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

Meeting Date:

October 1, 2024

Agenda Item Number: M-1

Action Required:

No

Department:

Capital Projects

Sponsor:

Ed Castle

Subject:

Capital Projects Report - August 2024

Summary of Discussion:

Mr. Castle will present the Capital Projects monthly report.

Reviewed / Approved		Financial Impact	Attachments
Operations:	_____	$	1. Monthly Report
Administration:	_____		
Finance:	_____	Funding Source:	
District Counsel:	_____	N/A	
District Clerk:	_____	Budgeted:	
Engineering:	_____	N/A	

Approved By: _____ **Date:** 09/26/2024

General Manager

Key Largo Wastewater Treatment District Capital Projects Report

Including updates through August 2024

Current Capital Projects

Project	Original Contract Amount	Current Contract Amount (Including Direct Purchases, change orders and amendments	Engineering And Other Cost (Anticipated)	Total Project Cost (Anticipated)
Vacuum Stations Modifications	$ 3,155,800.00	$3,270,999.76	$215,000.00	$3,485,999.76
	Engineering Paid to Date	**Construction Paid to Date**	**Balance to Complete (Anticipated)**	**Percentage Complete**
	$203,618.75	$2,263,373.94	$1,019,007.07	71%

- The VPS modifications project was awarded to Reynolds Construction in the amount of $3,155,800.00. The Agreement and the Notice to Proceed were both executed on May 18, 2023.
- Benson Electric pulled all power and signal wire (aside from ATS wiring) from the main panel to the transfer switches in August.
- Reynolds continued replacing the corroded incoming 10” ductile vacuum mains with SDR21 PVC vacuum mains. The trenches remained open with proper MOT as the piping work completed at the start of August.
- Reynolds replaced Fernco couplings with SS 3” braided lines at all vac stations starting at Vac Station A and working south during the month of August.
- Reynolds continued priming and painting valves and fittings for the vacuum pump exhaust piping at Vacuum Station A, D, E, G, I and J/K throughout the period.
- The Board approved Change Order No. 5 in the amount of $10,946.97 at the August 20th Board meeting. The reason for the changes are due to the cable sets not being long enough to extend to the vacuum trailer and secondly because the electrical wiring in place for the sewage pumps does not meet the minimum required size and the installed ground conductor is below the minimum allowable conductor size for the receptacle provided.
- Reynolds, WEC staff and KLWTD staff attended the construction progress meetings on August 8th and August 22nd.

Project	Original Contract Amount	Current Contract Amount (Including Direct Purchases, change orders and amendments	Engineering And Other Cost (Anticipated)	Total Project Cost (Anticipated)
Collection System Monitoring	$7,575,677.00	$9,581,965.61	$718,176.00	$10,300,141.61
	Engineering Paid to Date	**Construction Paid to Date**	**Balance to Complete (Anticipated)**	**Percentage Complete**
	$708,480.00	$7,307,469.64	$2,284,191.97	78%

- Work was completed in Basins A, B, D, G, H, and F
- Current Status:
  - Basin A: **293** installed (Basin complete)
  - Basin B: **383** installed (Basin complete)
  - Basin C: **48** installed (Basin in progress)
  - Basin D: **240** installed (Basin complete)
  - Basin E: **76** installed (Basin in progress)
  - Basin F: **339** installed (Basin complete)
  - Basin G: **231** installed (Basin complete)
  - Basin H: **45** installed (Basin complete)
  - Basin I: **225** installed (Basin in progress)
  - Basin J/K: **372** installed (Basin in progress)
  - Total project installed: **2,252** out of **2,984**
  - **Sensor installation is approx. 75 % complete (Note: This is only sensors and does not include other aspects of the project)**
- Construction progress meeting were held on August 13th and August 27th
- During August, Flovac and IVC continued work in Basin J/K.
- Valve rebuilds continued – 483 rebuilds completed. Continuing to target approx. 10-15 per day.
- A Punchlist walkthrough was conducted for Basin I with WEC, KLWTD, IVC and Flovac. Substantial completion paperwork forthcoming.
- Crews have completed punch list items for final completion of Basin E1, E2 and F. Final Completion paperwork for the subsequent basins are forthcoming.
- Coastal Waterways Gateway was hit by lighting. We are confirming proper grounding of the pole and consulting a lightning protection vendor to ensure safety.

