEC will survey locations and elevations of structures to verify existing record drawing data and will record locations of underground piping and electrical using ground penetrating radar where needed. The final product will be a comprehensive and complete record drawing for the WWTP as it exists today.
401-5900-311.006.00-2022-005	Engineering: Plant Combined Record Draw	\$ 35,000		An influent equalization tank will help stabilize flow through the SBRs, making treatment more efficient and will provide storage if shock loads are detected. The EQ tank will also be helpful whenever flow to the plant needs to be shut down for improvements or repairs at the WWTP rather than shutting down flow from both KLWTD and Islamorada. The capital portion of this project is slated for FY24.
401-5900-311.006.00-2022-010	Engineering: Influent EQ Tank	\$ 120,000		
Capital Projects without Engineering in FY23				
401-5900-650.999.00-2023-008	Cap Outlay Vacuum Pit Valve Rebuild	\$ 822,000		This is the cost of buying rebuild kits for all vacuum valves in the vacuum pits and buffer tanks. Valves have a life expectancy of 10 - 15 years between rebuilds. KL staff have been rebuilding valves as needed. This expense is needed to proactively rebuild all the valves in the system.
401-5900-630.000.00-2021-004	Capital Outlay: Spare Inj Well Pump VFD	\$ 15,000		This is a spare parts inventory item
401-5900-630.000.00-2021-005	Capital Outlay: Effluent Inj Pump Repair	\$ 50,000		This is for a planned rebuild of a deep injection well pump
401-5900-650.999.03-SCADAUPG	AQUA AEROBICS - SCADA UPGRADE Software	\$ 25,258		This is an IT expense for upgrading of the SCADA software for the WWTP. The treatment system was provided by Aqua Aerobics. Their SCADA program has been used since startup. This is an necessary upgrade for the system.
401-5900-650.999.03 NEW GL	Soft Start Upgrade Vac Station to VFD	\$ 100,000		The existing vacuum pumps require either a soft-start module or a VFD to get the pumps up to operating speed. The existing soft starts are obsolete and no longer supported. Staff proposes to replace the obsolete soft-start with VFDs. Depending on the operational needs, VFDs may provide significant reductions in energy use by the vacuum pumps as well as functioning as pump starters.
401-5351-620.000.00 NEW GL	Capital Outlay: SBR Blower Spare Parts	\$ 105,000		This is a spare parts inventory item for the plant
New GL	Capital Outlay: Spare Booster Pump VFD	\$ 11,000		This is a spare parts inventory item for the plant
New GL	Capital Outlay: Replacement SS Air flex joints	\$ 22,000		This is the cost of buying stainless steel expansion joints (bellows-type) for the large-diameter air headers on the SBRs.
New GL	Capital Outlay: Spare flow meters for plant	\$ 21,000		This is a spare parts inventory item for the plant
New GL	Capital Outlay: Digester blower VFD	\$ 20,000		This is a spare parts inventory item for the plant
New GL	Capital Outlay: Digester motive pump VFD	\$ 20,000		This is a spare parts inventory item for the plant
New GL	Capital Outlay: SBR & DCU PLC upgrades (SCADA)	\$ 185,000		This is an IT expense for upgrading of the programmable logic controllers for the SBR control panel and the Dcu-1 control panel. These are the two major controllers for functioning of the WWTP.
New GL	Capital Outlay: Spare dump pad pump (plant)	\$ 7,000		This is a spare parts inventory item for the plant
401-5352-643.000.01	Capital Outlay: Vac Pump Rebuild and Spares	\$ 20,000		This is a spare parts inventory item for the vacuum stations

401-5352-643.000.01 - New GL	Capital Outlay: Lift Station Spare Pumps	\$ 20,000	This is a spare parts inventory item for the vacuum stations
New GL	Capital Outlay: Inspection Camera	\$ 17,000	This is an IT expense to install additional cameras for security and for the ability to examine the facilities remotely if needed, as in the event of a mandatory evacuation.
New GL	Capital Outlay: 3 Grinder Pumps	\$ 8,200	This is a spare parts inventory item for the grinder pump system
401-5352-645.000.00 - New GL	Capital Outlay - GPS Equipment for GIS	\$ 25,000	The GPS technology had progressed over time. The units available now have much better accuracy than the old units currently in use by KLWTD staff. The proposed new GPS will be survey-grade with the latest technology.
401-5352-645.000.00 - New GL	Capital Outlay - Cabling Plant & Vac Stations &	\$ 36,000	This is an IT expense associated with the installation of new and upgraded cabling to accommodate security at the facilities.
401-5351-645.000.00 - New GL	Capital Outlay - Cameras - Plant, Admin, Field	\$ 42,000	This is an IT expense associated with the installation of new and upgraded cabling to accommodate security at the facilities.
TOTAL PROPOSED FY23 CAPITAL EXPENDITURES		\$ 12,575,708	