



HULL WATER POLLUTION CONTROL FACILITY

September 2020

MONTHLY OPERATING REPORT



NPDES NO. MA0101231

woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

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Cover pictures:

[top] Temporary screenings box – bar rack modifications – reinstallation of the rack

[bottom] Debris/rags collected on fine bar rack in screenings box

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 September 2020.

- No lost-time incidents for the month of September.
- On-going covid-19 safety operations: Regular daily operations and staff scheduling. Planning for multiple contractor project work. Continued use of contractor/Vendor/Visitor form. Following Town, State and Company mandated safety protocols due to the Covid-19 Emergency. On-going procurement of necessary safety supplies related to Covid-19.
- Influent sewage bypass was set up and put into operation by mid-September, to allow concrete work in headworks to begin.
- There were 150 effluent samples taken in the month of September. [details on page (12).] All effluent samples compliant. The average daily flow for the month was 0.88 MGD. A total of 1.02 inches of rainfall was recorded. The extremely dry weather conditions continued and there were no significant rain events that occurred during the month.
- Process conditions continued to be good with stable conditions during the month.
- Initial assessment of RAS pipe condition made.
- The plant and collection system odors were moderate due to very low flows. The Bioxide system was in full operation in September with regular review and adjustments being made for more chemical addition. There were no odor complaints related to plant.
- The 06M Asset Management Accounts checkbook summary and planned expenses updated for contract year #6 are attached.
- There were 4 grinder pump call outs during the month of September with pump replacements.
- W&C O&M continues to support many of the Engineering projects with a focus supporting the construction project in the headworks and O&M getting the changes to the screenings box and necessary drain piping in the headworks completed so that operations in the lab, bathrooms and RST could continue during work.

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

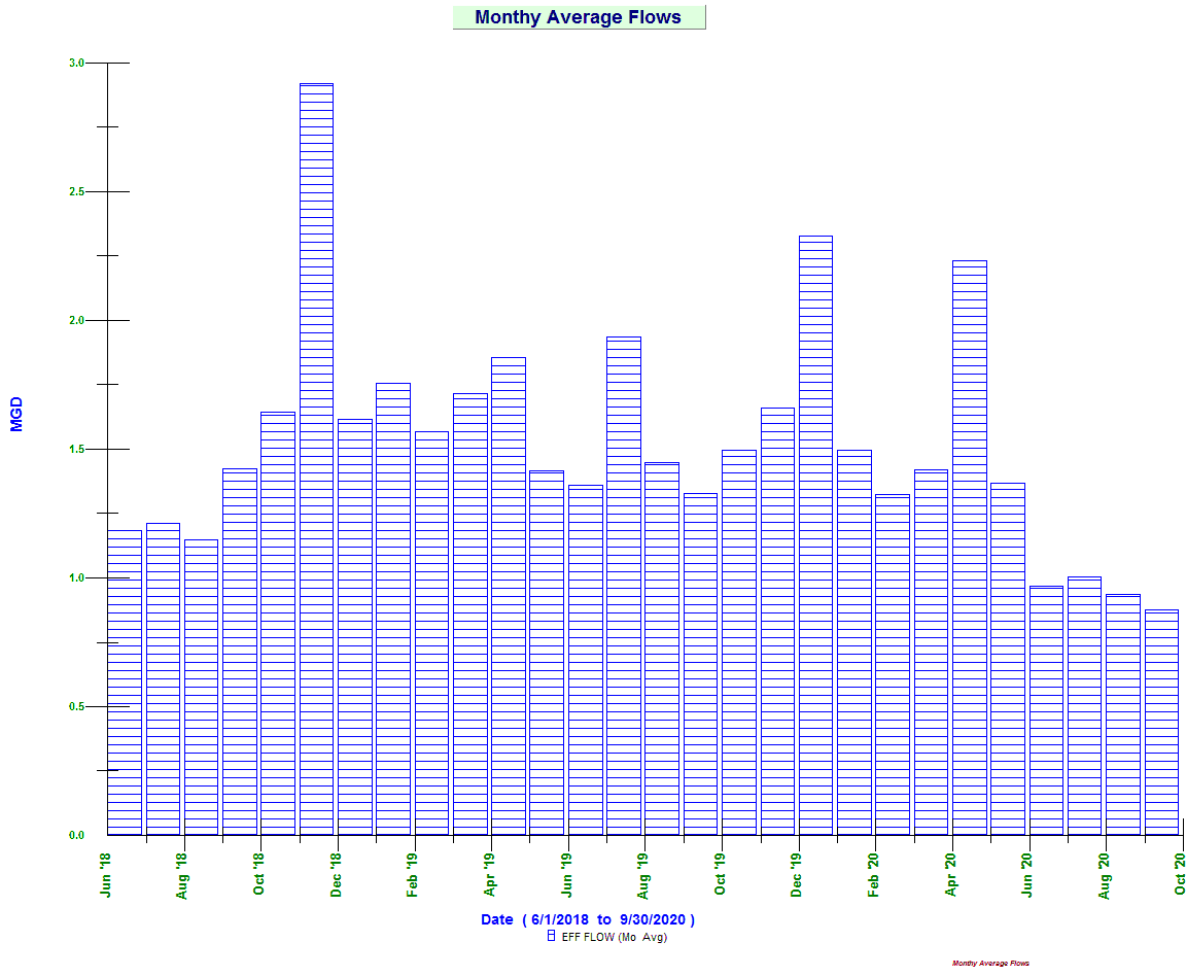


Average Daily Flows and Loadings for the Month:

	Eff Flow MGD	Inf Flow MGD	Inf BOD LBS	Inf TSS LBS	Eff BOD LBS	EFF TSS LBS
Sept 2018	1.423	1.735*	1317	2325	101	238
Sept 2019	1.327	1.517*	2020	5900	37	160
Sept 2020	0.876	**	1775	3066	52	128

