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COMMITMENT & INTEGRITY DRIVE RESULTS

HULL WATER POLLUTION CONTROL FACILITY

December
2021

MONTHLY OPERATING REPORT



NPDES NO. MA0101231

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Cover pictures:

[top] Completed 12" HDPE sewage bypass line to the Primary D-Box and screenings box

[bottom] Hull DPW assistance for HDPE line modifications

1 EXECUTIVE SUMMARY

This Monthly Operating Report provides a summary of the pertinent information and activities that occurred at Hull WPCF during the month of December 2021.

- No lost-time incidents for the month of December
- Continued/On-going covid-19 safety operations, adhering to company and CDC guidelines and updates. Pass along current info pertaining to rising Covid levels in wastewater. Ongoing mask use per mandates.
- There were **154** effluent samples taken in the month of December [details on page (11).] All effluent samples collected were compliant. Process conditions were stable, and aeration tank changeovers after repairs and cleaning completed.
- Mersino Dewatering & Pumping on site for 12" HDPE bypass line modifications. Repairs completed.
- Primary Clarifier structural steel repairs [Tank #2] repairs completed - new turnbuckles installed.
- There were no Sanitary System Overflows [SSO] reported.
- Radio project update: Most of the materials delivered in late December.
- Update MADEP on the bulk hypochlorite [bleach] tank #2 leak issue. Researching tank replacement options with chemical tank suppliers, repair options, other.
- The plant and collection system odors remained low. Remote monitoring with the Vapor-Link to monitor H2S levels continued. Bioxide feed rates low.
- The Asset Management Accounts summaries for contract year #7 is attached. Latest revision date: 3/8/22.
- WWTF and pump stations participated in the town-wide electrical test for the Town supplied power system on 12/17. No issues.
- There were four grinder pump call outs during December.
- W&C O&M continued support efforts on the various engineering projects – Operations building HVAC, and influent and secondary systems, primary D-Box gates.
- Weekly Bio Bot Covid-19 wastewater sampling & monitoring program continued.
- Sludge thickening by Rotary Drum thickener was shut down [mid-Dec] for the cold weather months.

Woodard & Curran strives to deliver a high-quality operations service and is responsive to our customers concerns. Please feel free to request any modifications to the format or content of this report.

2 FLOWS AND LOADINGS



Average Daily Flows and Loadings for the Month:

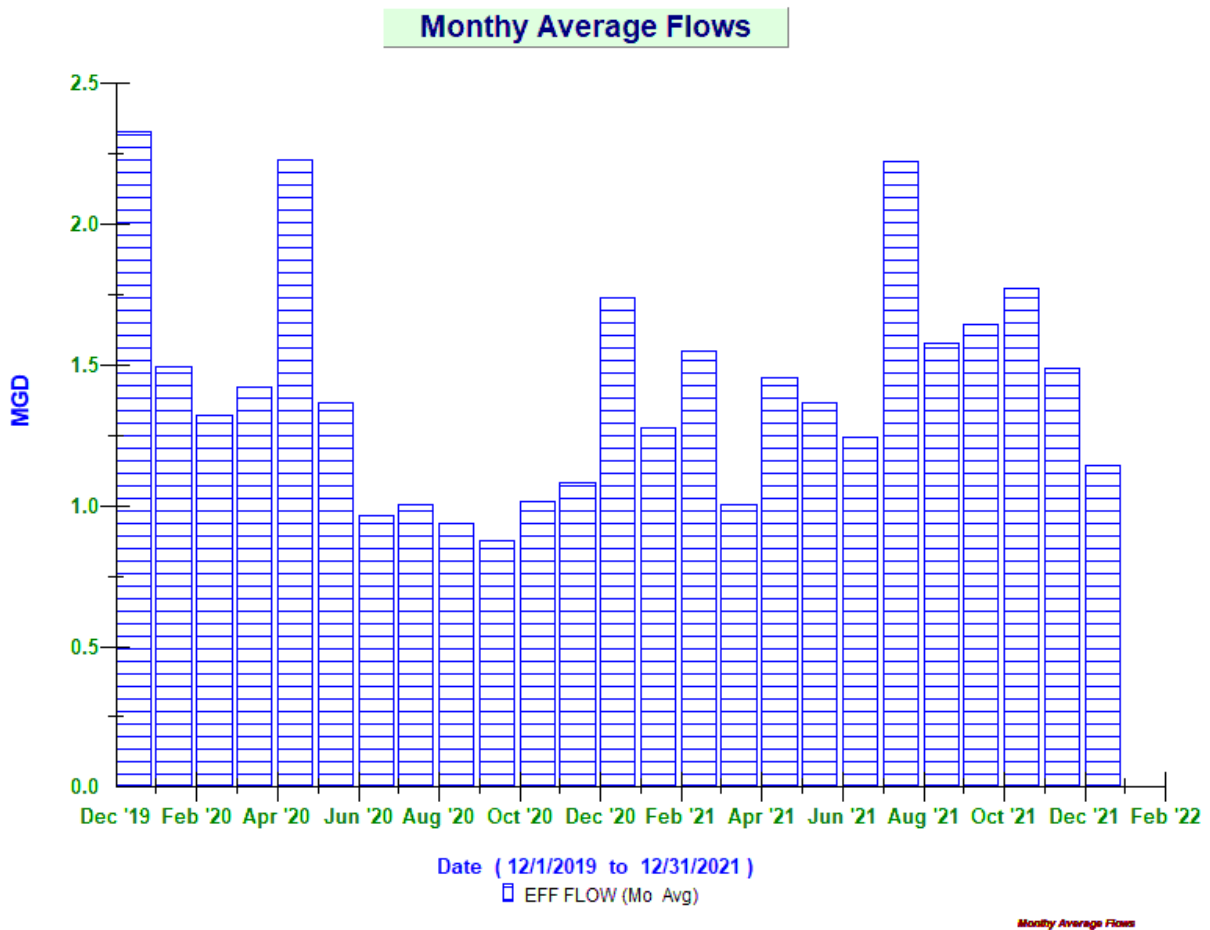
	Eff Flow MGD	Inf Flow MGD	Inf BOD LBS	Inf TSS LBS	Eff BOD LBS	EFF TSS LBS
Dec 2019	2.239	2.485 *	1919	4412	79	180
Dec 2020	1.741	1.993	2600	4454	82	238
Dec 2021	1.142	1.212*	1530	1604	41	77

* On-Going -The existing influent flow meters are strap-on doppler flow meters, and the existing pipe condition prevents getting a strong signal. An area velocity meter in the aeration tank inlet channel is used as well as the headworks influent Parshall Flume meter to monitor influent flows. All reported loadings are based on the effluent flow meter [new mag meter April 2021]. All meters are tied into the Scada system so that influent flows can be monitored.

** No influent flow since headworks area was bypassed for concrete rehabilitation project.

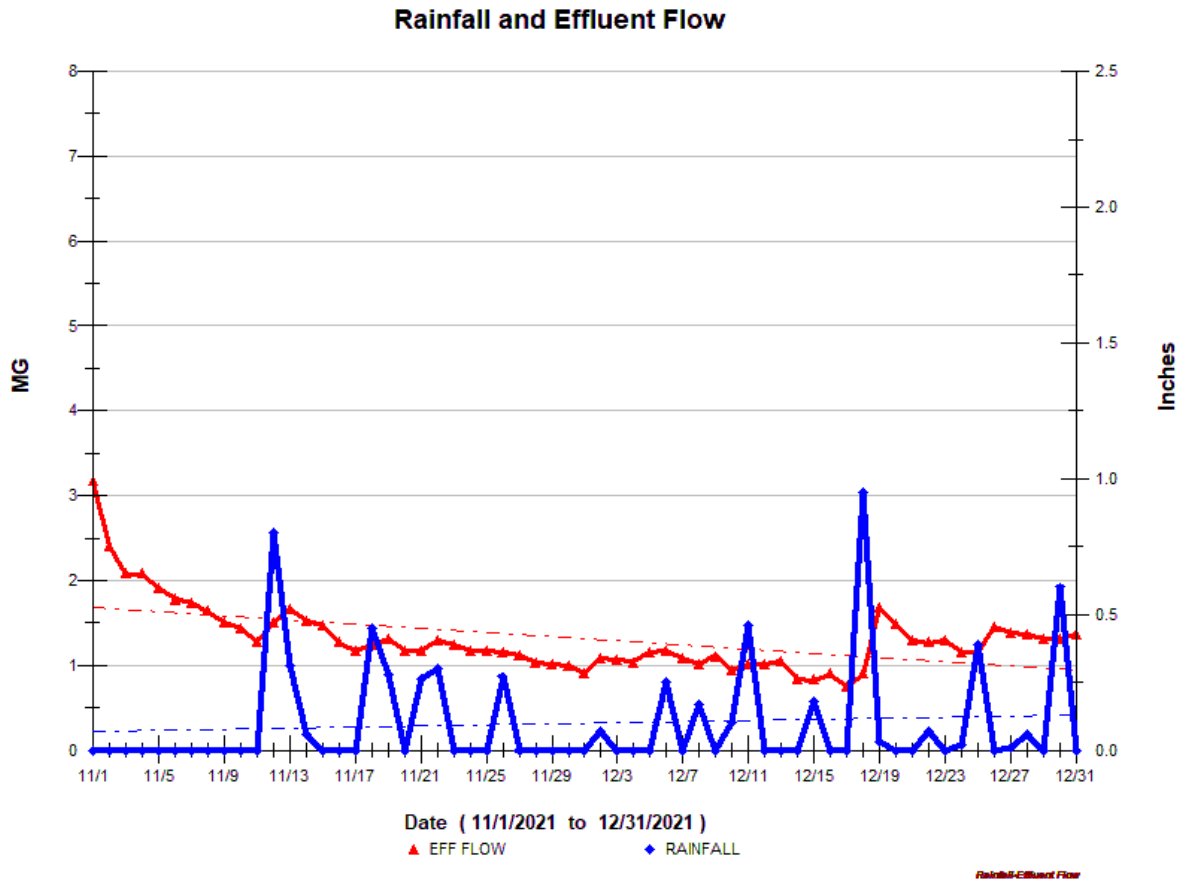
2.1 AVERAGE EFFLUENT MONTHLY FLOWS – 2+ YEAR COMPARISON

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The monthly average flow for December was 1.14 MGD, lower [0.35 MGD] than the previous month. The total precipitation for the month was 3.36 inches, with a peak of 0.95 inches of rain on 12/18. The graph shows the 2-plus year summary of the monthly average flows.

2.2 MONTHLY SUMMARY OF RAINFALL AND THE INFLUENCE ON EFFLUENT FLOWS



This graph shows the days where precipitation occurred [rainfall] [Blue Peaks] for the past 2 months. This graph shows a downward trend in flows due to less precipitation.