Project	Original Contract Amount	Current Contract Amount (Including Direct Purchases, change orders and amendments	Engineering And Other Cost (Anticipated)	Total Project Cost (Anticipated)
Effluent Filtration Upgrades	$ 3,043,820.00	$3,332,095.76	$350,000.00	$3,682,095.76
	Engineering Paid to Date	**Construction Paid to Date**	**Balance to Complete (Anticipated)**	**Percentage Complete**
	$337,037.50	$2,175,180.51	$1,169,877.75	68%

- The Effluent Filtration Upgrades project was awarded to Reynolds Construction in the amount of $3,043,820.00 on May 15, 2023.
- Filter piping installation has been started and continued throughout the period; the tees have been replaced with crosses and the piping in the pump pit was completed by the end of August.
- The 3 concrete pads for pipe supports were prepared with rebar, vapor barrier and expansion joints, ready for concrete pour.
- The filter platform railings have been installed on all edges besides the north facing edge of the platform. Preliminary installation of the stairs from the existing access platform to the new elevated deck has been completed.
- Coating of both platform and piping materials continued throughout the month of August and was tested by WEC inspector.
- Installed new booster pump piping, exchanging 90s for tees and installing butterfly valves on each line.
- Reynolds, WEC staff and KLWTD staff attended the construction progress meetings on August 8th and August 22nd.

Project	Original Contract Amount	Current Contract Amount (Including Direct Purchases, change orders and amendments	Engineering And Other Cost (Anticipated)	Total Project Cost (Anticipated)
Keys Holdings LLC Pump Station Replacement	$ 375,555.75	$375,555.75	$15,000.00	$390,555.75
	Engineering Paid to Date	**Construction Paid to Date**	**Balance to Complete (Anticipated)**	**Percentage Complete**
	$19,070.00	$211,861.94	$163,693.81	59%

- The District piggybacked on a Marathon bid and awarded the Keys Holdings LLC project to Tropical Underground Contracting, LLC in the amount of $375,555.75.
- Tropical Underground crew has installed the 3”x2” Saddle Tap to existing 3” PVC Force Main.
- Installed new electrical box for lift station and have run PVC conduit pipe from box, underground, to lift station well.
- Tropical Underground completed a force main line pressure test on 8/19 and a hydrostatic pressure test on 8/23, both passing.
- F.J. Nugent and Tropical Underground completed the start-up testing for the lift station on 8/29. The draw-down testing by FJ Nugent passed, and Tropical Underground activated the lift station.

Project	Original Contract Amount	Current Contract Amount {Including Direct Purchases, change orders and amendments	Engineering And Other Cost (Anticipated)	Total Project Cost (Anticipated)
Grinder Pump Lateral Kits Replacement Project	$346,065.33	$346,065.33	$130,000.00	$476,065.33
	Engineering Paid to Date	**Construction Paid to Date**	**Balance to Complete (Anticipated)**	**Percentage Complete**
	$78,585.00	$23,600.00	$373,880.33	21%

- The Grinder Pump Lateral Kits Replacement Project was awarded to Page Excavation in the amount of $346,065.33. The Agreement was executed on the 1st of July 2024. The Notice to Proceed was executed on the 12th of July 2024.
- CO #1 was approved for the ODP of the Stainless-Steel Lateral Kits for the project.
- Page Excavation has completed the Pre-Construction Videos and photos for all 142 addresses where the Grinder Pump Lateral Kits are to be replaced.
- Construction was scheduled to begin on Wednesday September 11th, 2024 with Page Excavating, but the lateral kits had not yet been received, delaying the start of construction. The District was still awaiting receipt of the owner-purchased lateral kits as of September 19, 2024.