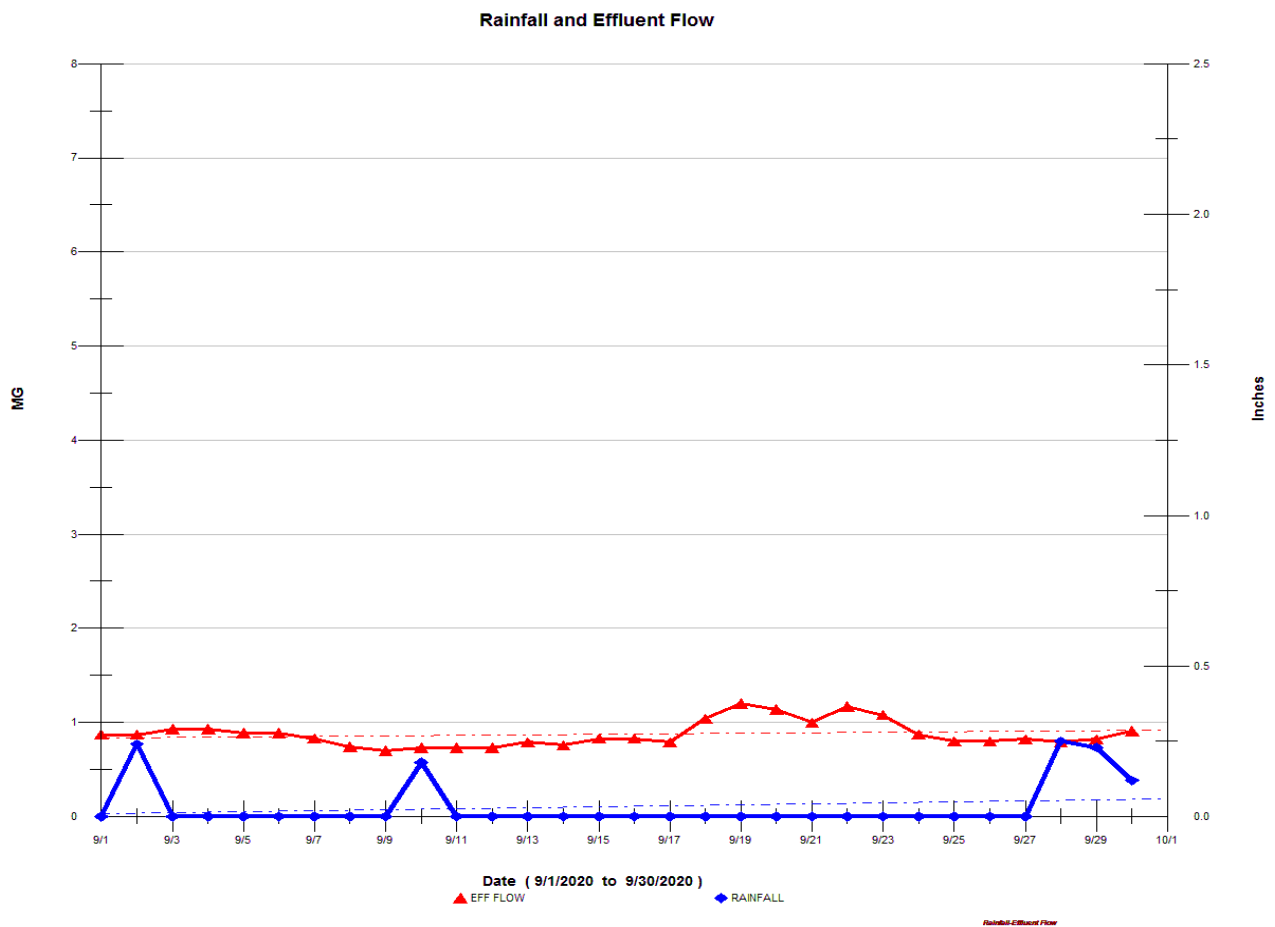
** No influent flow data since the headworks and all influent pumps are shut down for the headworks concrete repair project. Bypass pumps were set up and pumping from manhole outside of the operations building. The influent gate is closed.