3 COMPLIANCE

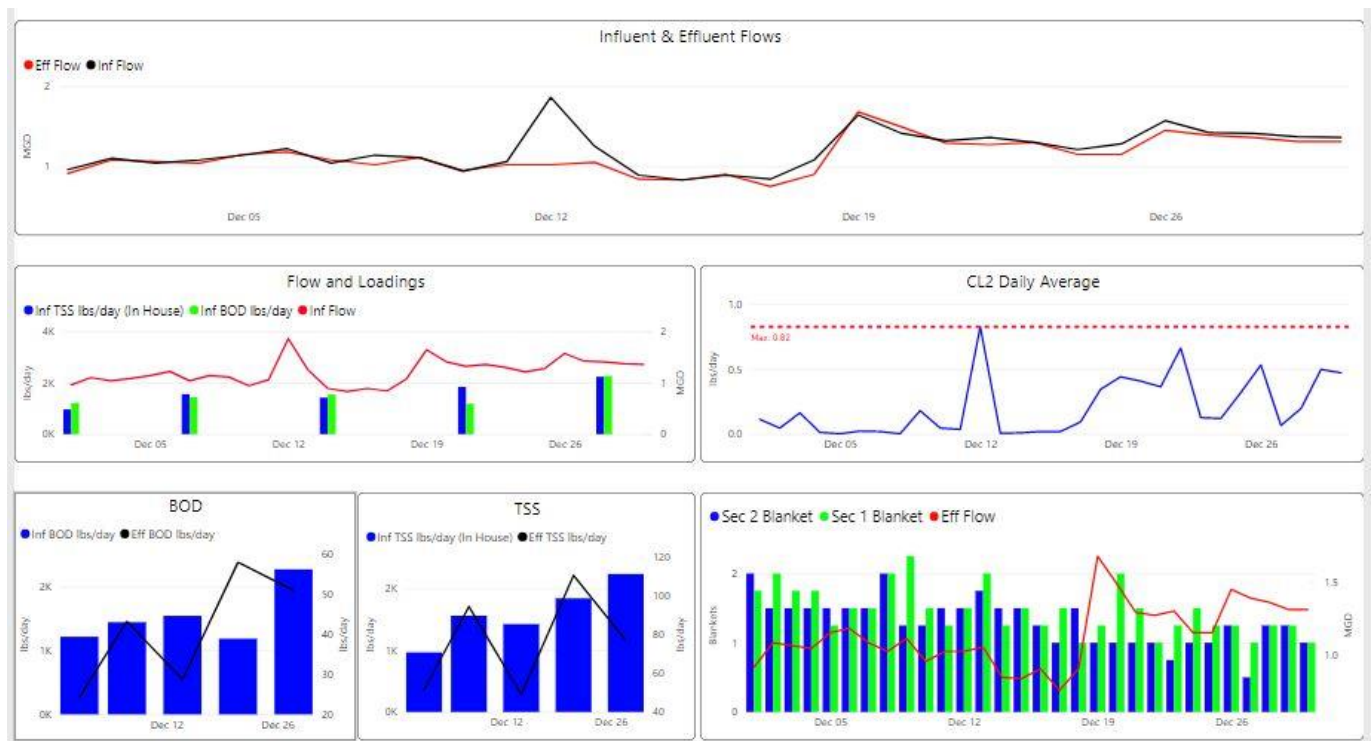


➤ Plant Effluent

There were no permit exceedances in December.

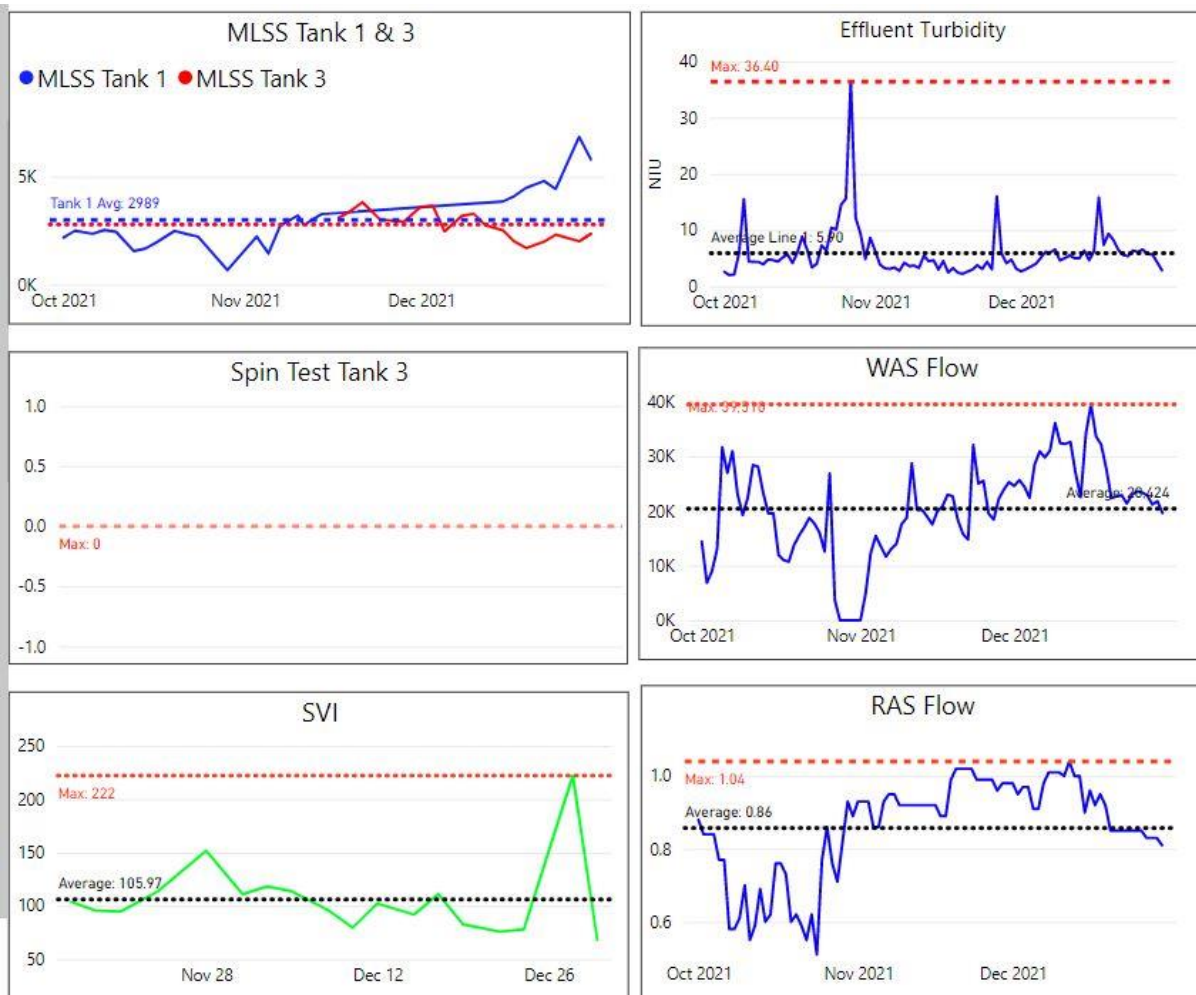
- Plant process conditions were stable during the month. Some increase in process tank foam and carryover floating solids in the clarifiers observed. This may have been a result of the aeration tank rotation, and the return to using aeration tank #1. The tank configuration had both diffused aeration tanks back in service on 12/10. Tank #2 was pumped over into the other aeration tanks. Adjust waste flow and air flow rates as needed. [aeration tanks pictured below]
- A Copy of the monthly NPDES reports for December 2021 submitted to the EPA & DEP and then sent to the Hull Sewer Dept. The quarterly W.E.T. analytical report was also submitted.





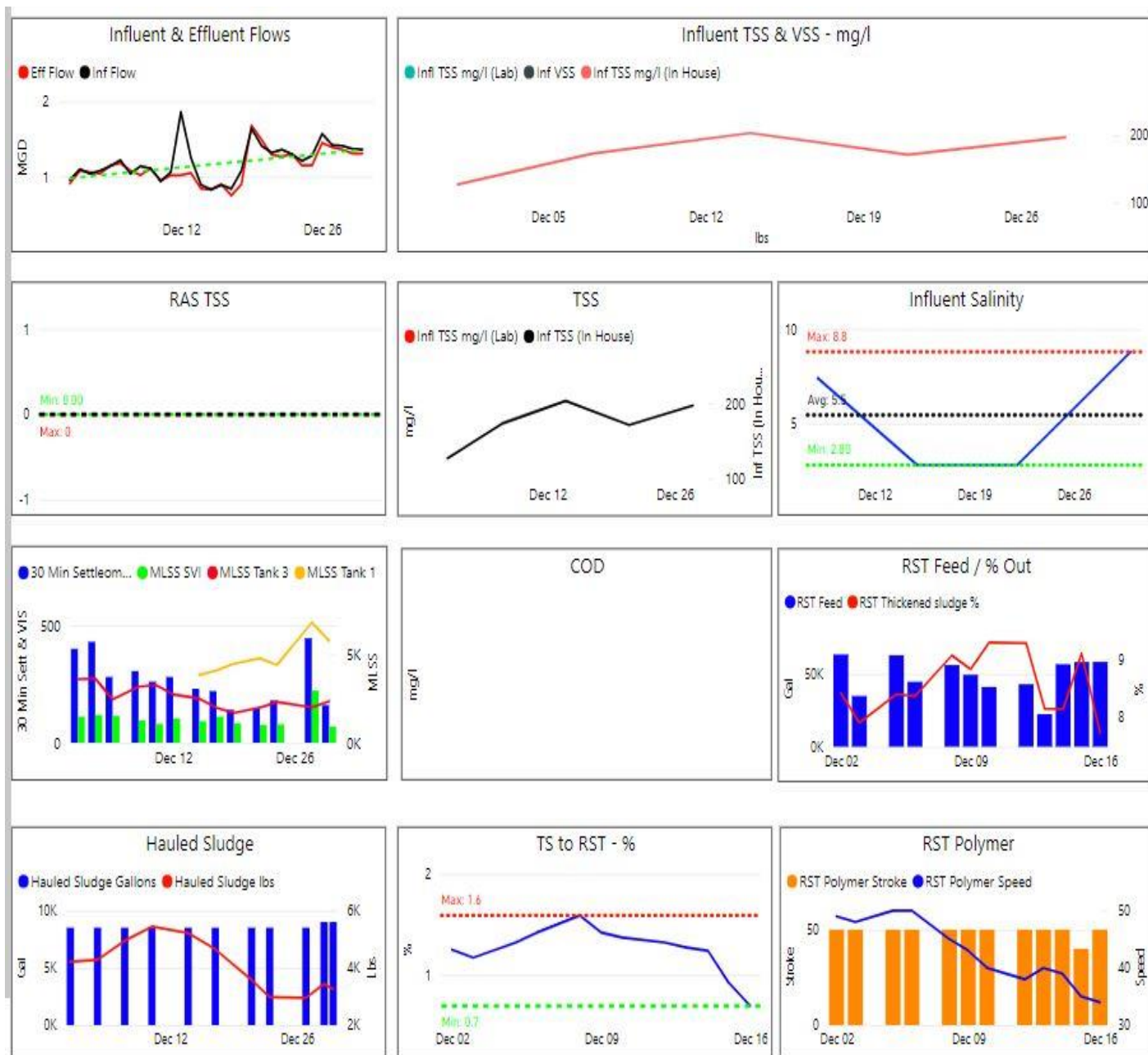
Monthly Process Summary graphs from power BI – December 2021.

SECONDARY PROCESSES – POWER BI GRAPHS



3-month period ending on 12/31/21. The tank solids levels under aeration showed some changes, in part due to process aeration tank swap.

Additional Power BI Graphs showing trends of various processes – December 2021.