Upcoming Construction Projects

Project	Estimated Total Cost	Status
Upgrades of Odor Control at All Vacuum Stations and Upgrade of the Generators at Vac A and Vac D.	$1,200,000 (Anticipated)	Weiler Engineering has been directed to proceed with this project in phases, with Vacuum Stations A and D being the first phase. The design of the odor control upgrades, including structural components and site plans continues. Preliminary plan sets have been created for Vacuum Stations A, D, E, G, I, and J/K. The District has requested an expansion of the easement area. The Archdiocese requested monetary compensation for the expanded easement area and approval to transfer assessment waivers to others, presumably for sale of the waivers. District Counsel has determined that the District has no procedures to allow transfer of the assessment waivers. The District was awaiting reply from Archdiocese about the proposed terms for the additional easement area, which was described in a letter from KLWTD sent in August.
Power Conditioning, Lightning Protection & Wiring Upgrades at WWTP	$4,359,916 (Anticipated)	This project will provide protection from transient surges in power that can damage equipment and potentially cause overflows or inadequate treatment at the WWTP. Installation of a lightning protection system at the WWTP to further reduce the potential impacts due to electrical surges will also be included as part of the project scope. Upgrades to the existing power and instrumentation wiring at the WWTP includes the use of non-corrosive materials and moving wiring above-ground to prevent corrosion and failure. The design of the project will be completed by Early-September. Technical specifications and bid documents have been prepared.
Direct Potable Reuse Demonstration Project	$1,504,301.25 (Anticipated)	The District has budgeted funds for a demonstration project to produce potable water from the WWTP's treated effluent. 2021 Florida legislation established Direct Potable Reuse (DPR) as a preferred effluent disposal method and provides for DPR projects to be eligible for grant funding, treating WWTP effluent as an Alternative Water Supply. The District has applied for a planning grant for this project and has requested grant funding to be allocated for the design, permitting, and construction of the DPR demonstration project. Initial estimates indicate that the volume of water produced in the DPR demonstration project would be in the range of 150,000 to 250,000 GPD.

EQ Tank and Headworks Project	$4,500,000 (Anticipated)	The EQ Tank and Headworks Project involves the installation of a new headworks as an upgrade to the current headworks at the KLWTD WWTP. This project also involves the installation of an influent EQ tank to regulate flow. This project is currently in the design phase with preliminary site plans and structural drawings for the EQ tank. Shop drawings have been received from Hydrodyne and a center flow screen has been selected for the headworks screening, which will reduce the footprint of the headworks space and has a higher catch rate and efficiency than the existing headworks. Due to a lack of a decision by Islamorada on the NPK booster station design, the District is moving forward with completing design, with incorporation of an additive alternate scope of work should Islamorada decide to keep the current booster pump design.
Blower Room Modifications Project	$250,000 (Anticipated)	The KLWTD staff has requested the addition of an access door behind blower #4 to better service the blower. Currently, the other blowers must be removed in order to access blower #4. These modifications will allow for more efficient service of the blowers. This project is currently in the preliminary design phase.

Select Photos from Current Projects

Figure 1: New Disk Filter Has Been Placed at Top of Concrete Platform and Handrails have been installed on South and East sides of deck

Figure 2: Concrete Forms Installed with Structural Rebar Between Disk Filter Platform and Booster Pumps Basin

Figure 3: Trench to Extend Concrete Pad for Stair Leading Up to Existing Filters

Figure 4: Newly Installed Booster Pump Piping

Figure 5: Boom Installed to Lull Forklift to Support 18" D.I. Spool Piece and 18" D.I. 45 Elbow During Installation of SS Pipe Hangers