2.1 AVERAGE EFFLUENT MONTHLY FLOWS – 2+ YEAR COMPARISON

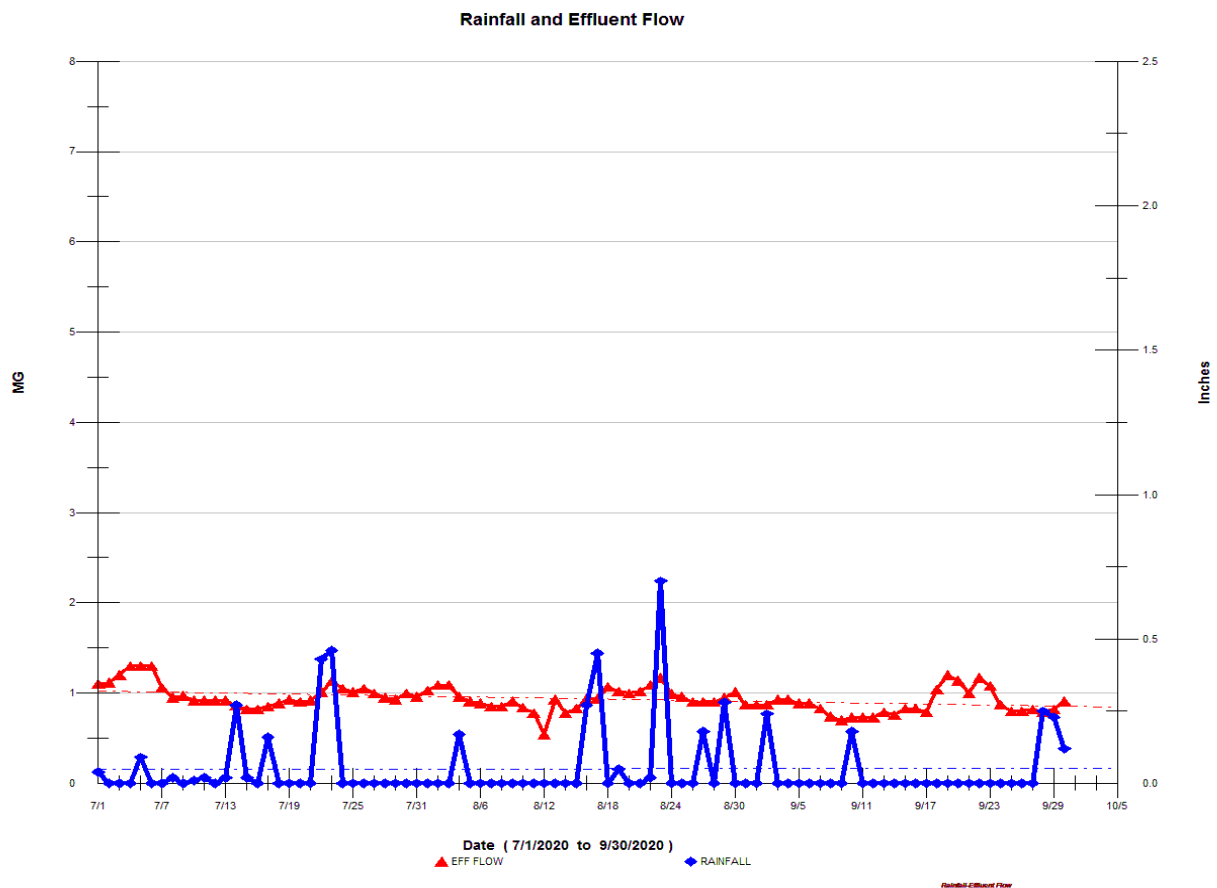


The monthly average flow for September was 0.88 MGD, slightly lower than July & August. The total precipitation for the month was 1.02 inches. The graph shows the 2-plus year summary of the monthly average flows that includes the June, July, August & September periods, where the monthly flows for 2020 are lower.

2.2 MONTHLY SUMMARY OF RAINFALL AND THE INFLUENCE ON EFFLUENT FLOWS



This graph typically shows the days where plant flows were higher due to rainfall [Blue Peaks]. Like July and August, this graph indicates that there were few wet days in September and any rainfall received had little/no impact on plant flows. As noted in recent months, the collection system work to reduce inflow and infiltration [I&I] out in the collection system has had very positive results and lowered daily plant flows.



This graph shows the last 3 months: July, August and September and the lack of rainfall/precipitation had on plant flows. The last 3 months have been very dry months.

3 COMPLIANCE



➤ Plant Effluent

There were no permit exceedances in the month of September.

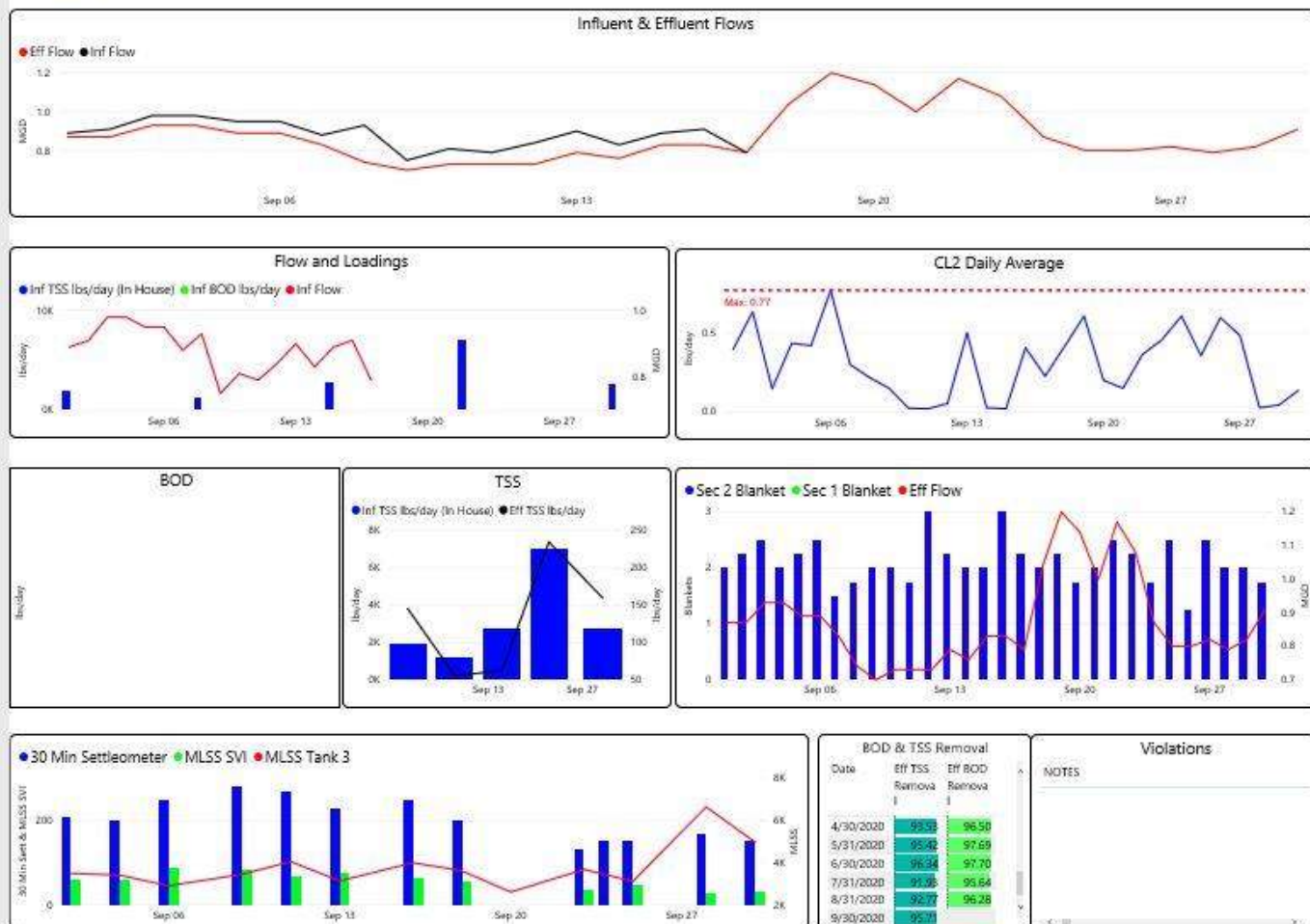
- Plant process conditions continued to improve during the month. Wasting rates remained low and sludge thickening operations were less. The effluent quality remained good. We were able to lower the amount of chemicals needed for disinfection and dechlorination, sodium hypochlorite and bisulfite. Drylet dose remained at the regular dose of about 2 pounds per day.
- A Copy of the NPDES report for September 2020 was submitted to the EPA & DEP and then forwarded to the Hull Sewer Dept.
- The Whole Effluent Toxicity Report [August 2020] was submitted in September. The results were compliant.