4 KEY PERFORMANCE INDICATORS

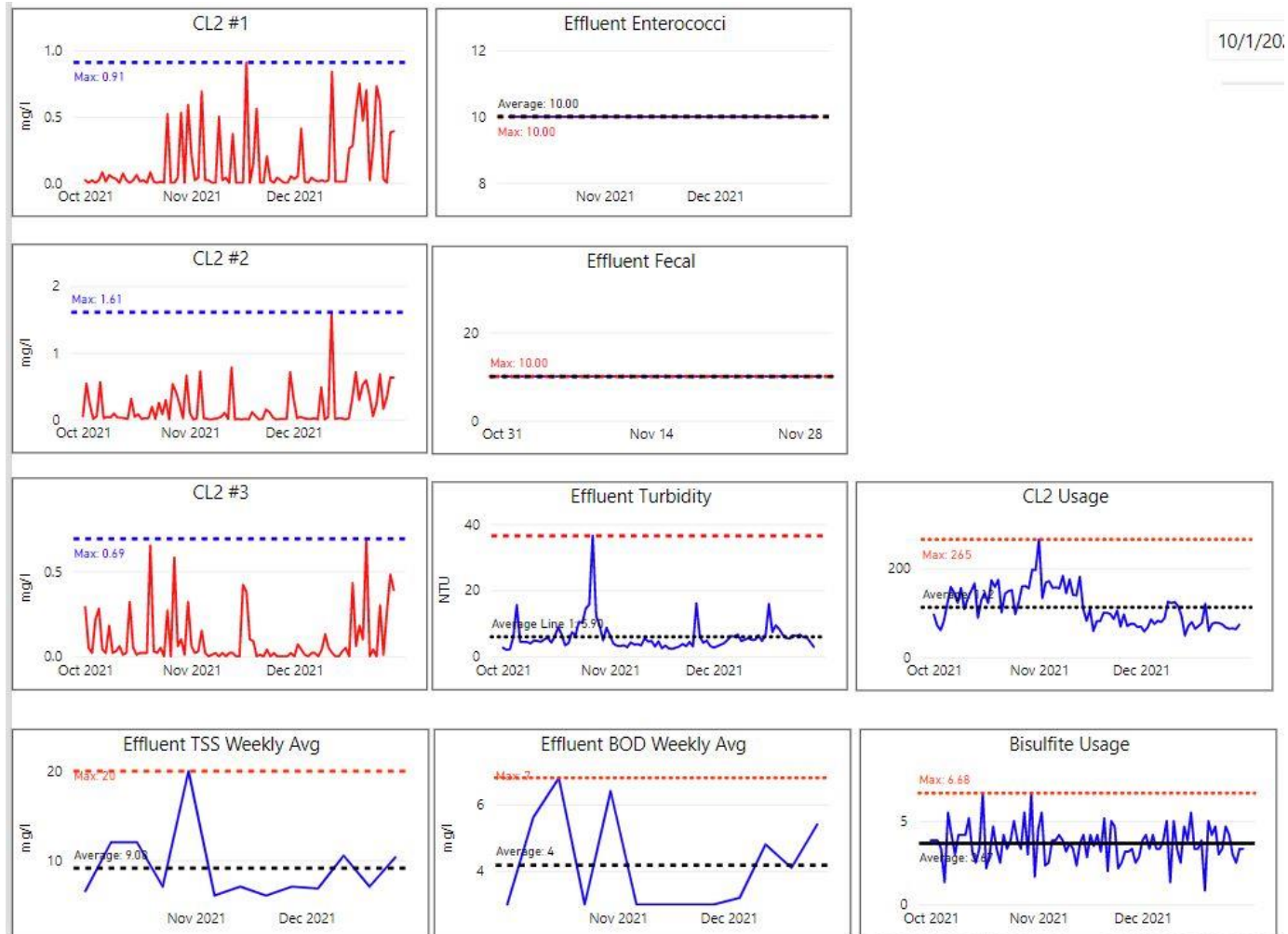


4.1 WATER QUALITY – DECEMBER 2021

Parameter Info		Permit Requirements					Results				
Parameter	Units	Daily Allowed Max in month	Min %	Weekly Avg. Max Allowed in month	Monthly Avg	Freq	Period Monthly Avg.	Period Weekly Min	Period Daily Max	# Of Samples	# Of Violations
Eff TSS	MG/L	50		45	30	1 X Week	8.3	6.8	10.5	5	0
Eff TSS	LBS			1152	768	1 X Week	76.6	49.0	110.8		0
% TSS Rem	%		85			1 X Month	95.2				0
Eff BOD	MG/L	50		45	30	1 X Week	4.4	3.2	5.4	5	0
Eff BOD	LBS			1152	768	1 X Week	41.1	24.3	58.1		0
% BOD Rem	%		85			1 X Month	97.4				0
Eff Chlorine	MG/L	1.0			0.7	3 X Day	0.21	0.00	0.82	93	0
Eff Fecal	#/100 ML	260			88	1 X Week	10	10	10	5	0
Eff pH	SU	8.5	6.5			1X Daily	7.0	6.6	7.2	30	0
Enterococci	CFU/100 ML	276			35	1 X Week	10	10	10	5	0

There were **154** effluent samples taken in December.

EFFLUENT COMPLIANCE POWER BI GRAPHS



Last 3-month period ending on 12/31/21 - chlorine residuals, effluent compliance, & chemical use. Bleach [sodium hypochlorite] & sodium bisulfite use stable and unchanged. Turbidity [clarity] of the effluent was stable. Effluent quality was very good.

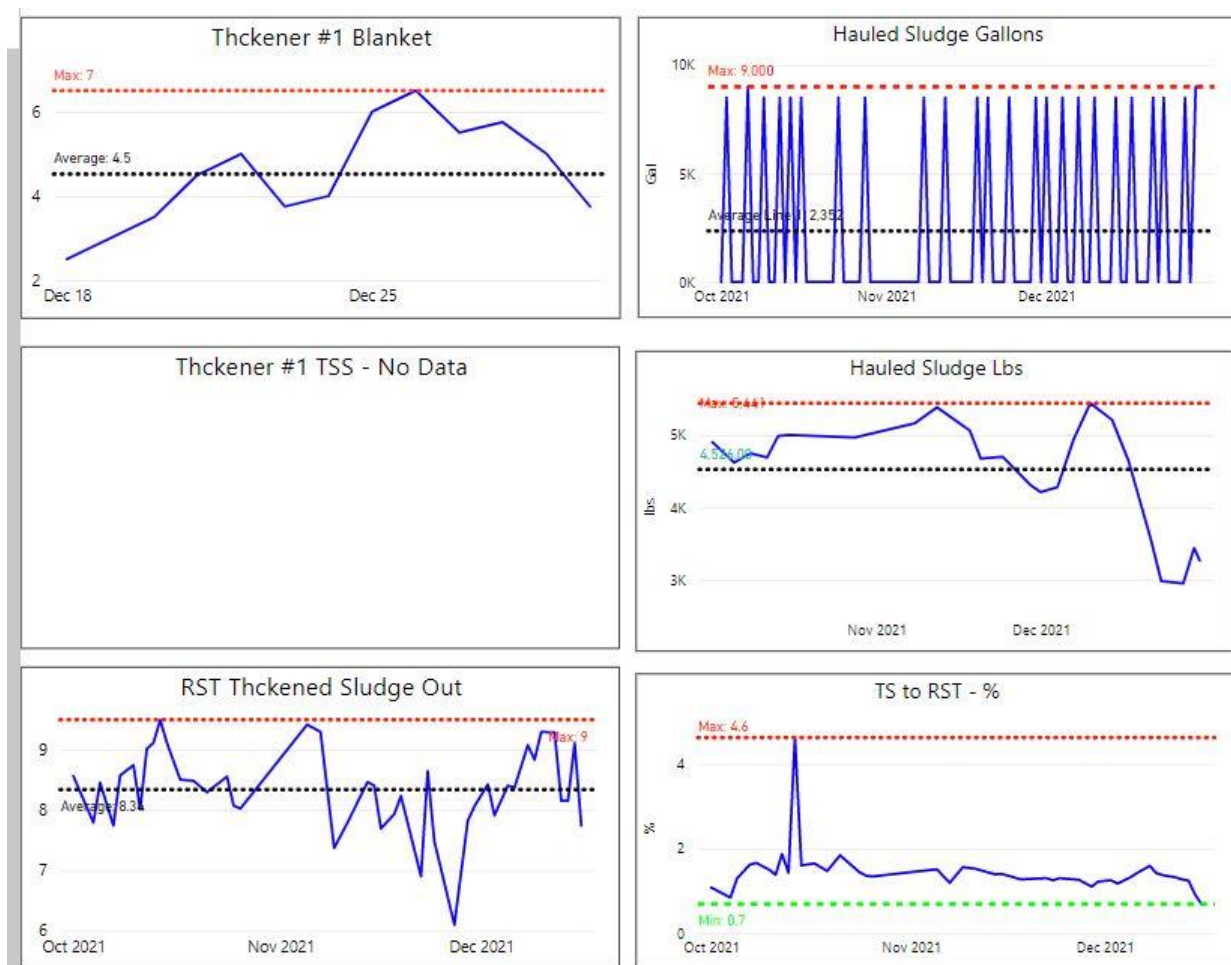
Sewage Gallons Treated vs Sludge Disposed

Month	Effluent Treated, MG	Sludge Disposed, Gals
December 2019	72.20	95,500
December 2020	53.97	70,500
December 2021	35.41	94,500

Annual Calendar Year totals

Date	Sludge (Gallons)	Effluent Flow (MG)
Jan '21	104,500	39.64
Feb '21	116,500	43.36
Mar '21	177,500	31.09
Apr '21	123,000	43.59
May '21	131,500	42.25
Jun '21	79,500	37.28
Jul '21	80,000	68.95
Aug '21	94,000	48.96
Sep '21	85,500	49.35
Oct '21	68,500	54.91
Nov '21	51,000	44.72
Dec '21	94,500	35.41
Total	1,206,000	539.51
Min	51,000.00	31.09
Max	177,500.00	68.95

Additional Power BI graphs for sludge solids for 3-month period ending 12/31/21. Trends indicate slightly less sludge production through December [seasonal decrease]. The gravity thickener is online and RST offline [seasonal]



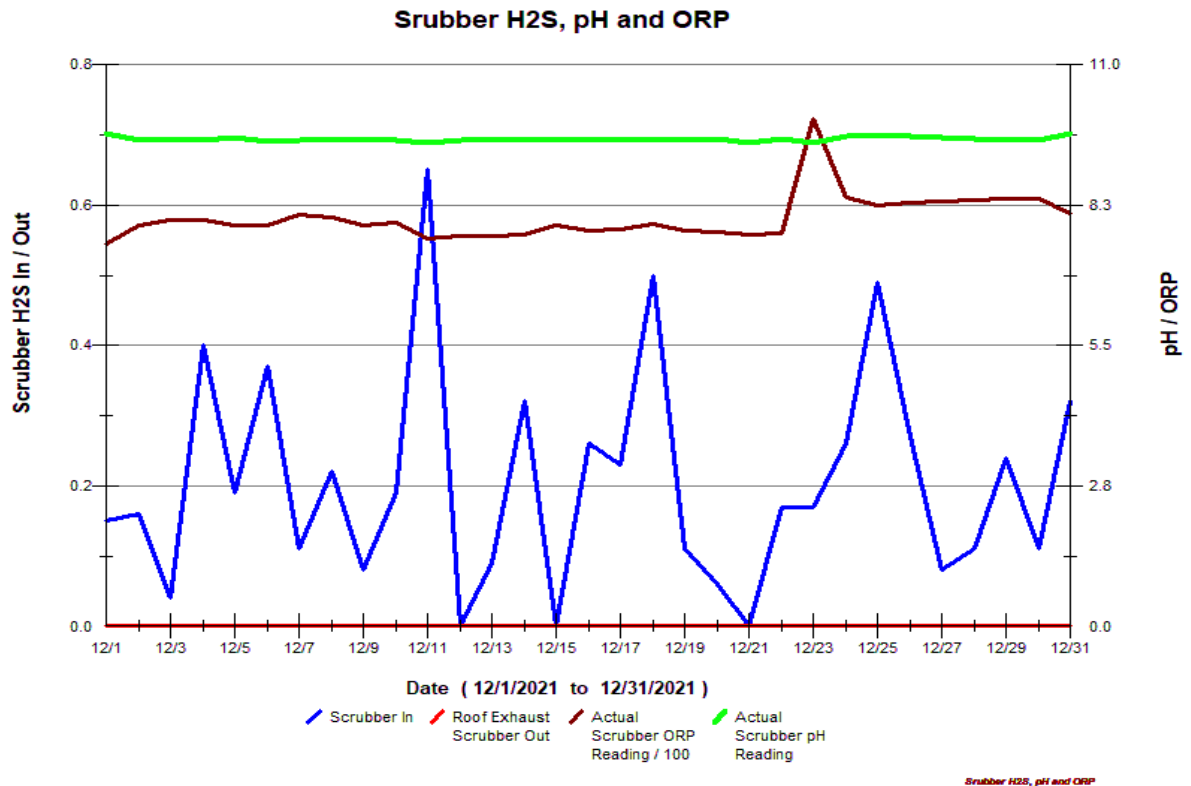
5 ODOR CONTROL

There were no odor complaint calls received during December at the wastewater plant.

The Bioxide system was on, and the feed rates were mostly unchanged. The system is checked every few days. The monthly graphs are attached below. Evoqua technician in for battery replacement at XYZ street on 12/7/21. Daily average Bioxide use for December was **20** gallons per day.

- “In-Pipe” bacteria – monthly changeouts completed on 12/22-12/23. Bi-monthly changes were done on 12/2/21
- No changes: on pump station mixing systems/aerators.
- No changes - Hydrogen sulfide monitoring units [H₂S] were recording and trending on the odor scrubber. [inlet and outlet]. see graph below.
- The gravity thickener was put back online on 12/16, since the rotary drum sludge thickener was taken offline. [seasonal non-freezing use only] The #2 PC was also returned to service for the winter month period [December through May].