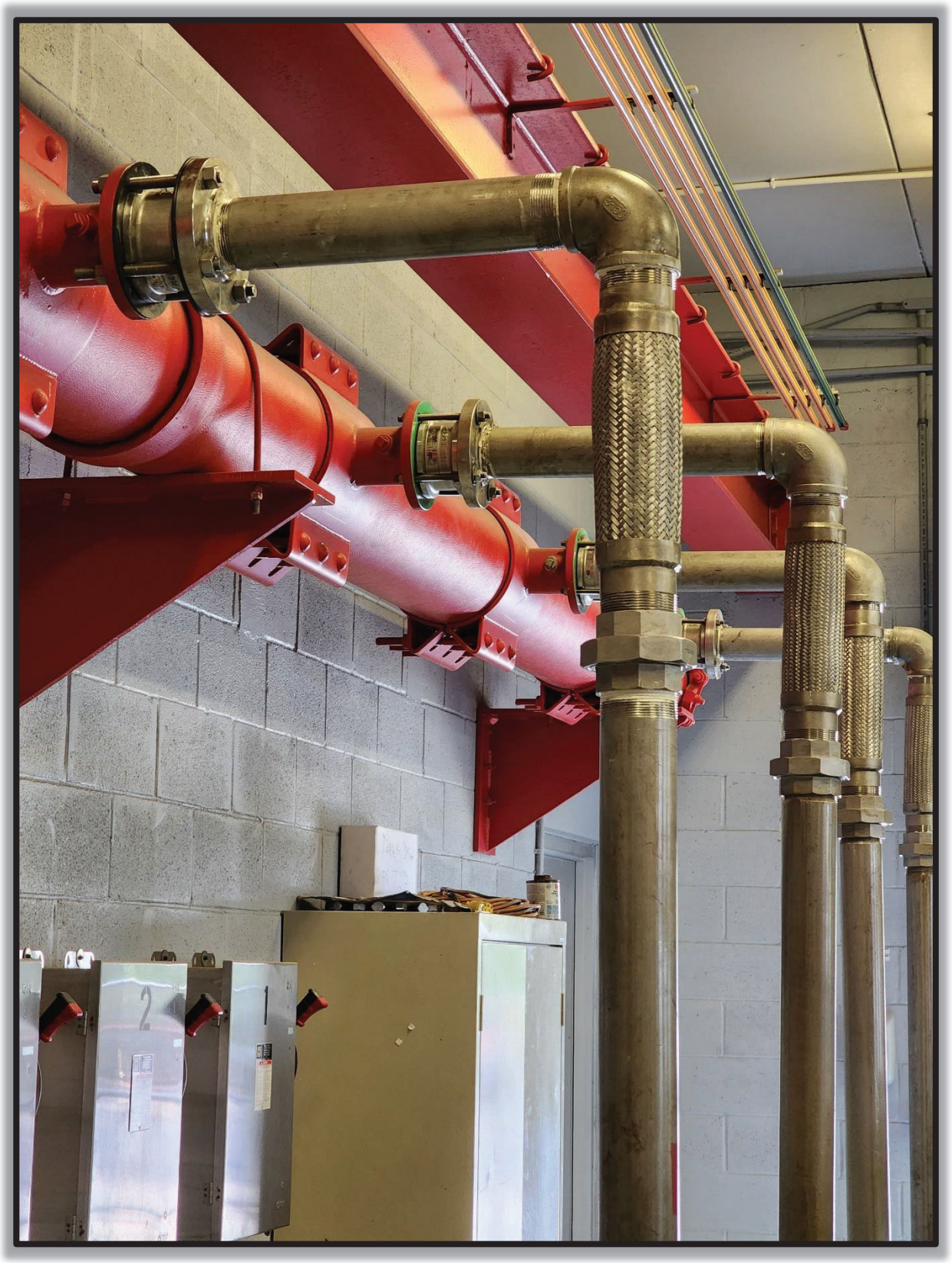

Figure 6: Replaced (4) 3" SS Odor Control Lines with New SS Tubing and SS Fittings at Vacuum Station A