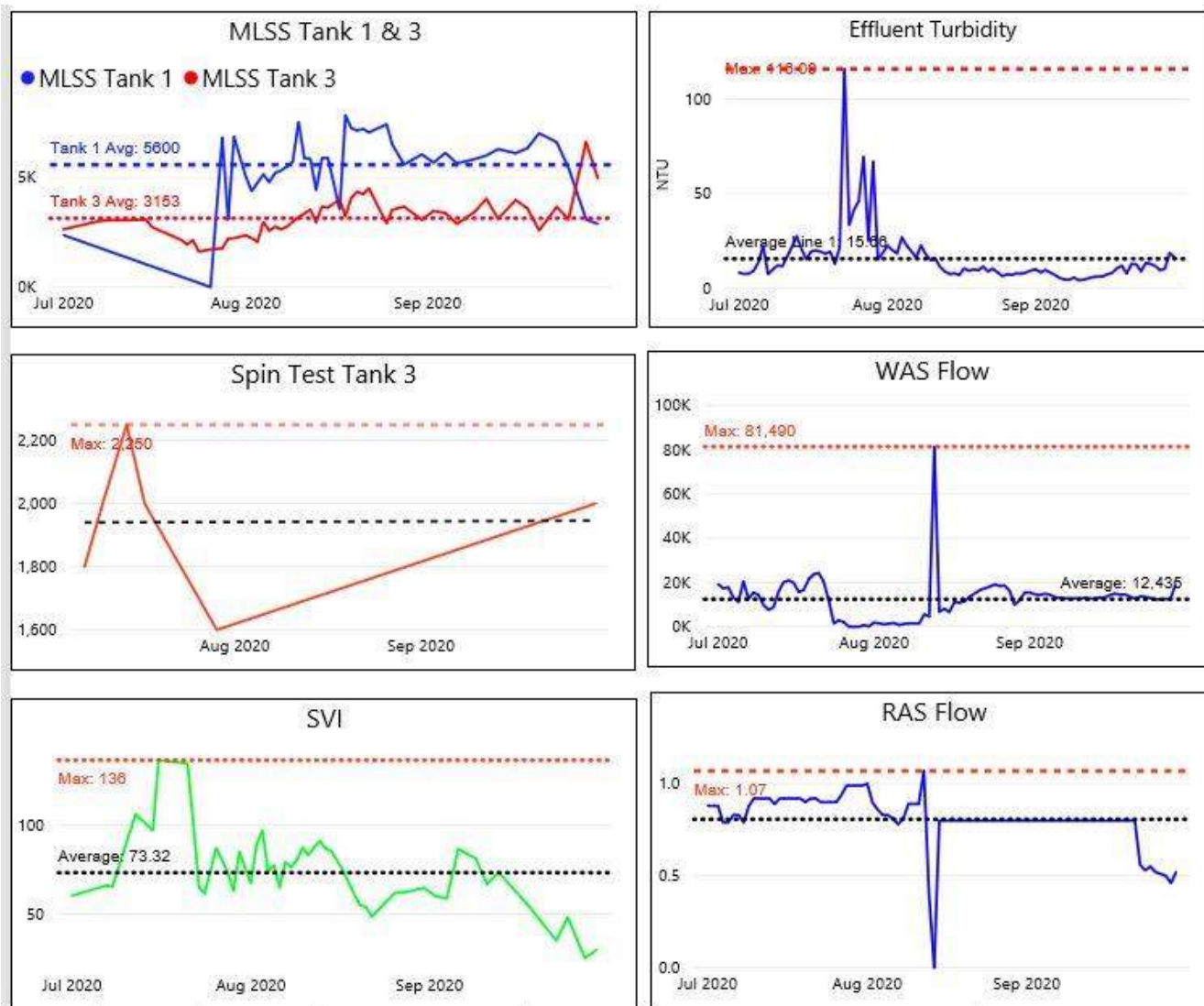
Hull Wastewater Treatment Facility

9/1/2020

9/30/2020



Monthly Process Summary graphs from power BI – September 2020. Influent flow tracking has stopped while headworks bypass project is underway.



Graphs shows trending of secondary processes using Power BI for the 3-month period ending on 9/30/20. The tank solids levels under aeration shows relatively stable levels of solids. Effluent turbidity was stable.