[pictured below: Scrubber trend, and trending graphs for H₂S levels recorded from the vapor link system cellular at manhole at XYZ Street/Nantasket Ave and Nantasket Ave/Water Street.



XYZ Manhole – Nantasket Ave [closest to plant]



The odor data logging unit at XYZ monitors the overall H2S levels closest to the plant. Low/ZERO H2S present. There were a few spikes seen during the lower flow periods of the month.

Nantasket Ave/Water Street [at end of PS 3 force main and PS 4 discharge]



H2S is monitored at the end of the PS #3 force main at the Nantasket & Water Street MH. Bioxide is added to allow for excess nitrate concentration in the sewage system to treat the additional H2S added from other parts of the system – such as PS #4, contributions from lines feeding the interceptor, PS #5, PS #6, PS #9, & Spinnaker Island., etc.

6 MAINTENANCE SUMMARY

6.1 TASKS COMPLETED THIS MONTH

The SEMS monthly work order summary for December is attached for review.

Additional key items of note are listed below.

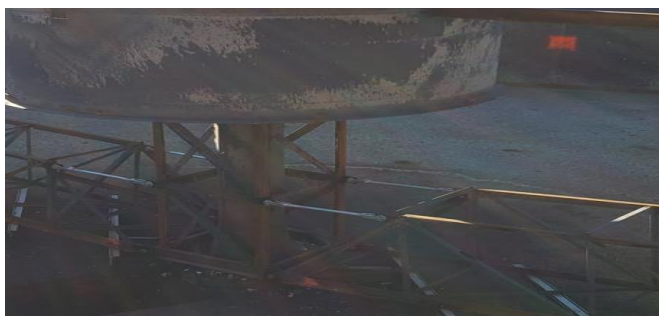
- 12/14 – The De-ragger work at PS #3 was completed. Fellows Electric, Pioneer Electrical, MSI, & WC completed installation and programming of de-ragger components and wiring for pump #2, and VFD programming. The PLC programming was checked to get both pumps to operate normally with the de-ragger software and alternate in sequence.
- Primary Distribution Box – an additional suction pipe for an auxiliary portable pump hook up completed by the plant staff, since one of the primary tank flow inlets was unavailable.



- Primary/influent HDPE piping modifications completed. The Hull DPW, W&C staff, and W&C O&M staff assisted with the site work along with Mersino crew.



- PC#2 – new turnbuckles were installed by IPC Lydon, so that rake arms could be adjusted.



- The aeration tank #1 tests and checks were completed at different air pressures over several days and liquid levels to ensure that all pipe air leaks in the system were corrected. The tank was returned into service on 12/13/22.
- Pump Station #6 had reduced output flow from both pumps. The pumps were isolated and inspected. Debris found in both pumps – rags/wipes. Also, found a small 2-inch plastic cleanout coupling in the pump.



- Assist W&C Engineer - Confined space entry into grit pump room. Collected paint samples from pumps and piping. Assisted with collecting samples and getting to sampling points throughout the plant.
- AV and Steve Rose replace UPS units in blower panel, main PLC panel, effluent pump panel. First floor MCC PLC panels, which completed all the replacements in all areas.
- Grit classifier trough temporary repairs – The in-house staff used a cold weld for patch material for the trough repair, followed by a ceramic coating on both the inside and outside. The tail-shaft was replaced and reinstalled with new hardware, and the tail shaft housing was repaired along with a new bushing. The bushing was modified to allow for the lubricating grease to vent out of the rear.



- RAS pump #1 – rebuilt rotating assembly installed and the pump is back in service.
- Aeration tank #2 cleaned out – grit & solids.



6.2 ASSET MANAGEMENT ACCOUNTS

- Please see the attached summary totals and planned expenditures for the Asset Management accounts for contract year (7). Most recent through **3/8/22**.
- Planned expenditure list updated. Monthly review & update.

7 SAFETY



It is Woodard & Curran's policy to maintain a safe and healthy work environment for every employee and to comply with applicable occupational health and safety regulations.

- No lost time incidents reported for December
- Monthly PM's - Emergency eyewash and shower inspections, fire extinguisher and emergency lighting inspections completed.
- On-going Coronavirus Covid-19 awareness and updates. Daily review & as needed. Discuss covid protocol changes, site specific safety policies for sub-contractors, safety tailgate meetings.
- Monthly staff safety meeting conducted on 12/22/21. Major topics discussed: Holiday safety, Covid Updates, Lessons Learned.
- Assist WC Engineer with paint/coating sampling for upcoming projects. Assist with CSE as needed into grit pump room.
- Completed all annual safety tasks for the project. Ongoing work: RH- work on SDS sheets, HazCom & other safety tasks.
- Jody S trained Mike S and Luis B on powered industrial trucks [forklift]
- Work on several safety projects – repair ladder access to primary D-Box, modify grating on D-Box for additional piping in and out of the structure.

8 STAFF DEVELOPMENT

Training is an important part of any operation to ensure employee health and safety is assured, quality standards are supported, staff skills are improved, career opportunities become available, and higher productivity is achieved.

Listed is a general outline of training that the staff received over the course of the month:

- Monthly staff Safety training – completed – Pure Safety and monthly safety meeting. W&C “near-miss” incidents at all projects for November.
- Regular [usually daily] operational updates and process control discussions, pump station operations, especially with construction projects going on at the plant. Safety Covid-19, dig-safes, etc.
- Mike Sullivan & David Wilson – Remote/virtual training modules with NEIWPCC for license renewal TCH's
- Continued assistance to staff with wastewater license renewals and training needs due by 12/31/21.
- EPA Biosolids training webinar for annual sludge report – AV/MS
- A.V. attended First Aid/AED Training by W&C – Canton, MA.

Staffing related items:

- Staffing plan submitted to MADEP with monthly DMR
- The regular staff labor was supplemented as needed and supplemented by the O&M Specialist, Paul Horigan. He is covering the added shift left open by Aram V and other needs during the month.
- Continued to use part-time staff [Joel Terrio] for Saturday & Sunday weekend staff coverage. This arrangement allows for the regular staff to be on site more for weekday coverage and assignments.
- Sunday licensed coverage rotation continued with Aram, Roger, Mike.
- On-going staff transition to new plant manager. Additional visits by area manager.

9 COLLECTION SYSTEM

9.1 WET WELL CLEANING

The actual schedule for wet well cleaning: May 2021 to April 2022:

(X-Cleaned) - (Orange – Inspected) - (Green – See notes) - (blank – no work done)

Frequency of cleaning	Pump Station							
	A	1	3	4	5	6	9	D
May, 2021								
June, 2021	X							
July, 2021								
Aug., 2021	X			X				
Sept. 2021								
Oct.,2021								
Nov, 2021								
Dec., 2021								
Jan., 2022								
Feb., 2022								
March 2022								
April 2022								

All pump stations except for Pump Station 3 and Station D have an aerator/mixer in the wet wells.

9.2 COLLECTION SYSTEM MAINTENANCE

Collection system work is being documented and tracked in Utility Cloud and a summarized report for December has been included as an attachment with the Monthly Operating Report.

Woodard & Curran assisted/conducted camera work and/or sewer system support in the Hull collection system at the following areas during the month of December. Ongoing backup and blockage call outs requiring an increase in labor and time to support.

Dig-Safe mark outs. These are completed throughout the Town of Hull to assist/facilitate scheduled and emergency gas repairs, broken water mains, upcoming roadway paving projects, and other residential and town projects and are listed in the UC summary. Total completed in December: 38.

Below summarizes W&C's efforts at the various call out locations.

- Complete emergency dig-safe requests & regular dig-safe mark outs, when able to complete them.
 - 12/1 - Dye test at 939 Nantasket Ave and laterals marked out.
 - 12/6 – 20 Roosevelt Ave
 - 12/8 – 122 N Truro – E-1 pump chamber pumped out by Rosano-Davis. New Control box needed.
 - 12/10 – Emergency Dig safe mark outs – Samoset & Irwin.
 - 12/14 – Loose MH cover check at Cadish & E Street
 - 12/16 – 12 Dighton – Inspect E-1 for relocation of control panel.
 - 12/20 - 64 Packard Ave backup investigated - plumber called
 - 12/21 - 36 Winthrop Ave blockage, MH #20179, Rosano-Davis jetting, ES/LB will TV the line(s); Still a blockage somewhere in line towards the home - plumber & drainlayer to follow up.
 - 12/21 – Check loose MH cover – 45 N Street
 - 12/23 - 5 am: Emergency Dig Safe- water main break @ Newport/Colburn Ave- found two questionable sewer MHs to address in area; Completed all 24 In-Pipe units.
 - 408 Newport Rd. – emergency mark out sewer due to water main break.
-
- In-Pipe units – on-going maintenance of dosing units as needed. Staff conducted board troubleshooting, dosing pump repairs and replacements as needed.
 - Pump station generators loaded, and non-loaded generator runs completed.
 - All Pump station wet wells were inspected in December. Monthly Pump Station Inspections were completed and combined with monthly station PM's.
 - Grinder pump call out summary [3 pumps replaced]:
 - 12/2 – 42 Rockaway – replace pump
 - 12/8 - 7 Salisbury St. – replace pump and control panel
 - 12/16 - 50 Nantasket Ave- replace pump and control panel
 - 12/8 – 122 N Truro St. – replace pump

10 PROJECT MANAGEMENT & ADMINISTRATION



10.1 ON-GOING PROJECTS AND SUPPORT ITEMS

December updates:

- 60HP effluent pump remains in the Xylem/Flygt shop. The parts are on order, and delivery time is very long, therefore the estimated repair time has yet to be determined. WC is regularly contacting Xylem for status updates.
- As noted last month, the sodium hypochlorite bulk storage tank #2 had developed a leak. The W&C staff is continued to operate the system from the one good storage tank, and ordering the chemical as needed in reduced quantity. The unit costs are higher with the lower amounts ordered. The tank replacement approach is still being evaluated with different tank manufacturers, the needed scope of work, secondary containment issues, and need for a temporary feed system while the repairs are made. The MA DEP was informed of the equipment status.
- Working with Kristina Richards to coordinate for site visit in January for resubmittal of “No Exposure” classification under the Storm Water Program.
- Continued to help and support of engineering projects as needed. Hoists & capacities, air valves, aeration tank weirs. Review/comment on 100% design project plans.
- Grit classifier spare parts – gave the approval for parts fabrication to have spare parts for the system fabricated. The long lead time to obtain, current need and increasing costs prompted the orders.