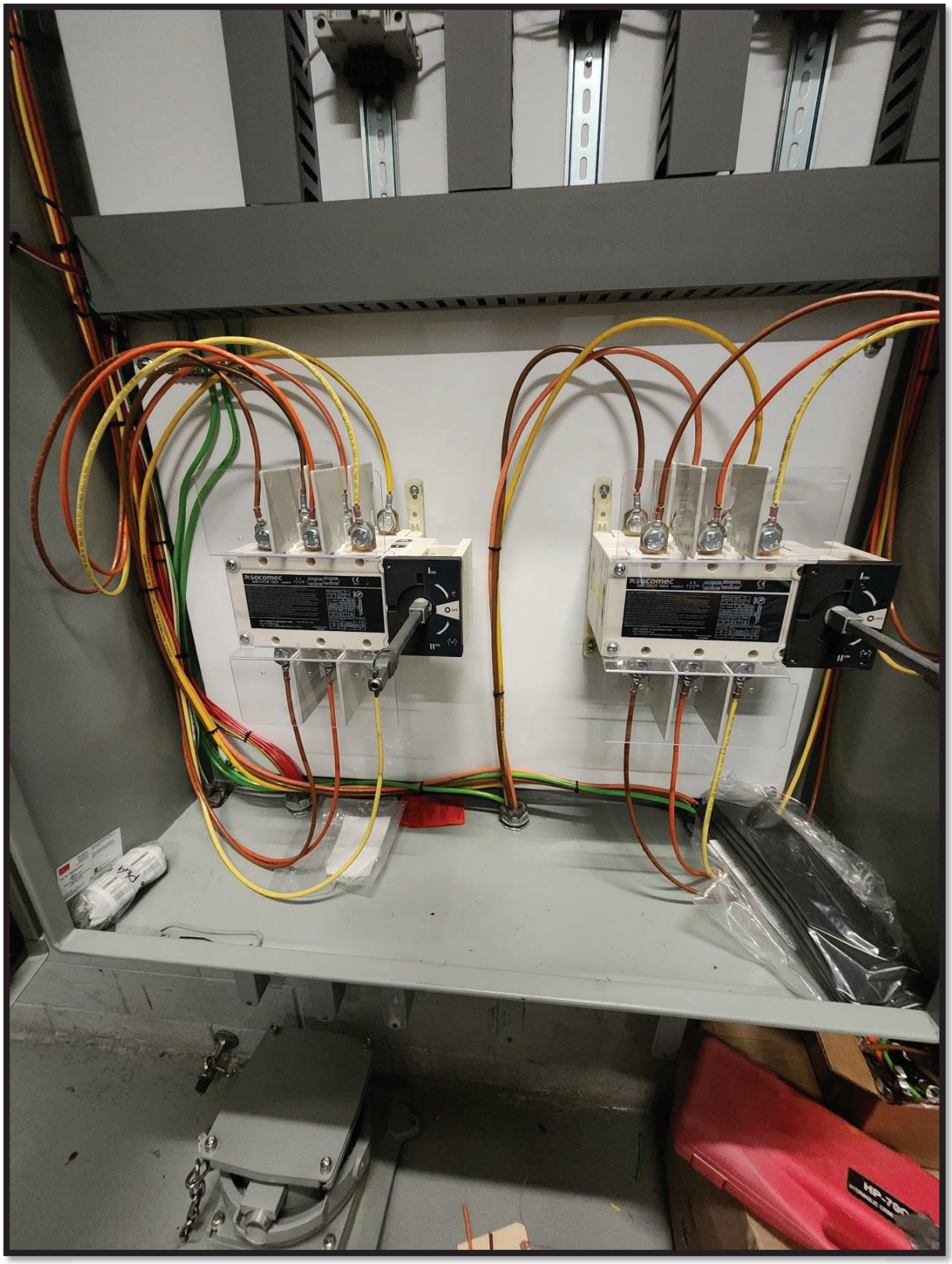

Figure 7: Power Wiring for Vacuum Station Motors Terminated at New Power Terminal Inside New Switch Panel at Vacuum Station I

Figure 8: Water Level Checked Prior to Draw Down Testing, and Between Each Test by F.J. Nugent

Figure 9: Asphalt patch in Basin F

Figure 10: Flovac work truck on site in Basin J/K