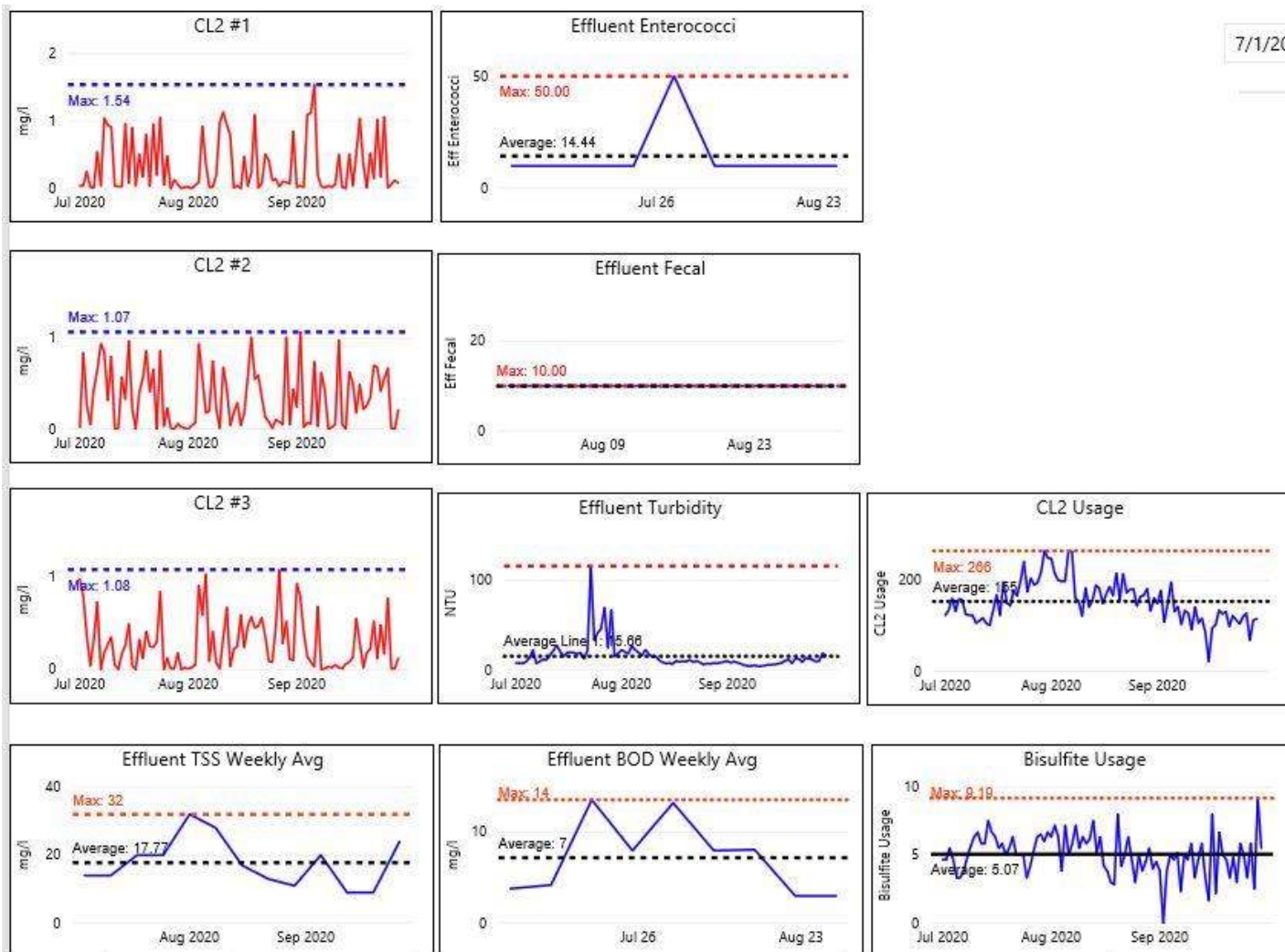
4 KEY PERFORMANCE INDICATORS



4.1 WATER QUALITY – SEPTEMBER 2020

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	16.6	9.0	24	5	0
Eff TSS	LBS			1152	768	1 X Week	128.2	55.5	234.2		0
% TSS Rem	%		85			1 X Month	95.7				0
Eff BOD	MG/L	50		45	30	1 X Week	6.4	3.0	13.0	5	0
Eff BOD	LBS			1152	768	1 X Week	51.7	18.5	126.9		0
% BOD Rem	%		85			1 X Month	97.2				0
Eff Chlorine	MG/L	1.0			0.7	3 X Day	0.31	0.02	0.77	90	0
Eff Fecal	#/100 ML	260			88	1 X Week	11	10	20	5	0
Eff pH	SU	8.5	6.5			1X Daily	7.1	7.0	7.3	30	0
Enterococci	CFU/100 ML	276			35	1 X Week	17	10	160	5	0

There were 150 effluent samples taken in the month of September.

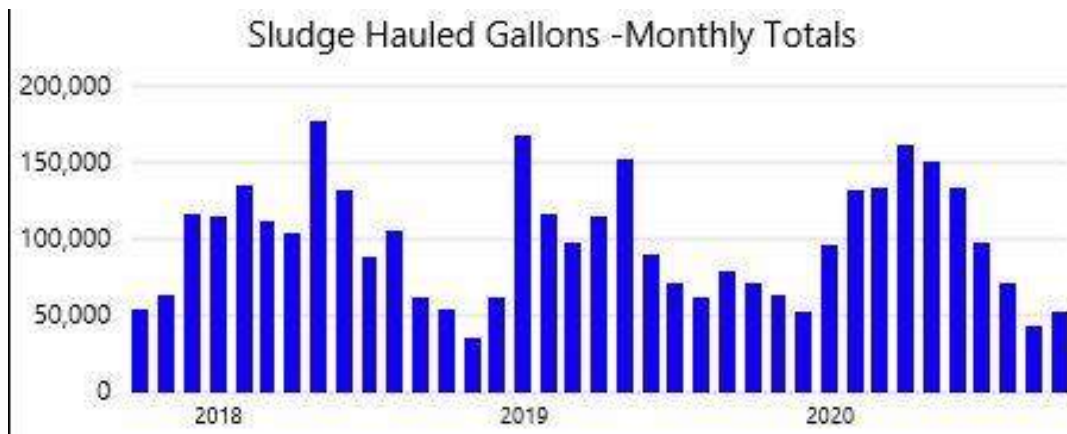


Power BI graphs showing effluent compliance for the last 3 months, July through September - chlorine residuals, effluent compliance, & chemical use. Bleach [sodium hypochlorite] & sodium bisulfite use remained high but slowly declining due to improved process conditions.