- Radio Communications Project Update [12/20]
 - *Industrial Communications called WC on 12/20 about the materials. They picked up the materials and delivered on 12/21.*
 - *A sketch was previously provided for radio and antenna installations and Glenn Fellows was contacted about the assignment and implementation plan discussed.*
 - *W&C and TCS will plan integration once Glenn's work is complete.*
 - *W&C and TCS have already exchanged ip addresses and is prepared to get started. Integration will occur late January/February, weather dependent and scheduling.*
- Continued efforts to secure a new generator service company. There was contact with three generator service providers in the area for preventive and corrective maintenance services. Various service needs still being investigated.
- Continued work to finalize quotes for a new sound attenuated six" trailer mounted trash pump. Primarily working now with Thompson Pump and Premier Pump.
- PS #9 force main inspection and pump station bypass targeted for January 2022 with Vortex/Ted Berry Co.
- Primary D-Box gate replacement project delayed until March, due to Whipps Company supply chain delays.
- The final rules for 314 CMR 16.00 were released on December by the MADEP that deal with the promulgation of the Sewage Notification Regulations. Training sessions to be scheduled in January 2022.
- A new spare effluent pump was delivered. [35 HP Flygt submersible]



Asset Management Accounts - Year 7							
	FOR DECEMBER M.O.R.	Actual to date			Projected for Final Estimate		
Account		Budgeted Amount	Spent to Date	Delta	Projected costs and incl PO's	Final est	Delta
07M-101A	Preventive Maint	\$213,028.73	\$121,810.42	\$91,218.31	\$9,300.00	\$131,110.42	\$81,918.31
07M-102B	Capital and Major Repairs	\$140,000.00	\$151,180.04	(\$11,180.04)	\$25,000.00	\$176,180.04	(\$36,180.04)
07M-103A	Major Sub Contractors	\$180,465.81	\$238,438.24	(\$57,972.43)	\$9,500.00	\$247,938.24	(\$67,472.43)
blank							
	Asset Management	\$533,494.54	\$511,428.70	\$22,065.84	\$43,800.00	\$555,228.70	(\$21,734.16)

\$22,065.84

Budget expended	Time Status	
	NOW=	3/8/2022
	Start	5/1/2020
57.2%	185.3%	128.2%
108.0%	185.3%	77.4%
132.1%	185.3%	53.2%
95.9%	185.3%	89.5%

07S	D Street	\$7,500.00	\$4,793.84	\$2,706.16	\$0.00	\$4,793.84	\$2,706.16
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63.9%	185.3%	121.4%
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07C	Odor Control Chemicals	\$100,000.00	\$80,542.68	\$19,457.32	\$0.00	\$80,542.68	\$19,457.32
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80.5%	185.3%	104.8%
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Estimated total
remaining 07M,
07C (\$2,276.84)

Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)								
Maintenance Account - Year 7 - 05_01_21 to 04_30_22								
FOR DECEMBER 2021 MOR					\$43,800.00			3/8/2022 11:52
Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Mechanical Work Labor by O&M specialists	On Going		101A				Jody St. George, Paul Horigan & WC Support Staff - Total budget \$25,000; incl annual scrubber cleaning, remove old blowers [mech];other items as needed. Adj budget down to \$9,000 - 11/22. Adjust 12/19;adj placeholder \$\$ 1/3/22; adj to zero 2/8/22
1	Pump and Motor Repairs [invoiced and pcard]	On Going		101A	\$2,000.00			to keep existing equipment running - utilize various outside contractor repair shops, new purchases. orig budget \$20,000; adjust to 6000 11/22, adjust on 2/8/22
1	Lubricants	On Going		101A				Various Suppliers for oil and grease. Budgeted \$3500. delete \$\$ on 2/2 & move to gen repairs
1	Generator Repairs	On Going		101A				General Repair Work - Original Placeholder \$3,000; pending invoice for water solenoed main gen oct 2020; Adj 11/22 to \$2000. Will have rental \$\$, and repair \$\$ for PS6 generator. Main Gen #2 also eval-repairs. Budget at \$3,500. 3/8- Incl with PO issued to SSGen
1	Fire Alarm Inspections and Service	On Going		101A	\$1,000.00			Semi Annual - Hart Security [October & April , central station, & Service]Orig budget \$3000.
2	Universal waste disposal	Pending		101A				Placeholder - \$500; zero the budget, will incur if needed. Veolia ES in for January services.
1	Service the Forklift	Pending		101A	\$400.00			Placeholder \$400 - Annual cost - outside vendor
1	Overhead Hoist Inspection	Pending		101A	\$1,500.00			Annual task - Applied Dynamics - PO is usually issued for April. \$1500
1	Flow meter verification and calibration	Pending		101A	\$1,000.00			Placeholder - Annual - Ray Ferland 1 visit annually [orig budget \$1,000];
1	Facility Building - Roof Inspection	Pending		101A	\$2,800.00			\$2800 Annual Placeholder - Established contract with Tecta America
1	Pump Station #9 - Repairs Immediate	completed		101A		\$6,900.00		Costs from D&C to be charged to budget Oct 2021
2	Jerome H2S Meter Inspection	Pending		101A				\$1100 - Placeholder for Annual Inspection - sent out includes annual service \$1100; not done in year #6 [remove placeholder 10/25
1	Janitorial Supplies	On Going		101A				Estimated annual expenditures - Orig budget \$4,000; adj 12/19;adj to \$1,000 on 2/2/22
1	Manhole Inspections	Pending		101A				As required,and/or scheduled
2	General mechanical and electrical items/supplies	On Going		101A				Grainger, FWWebb, EJP,Hoadley, McMasterCarr, etc; orig budget \$18,000, adjust to \$9,000 on 10/20; adjust to 6500 on 11/22; adj 12/19 to \$5000; adj to \$2000 on 2/2/22. Zero out on 3/8.
1	IR Survey	completed		101A				Done in 2021 [September]
2	Hoses	completed		101A				Replacements and/or Service - On-Going - As Needed; Purchased three 6-inch hoses, close out budget Oct 2021
1	Replace UPS batteries - plant and pump stations & town trailer	completed		101A				in process - started Oct 2021; Readjust budget to \$4,500.on 11/22. Completed 12/19
1	Spare A-C pump rotating assembly repair	completed		101A		\$4,400.74		10/18 - currently in shop for repairs at Seacoast Supply. No PO issued. Repaired unit received back.

Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)								
Maintenance Account - Year 7 - 05_01_21 to 04_30_22								
FOR DECEMBER 2021 MOR					\$43,800.00			3/8/2022 11:52
Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
2	Misc. Materials	On Going		101A	\$600.00			Hardware Store - \$200.00 per month - reoccurring expense; orig budget \$2,400;
4	Install a flow meter on the generator cooling water system - plant water	Pending		101A				Have an estimate [Oct 2018]; possible after 5/1/20
1	Lab Equip Calibration	completed		101A				Annual service \$600- usually Jan/Feb. Last done May 2021; process invoice Oct 2021
1	Mech seal[s] for RAS pumps ! & 2	completed		101A		\$4,648.39		P1 repairs in progress as of 10/1/21; estim cost \$5,000. No PO issued.
2	Tecta Roof Repairs - proposed per 2021 inspection	Pending		102B				TBD
2	yard hydrants - installation	Pending		102B				sub-contractor labor - pending; Have materials on hand. To be put on hold until spring 2022 [\$5,000] 2/2/22
1	Pump Station #4 - purchase two new pumps	Completed		102B				Cost: On a PO with MSI - # estim \$35,000 - by AEPump
1	Pump Station #4 - install new pumps	pending		102B				Most likely by D & C. 3/8 - Date pushed out to April & bill to hit in May ? - \$10,000
1	Effluent Pump #3 - repairs	On Going		102B	\$25,000.00			Currently the 60HP pump is at Flygt Repair shop - estimated repairs and new power cord - \$25,000; Pump still at shop - Dec 2021; No PO was issued. Parts due in for late March.
1	Sanitaire hardware purchase for aer tk 1	Completed		102B		\$12,776.00		Purchase more hardware - done June/July 2021 [not billed yet]
1	Additional Sanitaire hardware/equip needs	completed		102B		\$2,612.00		Additional 350 membrane diffusers for aeration tank #1 [ordered 10/19/21
3	Replace 6" potable water valve in basement and misc. valves	Pending		102B				While doing project check/replace 1 1/4 valves as needed - Requires a water shutdown, on hold until after HVAC project completed. Orig planned cost \$3,000.
2	New 6" portable trash pump - changed to new effluent P3 - Flowserve	On Going		102B				Purchase from either Sourcewell or other -best estimate: Update 2/8 to AquaSolutions - purchase of new effluent pump #3 - 60HP pump. On an issued PO 104175.
1	New Effluent Flygt Pump #4	completed		102B				20 HP pump ordered October 2021. on a PO Estim cost: \$17,000 plus freight
3	New 4-inch valves for pri building between the tanks Installation	Pending		102B				Valves - cost: \$2500, sub-contracted labor - either WC or outside co.\$4,000 - totl estim \$6,500
3	Odor log data loggers & calibr kit	Pending		102B				Current units obsolete and not supported by company, possibly look at under 05C if funds avail; remove the \$6,000 on 2/6/20 - 06C or 06M
3	Jerome meter replacement	Pending		102B				replace unit, if done \$11,000
3	Gravity Thickener #1 sandblasting/painting	Pending		102B				Estimate \$45,000+ - would need to go out for competitive bid request, Target late spring/early summer 2022 ?
2 of 42	3/8/2022 AUMA spare electric actuator	Pending		102B	2020_05_01_07M_Checkbook_YTD draft			one spae unit, for inventory - Quoted by A&N. PO requested.& on order.#103652 07M Planned Costs

Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)								
Maintenance Account - Year 7 - 05_01_21 to 04_30_22								
FOR DECEMBER 2021 MOR					\$43,800.00			3/8/2022 11:52
Priority [1=high]	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Grit classifier system parts	On Going		102B				No spare parts - tail shft housing, tail shaft, bushing, retainer plate, etc.Estimate from DGMarshall, HE Moore and Envirodyne. Parts purchasing initiated Dec 2021. Estimated total \$9,000
2	Replacement Pumps LS A	Pending		102B				Pump efficiency lower than desired - new pumps may be needed. Estimate ?
1	Electrical Work	On Going		103A				Electricians: Glen Fellows, HiVoltage, other; remv old blowers.lighting, sec bldg elec outlets - \$2,000/month; orig budget \$25,000; adjust down to \$4,000. Adjust down & zero out on 12/19.
1	SCADA Work	On Going		103A	\$2,500.00			Steve Rose and the SCADA Support Team; orig budget \$25,000; adj Dec 2021. Adjust budget remaining from 11K down to 6K; adjust budget down 2/8/22 to - \$2,500
1	E-One Repairs and Replacement	On Going		103A				Based on historical costs. E1 repairs where cost-effective & new replacement pumps; control panels, other equip; Orig budget \$25,000; More replacement pumps versus repairs. Reduce budget to 15K on 10/6; adj to 12K on 10/25; Adjust budget on 11/22 to \$3000. Adjust budget to Zero 12/19. 1/2/22 YTD costs \$28K. 2/2/22 - ongoing repairs & increased costs.
1	Annual Generator inspection	On Going		103A				placeholder 2021 Annual \$4,900 - MSElectrical Power - Generator PM/Service work - due in November, Early Dec target completion. 2/2/22 New Contractor will be in place for 2022. SSGEn - incl with PO issued to SSGEn
1	Automatic Transfer Switch inspection and servicing	Pending		103A				\$2400 - Annual Service planned for April Highland Power - NETS - Transfer Switch; Part of Gen Svc PO. Maypush this to after May 1st 2022 [2/2/22]
1	Wetwell Inspections and Cleaning - Plant/Pump Stations	On Going		103A	\$3,000.00			As required, plant or pump stations; orig budget \$10,000; adj 12/19 down to \$5000. 3/8 - adj placeholder down to \$3,000.
1	Sewer Line Cleaning - Emergencies	On Going		103A	\$4,000.00			Placeholder - As required for various sub-contractors; could be Hoadley, Truax, WindRiver, BMC, or other, collection system & plant; orig budget \$10,000; adj budget down to \$5,000 10/20; adjust down 1/3/22;
1	Collection System and plant - emerg & unplanned calls - Jetting & CCTV work - various contractors	On Going		103A				Budget - 15,000, adj down to 10K on 10/20; Reverse budget to Zero after PS9 Pump & Haul in January for FM evaluation. [2/2/22]
1	Mersino 6" pump rental	On Going		103A				approx \$2600 per month; adj budget down due to payments 11/22; adj 12/19
1	Aer tank repairs [labor] through September	completed		103A				4 days - millwrights - Lydon \$8000
2	Aer tank repairs [labor] for diffuser membrane replacement	completed		103A		\$1,952.92		2 days - millwrights - Lydon \$6300; Aeration tank #3, aeration tank #1
3	Regen Aeration System - Pump Station #5	Pending		103A				Orig est \$1,500 -Tie into the SCADA system - Glen Fellows; .
3	SHT1 - demo of equip, air piping & diffuser install/materials	Pending		103A				demo concrete in tank - \$15,000 - sub-contractor and installation of new equip -additional new equip \$6,000; air piping to the tank \$10,000; Total estimate: \$31,000. Maybe year 8M project ?
4	Generators - Load Bank Testing Plant & Pump Stations	Pending		103A				Look at under 08M - recently done under 06M.
1	EESCO electrical MCC work - plant	completed		103A		\$10,235.00		In progress as of September 2021, and to be completed October 2021
1	EESCO MCC work at the Pump Stations	Pending		103A				TBD quoted for Oct/Nov 2021
1	Low pressure sewer valve box insp & mtce	Pending		103A				placeholder for contractor O&M inspections and potential repairs; Looking at Rosano-Davis or another contractor & W&C to investigate; budget of \$7,500 on hold
1	LS A pumps - Repairs to P2 by Industrial Pump	On Going		101A				Placeholder - 4/12 - Evaluating cost for pump repair while relacement costs for parts or new pumps are looked at..Spare assembly still at shop - repairs pending