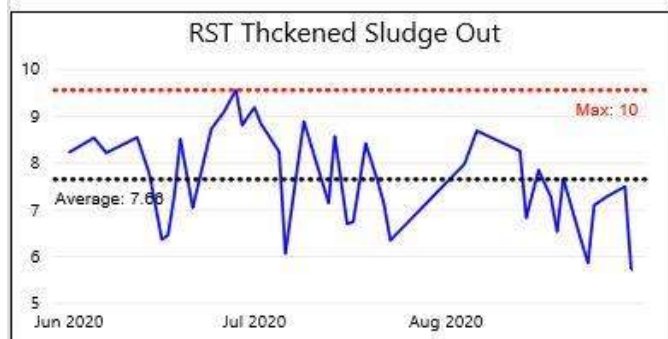
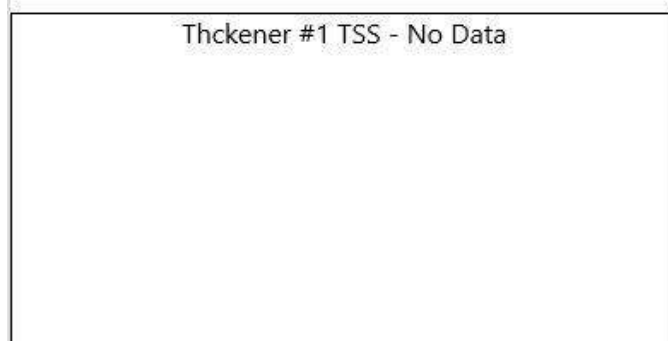
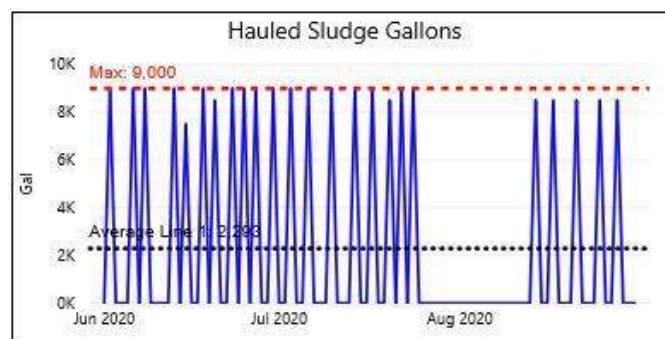
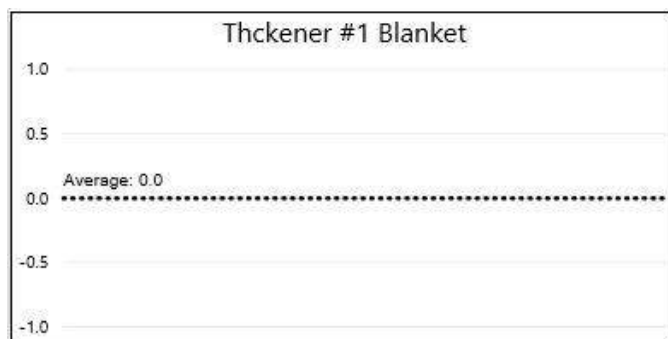
Gallons Treated vs Sludge Disposed

Month	Effluent Treated, MG	Sludge Disposed, Gals
Sept 2018	42.70	52,000
Sept 2019	39.82	72,000
Sept 2020	26.28	52,000

Power BI graphs for sludge solids & gallons hauled for past three years ending 9/30/20



Additional Power BI graphs for sludge solids for July, August, and September.



5 ODOR CONTROL

There were no odor complaint calls received during the month of September for the wastewater facility. The floating sludge on the surface of the secondary clarifier slowly lessened and was nearly gone by the end of the month. Spray hoses were kept on dispersing any remaining sludge mat that was on the surface and to keep odors low. The gravity thickener and primary clarifier continued to be offline [seasonal]. These tanks are off seasonally to keep odors low in the facility. The tanks will remain offline until the headworks and GT projects are completed. With the headworks off-line, the odor scrubber is not drawing odorous gases from the incoming sewage. At times there were some lingering low-level hydrogen sulfide odors around the bypass pumps and the screenings box. No changes made to plant operations. Some ferric chloride was pumped into the sewer system for a number at PS #6 to curb some of the odor at the facility in late September. Bioxide feed addition also was increased to lessen odors near and around the facility.

There were some calls from the resident [#280] at the base of Atlantic Ave reporting some H₂S odors coming from the manhole at the base of Atlantic Ave. W&C investigated on several occasions, installing a gasketed manhole cover, collecting grab samples for dissolved sulfides, and requesting that Evoqua install a data logger to collect H₂S data. The results are noted below.

The Evoqua system controls were in place and on-line for remote monitoring of the odor logger at XYZ/Nantasket Ave & Nantasket Ave/Water Street and for the chemical feed system adjustments. Continued to work with controls and system dynamics to fine tune chemical feed addition. Adjustments for higher demand periods, such as weekends continued to be targeted for added chemical feed.

- “In-Pipe” bacteria addition continued with all 24 Microbe Dosing Stations [MDU] operational. The full monthly bacteria unit replacements were completed on 9/25/20. The bi-weekly change outs of the bacteria bottles at three lift stations in the wet wells or manhole just prior to the station. [PS 3, PS 5, PS 9] completed on 9/3/20.
- Mixing systems/aerators all functional at the pump stations, except for pump station #3. [Bioxide addition is at PS 3]
- Hydrogen sulfide monitoring units [H₂S] are recording and being trended on the odor scrubber for monitoring inlet and outlet H₂S levels. Weekly neighborhood monitoring done with portable Jerome meter.
- If needed, additional sprayers on secondary clarifier surface for solids break-up and lessen odors.

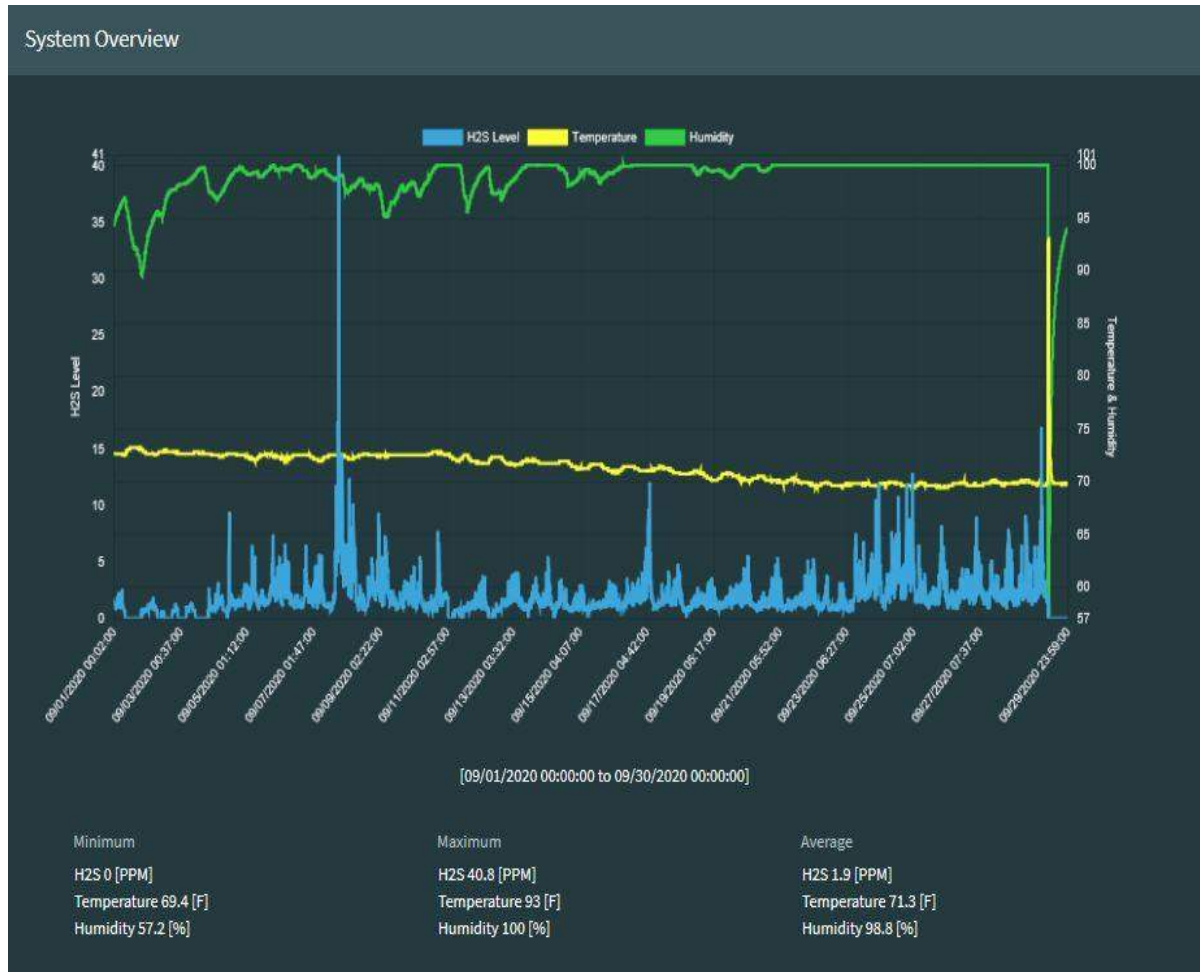
[pictured below: trending graphs for H₂S levels recorded from the vapor link system cellular at manhole at XYZ Street/Nantasket Ave and Nantasket Ave/Water Street. Trend shows higher hydrogen sulfide H₂S levels as the month progressed.

XYZ – Nantasket Ave [closest to plant]