Hull 2021-2022 - 07M Projects, Tasks, and Needs - (AV)								
Maintenance Account - Year 7 - 05_01_21 to 04_30_22								
FOR DECEMBER 2021 MOR					\$43,800.00			3/8/2022 11:52
Priority [1=high]	Description	Status	<i>completed</i>	Task	Estimates & funds remaining	Final Completed Cost	<i>Lead</i>	Comments
1	PC #2 rake repairs - Lydon	completed		103A		\$33,370.77		Time and materials per proposal;[\$18,000]Revised estimate due to additional issues not seen with first inspection. Estimated additional \$\$ - \$15,000
1	PC2 remaining repairs - turnbuickles	completed		103A				installation - INCL above.
1	Aeration Tank #1 mechanical assistance	completed		103A		\$6,911.47		hardware replacement and diffuser replacement - Late Nov, Early Dec.3 days of contractor assistance.
1	Deragger PS3 for Pump #2	On Going		102B				Needs to be completed by MSI, additional electrican assistance.
TOTAL					\$43,800.00			



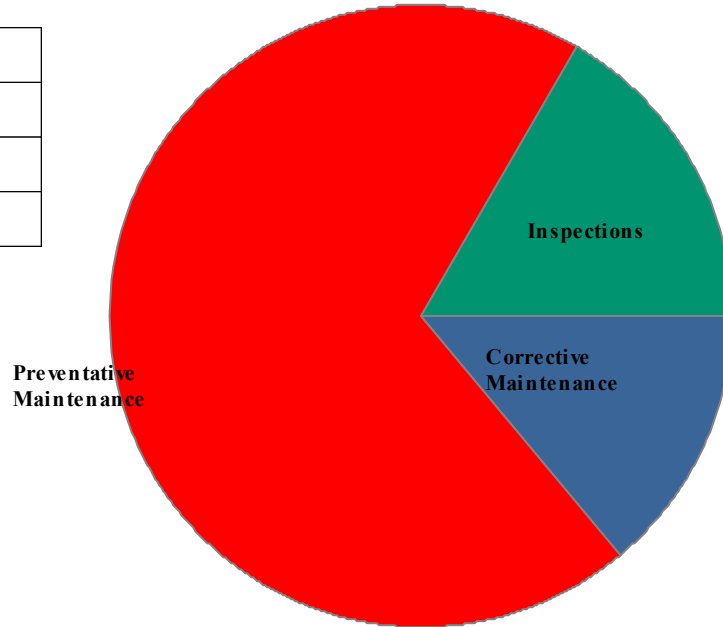
Maintenance History Report

Hull Wastewater

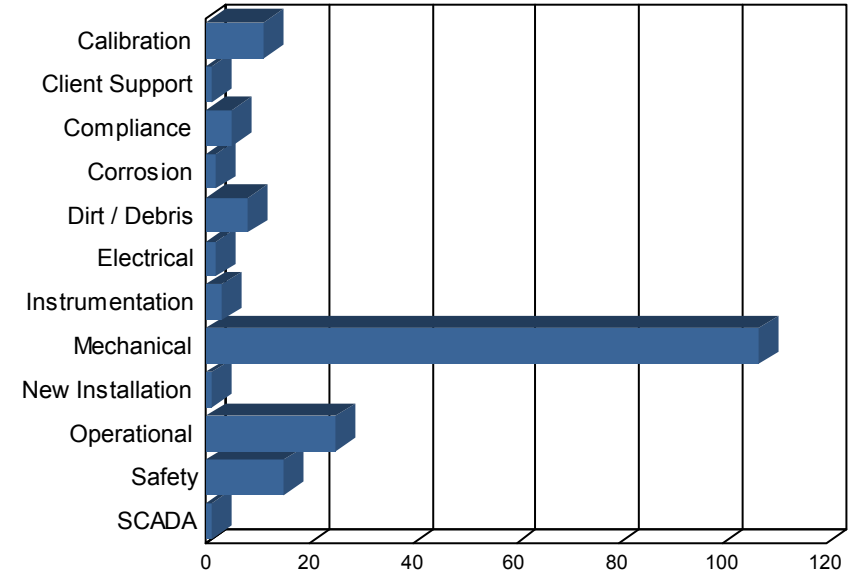
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End Date: 12/31/2021

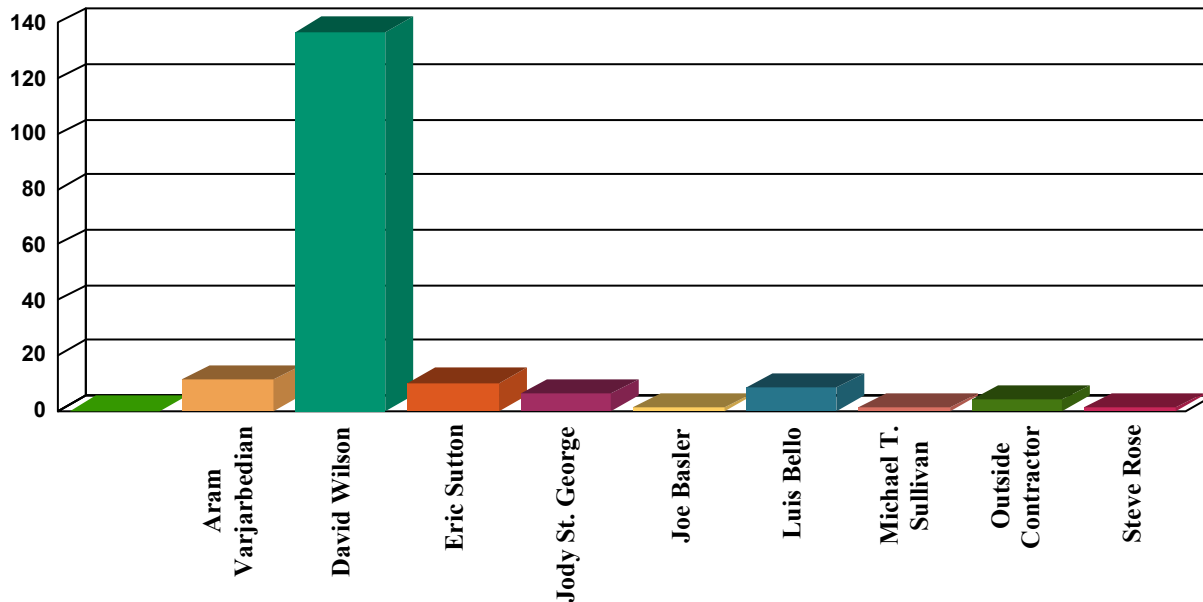
Work Order History By Type



Work Order History by Reason



Work Order History By Employee



Employee	WO Count	Labor Hours
Aram Varjarbedian	11	14
David Wilson	137	37
Eric Sutton	10	3
Jody St. George	6	6
Joe Basler	1	2
Luis Bello	8	0
Michael T. Sullivan	1	3
Outside Contractor	4	14
Steve Rose	1	2
Unassigned	2	1

Totals	181 81

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/1/21	15114	Influent Composit Sampler	no same collectef	AV, JB pull sample line up, large rag accumulated on tube, and strainer missing. Clean and install new strainer, and put line back in and test ok. Run 24 hr comp.	Joe Basler	12/1/21	Completed
12/2/21	15113	Plant Floor Drains	Grit classifier floor drain backing up.	Disassembled floor drain assembly for inspection. Found excessive corrosion and debris filling most of the piping. Tried to clean out debris. Replaced 4" ductile iron with schedule 40 pvc. Replaced rotten pipe support and band clamps.	David Wilson	12/2/21	Completed
12/3/21	15115	Grit Screw Classifier	Diagnose classifier leak and repair	LOTO of equipment. Cleaned and inspected components. Trough leaking because of failed tailshaft bushing. Seal failed and allowed grit between bushing and tailshaft. Premature wear allowed screw to contact trough cusing a hole. IPC Lydon tried to weld hole but material is too thin. Used cold wel for trough repair and followed up with ceramic coating inside and out. Tailshaft replaced and installed with new hardware. Tailshaft housing repaired and new bushing installed. Bushing milled for grease to vent out of rear. Drilled hole in rear plate to act as telltale for seal failure and for displaced grease to exit housing.	David Wilson	12/6/21	Completed
12/6/21	15117	Primary Sludge Pump 1	Diagnose primary sludge pump 1 check valve	LOTO of equipment. Disassembled check valve. Found set screw corroded away. Pivot shaft fitment out of tolerance. Plunger to connecting rod fitment out of tolerance. Drilled set screw and pivot shaft. Used 304SS hardware to make a temporary repair until parts come in. Reccomend replacement of pivot shaft, plunger and connecting rod.	David Wilson	12/6/21	Completed
12/7/21	15119	RAS Pump 2	Pull pump, remove clog	Completed	Jody St. George	12/7/21	Completed
12/7/21	15120	RAS Pump 3	Remove pump and unclog	Completed	Jody St. George	12/7/21	Completed
12/7/21	15118	RAS Pump 1	Install new rotating assembly	Completed	Jody St. George	12/7/21	Completed
12/10/21	15122	PS 6 Pump 1	Clean and inspect impeller.	LOTO of equipment. Cleaned and inspected impeller. Returned to service.	David Wilson	12/13/21	Completed
12/10/21	15123	PS 1 Pump 1	Diagnose excessive drag on shaft.	LOTO of equipment. Removed cleanouts from pump assembly. Rags caught between impeller and volute. Cleaned debris and adjusted impeller height. Returned to service.	David Wilson	12/13/21	Completed

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/10/21	15121	PS 6 Pump 2	Observed deragger cleanings every cycle after initial cleaning.	LOTO of equipment. Removed side and bottom cleanouts. Rotated shaft to inspect impeller veins. Pushed out rags and cleanout wedged in the impeller face. Returned to service.	David Wilson	12/13/21	Completed
12/13/21	15124	RST Water Booster Pump	Replace failed coupling.	LOTO of equipment. Tried to move hubs. Set screws stripped and seized in place. Requires moving motor. Hardware seized. Broken or cut to replace coupling. Removed wiring from motor and set motor aside for bolt extraction. Tried to back out hardware with heat. Studs broke flush to anchoring plate. Drilled hole through bolts for extractor. Extractor broke in hole. Coated with rust inhibitor. Drilled and tapped new holes. Installed with new hardware. Rewired motor. Installed new hardware on wiring cover. Retuned to service.	David Wilson	12/13/21	Completed
12/14/21	15126	PS 3 Pump 2	install/complete deragger install	Fellows Elec, Pioneer Elec, MSI complete installation and programming of deragger components and wiring, and VFD programming	Outside Contractor	12/14/21	Completed
12/14/21	15129	Hypochlorite Tank 2	assess leak	Fill tank tank with water, 1000 gallons, and check for leaks, seeing slight drip under outlet connection due to corrosion. Fill to 2600 gal, monitor over night. Will continue to monitor and pIN to replace gasket. RobS and Reggie C on site for investigation.	Aram Varjarbedian	12/15/21	Completed
12/14/21	15128	Primary Clarifier 2	complete rake repairs	Lydon installed 4 new turnbuckle, adjust and balance rake arms. This completes PC2 structural repairs. Josh S and Matt S.	Outside Contractor	12/15/21	Completed
12/15/21	15130	SCADA	Change out UPS battery back up	AV and Steve Rose replace UPS units in blower panel, main PLC panel, eff pump panel. 1st floor MCC PLC panel	Aram Varjarbedian	12/15/21	Completed
12/15/21	15127	PS 3 Pump 2	deragger control issue	chk system PLC programming to get both pumps to operate normally with the deragger and alternate	Steve Rose	12/15/21	Completed
12/17/21	15131	30 - WW Treatment Plant - General	HMLP power test with townwide generators	Town testing back up generators, resulted in several transfers of power. Staff remained on site until completed, resetting equipment as needed. PS5 fuse for one of the pumps replaced. MikeP, electrician, on site for assistance. Other staff stay on site, JB, MS, DW	Michael T. Sullivan	12/17/21	Completed
12/20/21	15132	Aeration Tank 2	cleanout	AV with Ms, DW, LB - CSE into tank and with Truax vac truck, vac out grit and solids from tank. 1.5 loads of sludge to GT1. other 1.5 loads to landfill. Wash down the tank.	Aram Varjarbedian	12/20/21	Completed
12/23/21	15134	Laboratory	YSI 550A handheld DO sensor will not calibrate.	Disassembled sensor and found torn membrane. Sensor oxidized and cleaned with 400grit sandpaper. New membrane installed with fresh electrolyte. Calibrated unit.	David Wilson	12/23/21	Completed
12/23/21	15133	PS 1 Pump 2	Diagnose low output	LOTO of pump 2. Removed cleanouts. Pushed rag ball into impeller face. Removed from suction elbow. Reassembled and returned to service. 90gpm before 270gpm now.	David Wilson	12/23/21	Completed

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/23/21	15136	Primary Building	Sump pump inoperable	JB/JT removed from service. Disassembled discharge plumbing and found flapper stuck in check valve. Inspected pump. Found piece of hose jammed in impeller face. Removed and tested pump. Returned to service and verified operation. Good.	David Wilson	12/23/21	Completed
12/23/21	15135	Wet Scrubber System	Clean recirculation pump rotometers	LOTO of equipment. Uninstalled rotometers for cleaning. Reassembled and returned to service.	David Wilson	12/23/21	Completed
12/29/21	15138	Secondary Building	Seal water system failure	While testing high level, I found a seal water supply line ruptured. Isolated leg from seal water supply and restored seal water to RAS pumps.	David Wilson	12/29/21	Completed
12/29/21	15137	Primary Clarifier Influent D-Box	Installed safety grating	Cut safety grating due to new piping at D box	Eric Sutton	12/29/21	Completed
12/30/21	15139	RAS Pump 1	Install safety barrier	Plastic barrier material out of stock. Made wire mesh barrier to prevent contact with pumps rotating assembly.	David Wilson	12/30/21	Completed

Inspections

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/3/21	14479	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	11/21/21	Completed
12/3/21	14478	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	11/14/21	Completed
12/3/21	14681	PS 1	PS #1 Inspection - Monthly	Follow up required for pump 2. Rotating assembly is hard to turn. Volute needs to be cleaned.	David Wilson	12/2/21	Completed
12/3/21	14682	PS 3	PS #3 Inspection - Monthly	No issues found.	David Wilson	12/2/21	Completed
12/3/21	14683	PS 4	PS #4 Inspection - Monthly	Wet well needs to be cleaned. About 30% surface solids. Pump 1 seal leaking. Replacement on order.	David Wilson	12/2/21	Completed
12/3/21	14684	PS 5	PS #5 Inspection - Monthly	Pump 2 VFD has external fault 3. MiniCas does not have power. High voltage scheduled to come out to troubleshoot.	David Wilson	12/2/21	Completed
12/3/21	14685	PS 6	PS #6 Inspection - Monthly	Wet well needs to be cleaned. Pump 2 deragger recleans every cycle. Follow up inspection required.	David Wilson	12/2/21	Completed
12/3/21	14686	PS 9	PS #9 Inspection - Monthly	No issues found.	David Wilson	12/2/21	Completed
12/3/21	14687	PS A	PS #A Inspection - Monthly	Wetwell requires cleaning. About 40% surface solids.	David Wilson	12/2/21	Completed
12/6/21	14589	Waste Oil Storage	Waste Oil Area Inspection		Luis Bello	11/9/21	Completed
12/7/21	14768	Blower Room Exhaust Fan 1	Monthly operational inspection	No issues found.	David Wilson	12/1/21	Completed
12/7/21	14769	Blower Room Exhaust Fan 2	Monthly operational inspection	No issues found.	David Wilson	12/1/21	Completed
12/7/21	14588	Gravity Thickener Electrical Power Manhole	Inspect Gravity Thickener Electrical Manhole		David Wilson	11/2/21	Completed
12/7/21	14278	Waste Oil Storage	Waste Oil Area Inspection		Luis Bello	9/14/21	Completed
12/8/21	14725	Fire Extinguishers	WWTF Fire Extinguisher Inspections - Monthly		Luis Bello	12/6/21	Completed

Inspections

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/9/21	14279	Universal waste area	Universal Waste Storage Area Inspection		Luis Bello	9/14/21	Completed
12/10/21	14334	Backflow Preventer - Generator Room	Backflow Preventor Testing (Generator Room) - Semi Annual		Outside Contractor	10/13/21	Completed
12/10/21	14335	Backflow Preventer - HVAC Room Back Wall	Backflow Preventor Test (HVAC Room) - Semi Annual		David Wilson	10/13/21	Completed
12/15/21	15125	30 - WW Treatment Plant - General	Collect paint samples for engineering.	Confined space entry into grit pump room. Collected paint samples from pumps and piping. Assisted with collecting samples and getting to sampling points throughout the plant.	David Wilson	12/15/21	Completed
12/20/21	14638	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	12/12/21	Completed
12/20/21	14637	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	12/5/21	Completed
12/23/21	14639	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	12/19/21	Completed
12/28/21	14742	Universal waste area	Universal Waste Storage Area Inspection		Aram Varjarbedian	12/14/21	Completed
12/28/21	14741	Waste Oil Storage	Waste Oil Area Inspection		Aram Varjarbedian	12/14/21	Completed
12/29/21	14640	Eyewash Stations	WWTF Eyewash Inspection - Weekly		David Wilson	12/26/21	Completed
12/30/21	15140	Truck 1 - 2010 Dodge Ram 1500	Perform vehicle inspection	Inspected vehicle - See doFORMS report for full details.		12/30/21	Completed
12/30/21	15141	Truck 2 - 2009 Chevy 2500 HD	Perform vehicle inspection	Inspected vehicle - See doFORMS report for full details.		12/30/21	Completed
12/30/21	14729	Truck 1 - 2010 Dodge Ram 1500	Monthly vehicle inspection on do-Forms	Tpms sensors light on.	David Wilson	12/6/21	Completed
12/30/21	14739	Truck 2 - 2009 Chevy 2500 HD	Monthly vehicle inspection on do-Forms	Loss of signal tpms sensor drivers side front tire.	David Wilson	12/6/21	Completed
12/31/21	14748	Truck 4 - 2015 Nissan Frontier	Monthly vehicle inspection on do-Forms	No issues. 135,200 miles	Aram Varjarbedian	12/6/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/2/21	15116	Primary Clarifier Influent D-Box	Build and install drop pipe for primary distribution box.	Measured working length of missing pipe. Cut, primed, glued and installed new suction pipe.	David Wilson	12/6/21	Completed
12/3/21	14600	High level floats	Weekly High Float Alarm test		Luis Bello	11/21/21	Completed
12/3/21	14575	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		Luis Bello	11/22/21	Completed
12/3/21	14610	Generators "All Pump Station"	Generator Weekly - Test Run no load		Luis Bello	11/22/21	Completed
12/3/21	14494	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	11/24/21	Completed
12/3/21	14615	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	11/28/21	Completed
12/3/21	14601	High level floats	Weekly High Float Alarm test		David Wilson	11/28/21	Completed
12/3/21	14490	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	11/29/21	Completed
12/3/21	14651	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	12/1/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/3/21	14489	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	11/22/21	Completed
12/3/21	14585	Parts Washer	Parts Washer PM - Annual		David Wilson	11/11/21	Completed
12/3/21	14614	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	11/21/21	Completed
12/6/21	14733	PS Kholer Trailer Mounted Generator	Generator - Monthly Load Test		Eric Sutton	12/5/21	Completed
12/6/21	14758	Generators "All Pump Station"	Generator - Monthly Load Test		Eric Sutton	12/5/21	Completed
12/6/21	14712	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14717	PS 9 Generator	PS #9 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14719	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14707	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14718	PS 6 Generator	PS #5 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14700	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14706	PS 5 Generator	PS #5 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14695	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14705	PS 4 Generator	PS #4 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14688	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	12/1/21	Completed
12/6/21	14694	PS 3 Generator	PS #3 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14576	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		Eric Sutton	11/29/21	Completed
12/6/21	14693	PS 1 Generator	PS #1 Generator Inspection and Load Test - Monthly		David Wilson	12/1/21	Completed
12/6/21	14611	Generators "All Pump Station"	Generator Weekly - Test Run no load		Eric Sutton	11/29/21	Completed
12/6/21	14485	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	11/29/21	Completed
12/6/21	14560	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	11/24/21	Completed
12/6/21	14566	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		Eric Sutton	11/24/21	Completed
12/6/21	14550	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		Eric Sutton	11/24/21	Completed
12/6/21	14556	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		Eric Sutton	11/24/21	Completed
12/6/21	14540	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		Eric Sutton	11/24/21	Completed
12/6/21	14546	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		Eric Sutton	11/24/21	Completed
12/6/21	14484	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	11/22/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/6/21	14501	Influent Pump 5	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
12/6/21	14500	Influent Pump 4	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
12/6/21	14499	Influent Pump 3	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
12/6/21	14498	Influent Pump 2	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
12/6/21	14497	Influent Pump 1	Monthly Check Pump Couplings		David Wilson	11/3/21	Completed
12/7/21	14669	RAS Pump 1	Monthly Check Pump Couplings	Installed rebuilt rotating assembly and motor. Adjusted impeller height. Adjusted hub and coupling. Primed and put into service.	Jody St. George	12/1/21	Completed
12/7/21	14670	RAS Pump 2	Monthly Check Pump Couplings		Jody St. George	12/1/21	Completed
12/7/21	14671	RAS Pump 3	Monthly Check Pump Couplings		Jody St. George	12/1/21	Completed
12/7/21	14636	Portable Generator - Honda	Portable Generator Inspection - Monthly		David Wilson	12/1/21	Completed
12/7/21	14787	Secondary Effluent Isolation Gate	Isolation Valve Exercise		David Wilson	12/3/21	Completed
12/7/21	14502	Aeration Blower 1	Aeration Blower #1 Air Filter Inspection - monthly		David Wilson	11/23/21	Completed
12/7/21	14503	Aeration Blower 2	Aeration Blower #2 Air Filter Inspection - Monthly		David Wilson	11/25/21	Completed
12/8/21	14580	Ventis MX4 #2 - 4 Gas	4 Gas Meter #2 Calibration - Monthly		David Wilson	11/25/21	Completed
12/8/21	14591	GasAlert Max XTII #2	monthly calibration		David Wilson	11/25/21	Completed
12/8/21	14581	Ventis MX4 #3 - 4 Gas	4 Gas Meter #3 Calibration - Monthly		David Wilson	11/25/21	Completed
12/8/21	14582	Ventis MX4 #4 - 4 Gas	4 Gas Meter #4 Calibration - Monthly		David Wilson	11/25/21	Completed
12/8/21	14583	Ventis MX4 #5 - 4 Gas	4 Gas Meter #5 Calibration - Monthly		David Wilson	11/25/21	Completed
12/8/21	14584	Ventis MX4 #6 - 4 Gas	4 Gas Meter #6 Calibration - Monthly		David Wilson	11/25/21	Completed
12/8/21	14726	GasAlert Max XTII #1	4 gas meter calibration - monthly		David Wilson	12/1/21	Completed
12/9/21	14749	High level floats	Weekly High Float Alarm test		Luis Bello	12/5/21	Completed
12/10/21	12415	Backflow Preventer - HVAC Room Boiler Makeup Feed	Backflow Preventor Test (HVAC Room Boiler) - Semi Annual	Done by water supplier	Outside Contractor	10/14/20	Completed
12/10/21	14336	Backflow Preventer - HVAC Room Boiler Makeup Feed	Backflow Preventor Test (HVAC Room Boiler) - Semi Annual		David Wilson	10/13/21	Completed
12/15/21	14652	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	12/8/21	Completed
12/15/21	14656	Mechanical Screen & Washpress System	Monthly Maintenance		David Wilson	12/6/21	Completed
12/20/21	14689	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed
12/20/21	14696	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed
12/20/21	14701	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/20/21	14708	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed
12/20/21	14720	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed
12/20/21	14713	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	12/8/21	Completed
12/20/21	14763	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	12/12/21	Completed
12/20/21	14646	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	12/13/21	Completed
12/20/21	14750	High level floats	Weekly High Float Alarm test		David Wilson	12/12/21	Completed
12/20/21	14642	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	12/13/21	Completed
12/20/21	14759	Generators "All Pump Station"	Generator Weekly - Test Run no load		David Wilson	12/13/21	Completed
12/20/21	14653	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	12/15/21	Completed
12/20/21	14730	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		David Wilson	12/13/21	Completed
12/20/21	14690	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14697	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14702	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14709	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14721	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14714	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	12/15/21	Completed
12/20/21	14645	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	12/5/21	Completed
12/20/21	14593	Chlorine probe ATI	Weekly calibration		Aram Varjarbedian	11/22/21	Completed
12/20/21	14330	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	10/3/21	Completed
12/20/21	14486	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	11/7/21	Completed
12/20/21	14592	Chlorine probe ATI	Weekly calibration		Aram Varjarbedian	11/8/21	Completed
12/20/21	14746	Chlorine probe ATI	Change electrolyte		Aram Varjarbedian	12/1/21	Completed
12/20/21	14762	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	12/5/21	Completed
12/20/21	14744	Chlorine probe ATI	Weekly calibration		Aram Varjarbedian	12/6/21	Completed
12/21/21	14643	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	12/20/21	Completed
12/21/21	14647	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	12/20/21	Completed
12/21/21	14760	Generators "All Pump Station"	Generator Weekly - Test Run no load		David Wilson	12/20/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/21/21	14731	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		David Wilson	12/20/21	Completed
12/22/21	14654	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	12/22/21	Completed
12/22/21	14352	Effluent Pumps	Effluent Pump - Monthly	Exercised all pumps. P4-1.6@53hZ P2-1.6@47hZ P3-2@44hZ P4-2@44hZ	David Wilson	10/15/21	Completed
12/22/21	14785	Effluent Pumps	Effluent Pump - Monthly	Exercised all pumps. P4-1.6@53hZ P2-1.6@47hZ P3-2@44hZ P4-2@44hZ	David Wilson	11/15/21	Completed
12/22/21	14786	Effluent Pumps	Effluent Pump - Monthly	Exercised all pumps. P4-1.6@53hZ P2-1.6@47hZ P3-2@44hZ P4-2@44hZ	David Wilson	12/15/21	Completed
12/22/21	14678	Primary Sludge Pump 2	Monthly Check Pump Couplings		David Wilson	12/1/21	Completed
12/22/21	14677	Primary Sludge Pump 1	Monthly Check Pump Couplings		David Wilson	12/1/21	Completed
12/23/21	14764	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	12/19/21	Completed
12/23/21	14751	High level floats	Weekly High Float Alarm test		David Wilson	12/19/21	Completed
12/23/21	14757	ORP meter	Clean and Calibrate		David Wilson	12/10/21	Completed
12/23/21	14756	pH meter	Clean and Calibrate		David Wilson	12/1/21	Completed
12/28/21	14745	Chlorine probe ATI	Weekly calibration		Aram Varjarbedian	12/20/21	Completed
12/28/21	14691	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14698	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14703	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14710	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14722	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14715	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	12/22/21	Completed
12/28/21	14648	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	12/27/21	Completed
12/28/21	14644	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	12/27/21	Completed
12/28/21	14761	Generators "All Pump Station"	Generator Weekly - Test Run no load		David Wilson	12/27/21	Completed
12/28/21	14732	PS Kholer Trailer Mounted Generator	Generator Weekly - Test Run no load		David Wilson	12/27/21	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
12/29/21	14650	Fixed Gas Monitoring System	Quarterly Calibration Headworks room gas meters	Zeroed and tested calibration. H2S failed to span correctly. Replacement sensor required. O2 and LEL calibrated properly. Part supplier contacted.	David Wilson	12/1/21	Completed
12/29/21	14692	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14699	PS 3 Generator	PS #3 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14704	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14711	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14716	PS 9 Generator	PS #9 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14723	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		David Wilson	12/29/21	Completed
12/29/21	14655	Influent Sluice Isolation Gate	Weekly operate through full range		David Wilson	12/29/21	Completed
12/29/21	14765	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY		David Wilson	12/26/21	Completed
12/29/21	14752	High level floats	Weekly High Float Alarm test		David Wilson	12/26/21	Completed
12/30/21	14664	Aeration Tank 1 Oxygen Probe	AT #1 DO Probe Clean and Calibrate - Monthly	Cleaned and inspected LDO probe. Found cap cracked. Do not belive to be leaking. Parts will need to be ordered.	David Wilson	12/7/21	Completed
12/30/21	14665	Aeration Tank 3 Oxygen Probe	AT #3 DO Probe Clean and Calibrate - Monthly		David Wilson	12/7/21	Completed
12/30/21	14663	Aeration Blower 2	Aeration Blower #2 Air Filter Inspection - Monthly	Replaced air filter element. Cleaned take off part.	David Wilson	12/23/21	Completed
12/30/21	14662	Aeration Blower 1	Aeration Blower #1 Air Filter Inspection - monthly		David Wilson	12/28/21	Completed

Date	Asset ID	Asset Description	Asset Class
12/13/2021 15:08	02-052	104 MAIN ST	Hull Parcels
12/2/2021 14:05	03-020	88 MAIN ST	Hull Parcels
12/2/2021 14:00	03-048	34 OCEAN AVE	Hull Parcels
12/2/2021 14:03	03-057	28 OCEAN AVE	Hull Parcels
12/9/2021 13:05	06-021	22 TELEGRAPH AVE	Hull Parcels
12/22/2021 13:45	10-081	36 WINTHROP AVE	Hull Parcels
12/9/2021 8:18	122 N Truro St	122 N Truro St Grinder Pump	Hull Grinder Pumps
12/2/2021 14:09	15-091	62 K STREET	Hull Parcels
12/30/2021 7:55	16-217	40 D STREET	Hull Parcels
12/3/2021 9:45	18-027	685 NANTASKET AVE	Hull Parcels
12/10/2021 6:55	19-120	165 SAMOSET AVE	Hull Parcels
12/10/2021 7:09	19-152	168 SAMOSET AVE	Hull Parcels
12/10/2021 6:53	21-024	163 SAMOSET AVE	Hull Parcels
12/13/2021 15:09	24-083	105 WARFIELD AVE	Hull Parcels
12/2/2021 14:11	25-124	23 MALTA ST	Hull Parcels
12/13/2021 15:10	27-098	27 SAMOSET AVE	Hull Parcels
12/2/2021 14:14	36-086	15 STANDISH RD	Hull Parcels
12/15/2021 14:53	38-024	163 NANTASKET AVE	Hull Parcels
12/2/2021 10:00	42 Rockaway Ave	42 Rockaway Ave Grinder Pump	Hull Grinder Pumps
12/30/2021 7:57	42-100	1 GATEHOUSE LANE	Hull Parcels
12/6/2021 15:10	45-270	0 BARNSTABLE ST	Hull Parcels
12/6/2021 15:06	49-041	261 ATLANTIC AVE	Hull Parcels
12/28/2021 12:42	49-041	261 ATLANTIC AVE	Hull Parcels
12/6/2021 15:01	49-090	253 ATLANTIC AVE	Hull Parcels
12/20/2021 15:31	50 Nantasket Ave	50 Nantasket Ave Grinder Pump	Hull Grinder Pumps
12/28/2021 11:58	51-007	187 ATLANTIC AVE	Hull Parcels
12/6/2021 14:54	51-009	205 ATLANTIC AVE	Hull Parcels
12/6/2021 14:57	51-024	0 ATLANTIC AVE	Hull Parcels
12/6/2021 14:59	51-025	227 ATLANTIC AVE	Hull Parcels
12/6/2021 14:56	51-103	51-103	Hull Parcels
12/28/2021 12:11	52-021	150 ATLANTIC AVE	Hull Parcels
12/6/2021 14:45	52-074	32 GUN ROCK AVE	Hull Parcels
12/28/2021 12:33	53-002	91 ATLANTIC AVE	Hull Parcels
12/1/2021 13:18	53-007	105 ATLANTIC AVE	Hull Parcels
12/28/2021 12:17	53-026	134 ATLANTIC AVE	Hull Parcels
12/6/2021 14:52	53-036	120 ATLANTIC AVE	Hull Parcels
12/28/2021 12:21	53-036	120 ATLANTIC AVE	Hull Parcels
12/6/2021 14:49	53-047	100 ATLANTIC AVE	Hull Parcels
12/28/2021 12:28	53-047	100 ATLANTIC AVE	Hull Parcels
12/6/2021 14:47	54-035-A	78 ATLANTIC AVE	Hull Parcels
12/14/2021 14:42	57-008	23 HARBOR VIEW RD	Hull Parcels
12/14/2021 15:18	57-008	23 HARBOR VIEW RD	Hull Parcels
12/8/2021 11:24	7 Salisbury St	7 Salisbury St Grinder Pump	Hull Grinder Pumps

12/2/2021 13:52 Bateria UNIT #21	UNIT #21	Hull In Pipe Bacteria Unit
12/23/2021 14:27 Bateria UNIT #21	UNIT #21	Hull In Pipe Bacteria Unit
12/23/2021 14:31 Bateria UNIT #22	UNIT #22	Hull In Pipe Bacteria Unit
12/22/2021 13:56 Bateria UNIT # 8	UNIT # 8	Hull In Pipe Bacteria Unit
12/22/2021 13:49 Bateria UNIT #1	UNIT #1	Hull In Pipe Bacteria Unit
12/22/2021 13:59 Bateria UNIT #10	UNIT #10	Hull In Pipe Bacteria Unit
12/22/2021 14:04 Bateria UNIT #11	UNIT #11	Hull In Pipe Bacteria Unit
12/23/2021 14:29 Bateria UNIT #12	UNIT #12	Hull In Pipe Bacteria Unit
12/23/2021 14:28 Bateria UNIT #13	UNIT #13	Hull In Pipe Bacteria Unit
12/23/2021 14:26 Bateria UNIT #14	UNIT #14	Hull In Pipe Bacteria Unit
12/23/2021 14:27 Bateria UNIT #15	UNIT #15	Hull In Pipe Bacteria Unit
12/23/2021 14:24 Bateria UNIT #16	UNIT #16	Hull In Pipe Bacteria Unit
12/22/2021 14:01 Bateria UNIT #17	UNIT #17	Hull In Pipe Bacteria Unit
12/22/2021 14:03 Bateria UNIT #18	UNIT #18	Hull In Pipe Bacteria Unit
12/22/2021 14:03 Bateria UNIT #19	UNIT #19	Hull In Pipe Bacteria Unit
12/22/2021 13:50 Bateria UNIT #2	UNIT #2	Hull In Pipe Bacteria Unit
12/23/2021 14:25 Bateria UNIT #20	UNIT #20	Hull In Pipe Bacteria Unit
12/23/2021 14:30 Bateria UNIT #23	UNIT #23	Hull In Pipe Bacteria Unit
12/22/2021 13:48 Bateria UNIT #24	UNIT #24	Hull In Pipe Bacteria Unit
12/2/2021 13:53 Bateria UNIT #3	UNIT #3	Hull In Pipe Bacteria Unit
12/22/2021 14:02 Bateria UNIT #3	UNIT #3	Hull In Pipe Bacteria Unit
12/2/2021 13:54 Bateria UNIT #4	UNIT #4	Hull In Pipe Bacteria Unit
12/22/2021 13:48 Bateria UNIT #4	UNIT #4	Hull In Pipe Bacteria Unit
12/22/2021 13:53 Bateria UNIT #5	UNIT #5	Hull In Pipe Bacteria Unit
12/22/2021 13:51 Bateria UNIT #6	UNIT #6	Hull In Pipe Bacteria Unit
12/22/2021 13:54 Bateria UNIT #7	UNIT #7	Hull In Pipe Bacteria Unit
12/23/2021 14:31 Bateria UNIT #9	UNIT #9	Hull In Pipe Bacteria Unit
12/22/2021 13:36 MH-20179	SEMS_Asset	Sanitary Manhole
12/14/2021 15:23 MH-20224	SEMS_Asset	Sanitary Manhole
12/22/2021 14:08 MH-20325	SEMS_Asset	Sanitary Manhole
12/23/2021 14:45 MH-20398	SEMS_Asset	Sanitary Manhole

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