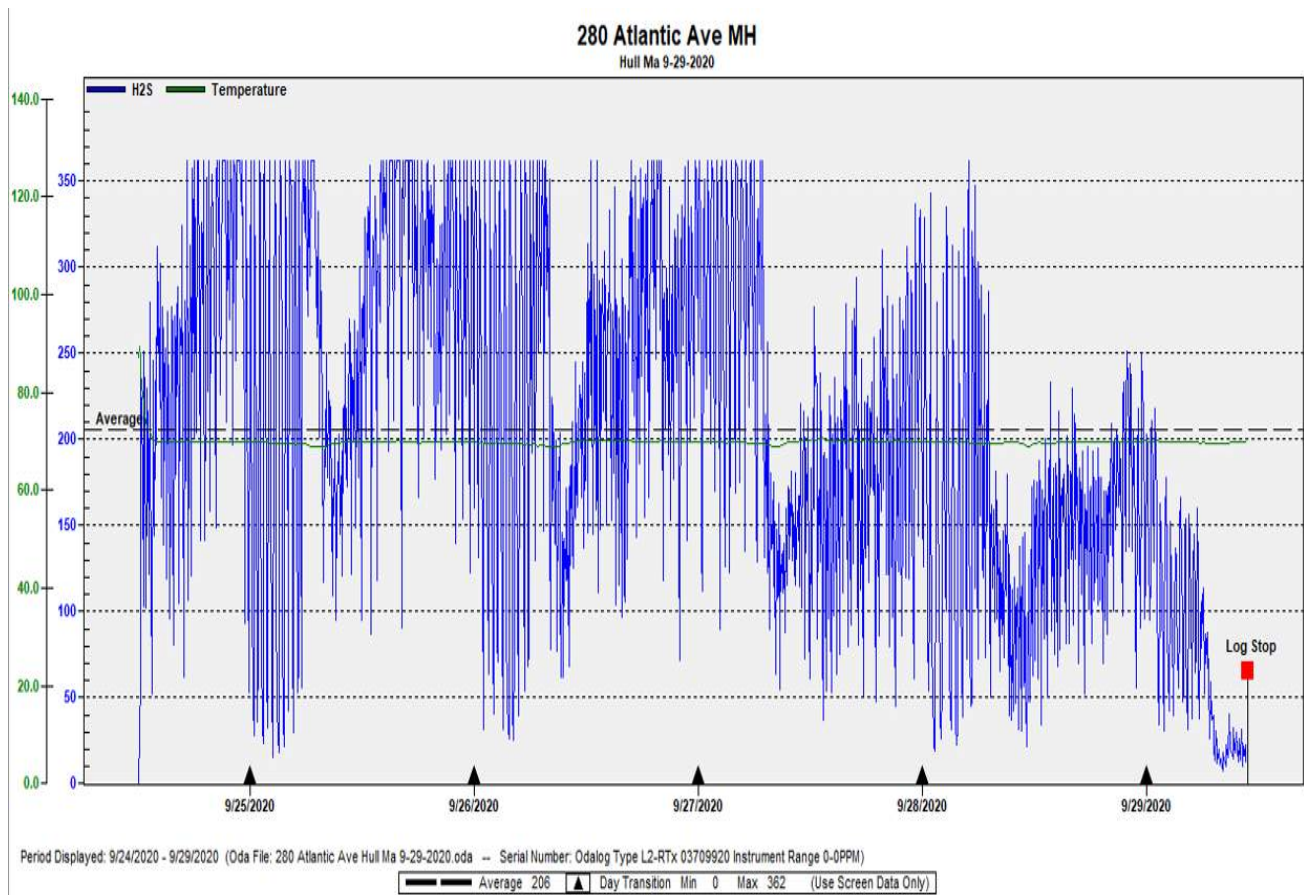


The odor logging unit at XYZ is being used to monitor overall H2S levels as close to the plant as possible, except for PS #9 and Spinnaker Island discharged flows. The regular monitoring of data was used to adjust the Bioxide feed. There are many peaks that are picked up, because of flows that are contributed to the collection system as one gets closer to the facility. The scale on the graph does not clearly show how high the peaks were at times.

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



With pump station #3 as the only location where Bioxide is stored, the plan has been to add enough Bioxide into the system to have very low hydrogen sulfide [H₂S] at the end of the force main at Nantasket & Water Street, and with the excess nitrate concentration available to treat the additional H₂S contributed from other parts of the system – PS4, contributions from lines feeding the interceptor, etc. all the way to the plant. The peaks seen on the graph are typically from when PS #4 discharges to the manhole where the PS #3 force main ends. Over the month of September, the PS3 vapor link was reviewed regularly and Bioxide dose increased with emphasis on higher feed rates at specific times when needed, to have more nitrates available in the system as the sewage travels closer to the facility.



An odor data logger was installed into the manhole at the base of Atlantic Ave near #280. The data collected shows sulfide levels averaging 200 ppm, which is very high and noticeable to those in the area. The data suggests that some odor reducing chemicals are needed to reduce the level of odor. W&C set up a pilot/small chemical dosing system of Bioxide at PS #1 at the end of September and will monitor the results for a 2 to 4-week period.

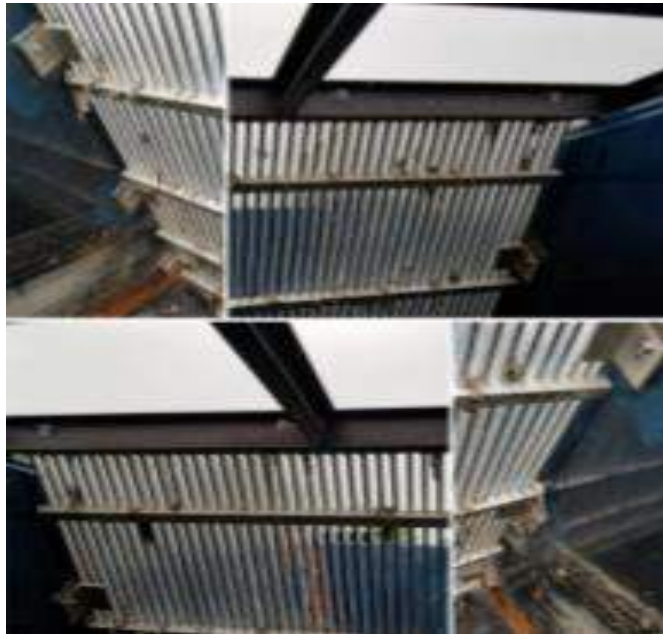
6 MAINTENANCE SUMMARY

6.1 TASKS COMPLETED THIS MONTH

The SEMS monthly work order summary for September compiled and attached for review.

Key items of note are listed below.

- W&C coordinated and installed modified bar racks in the screenings box. Moving of the screen racks was done by D&C Construction. An outside fabrication shop took the coarser rack [1.25" spacing] and added aluminum bars to make a finer bar rack [0.5" spacing]. This rack was placed in as the second bar rack. The original fine screen [0.75" spacing] was moved up closer to the inlet end of the box. W&C staff drilled new upper holes in steel framework and installed mounting hardware. The holes in the mounting tabs along the sides did not align with the welded in plates. Drilled new holes or milled existing hole to line up. Installed stainless hardware on side mounts. Two lower bolts needed shims between mounting tab and treaded plates.



- W&C coordinated with IPC Lydon, to have an 8-inch Wye removed from the RAS piping in the secondary pump room to allow for additional RAS pipe inspection. Pictured: Before & after pipe section removed.



- PS #4 generator – small coolant leak by water pump observed. Monitoring closely as the issue could get worse with an extended generator run time. The block heater also needed replacement.
- Removed older level transducer at PS9 [5 psi range] and install new [10 psi] transducer, that can be submerged more in the wet well. Additional wet well drawdown tests performed to confirmed pump capacity and flow data. The station was already calibrated for the new transducer.
- Install rebuilt scrubber fan motor to replace noisy motor [bad bearings]. Set up portable engine hoist on roof to get replacement motor onto the roof, then laid down plywood so the motor exchange could be made without damaging the roof's rubber membrane. Upon completion the resident at 1048 Nantasket Ave, Christie Smith sent a note of appreciation [email] for the noise reduction.
- Replace sodium bisulfite carrier water hose, as leak found in the hose. Currently using a small submersible pump in the chlorine contact tank that pumps disinfected water to the bisulfite shed.
- Mid-month - A number of related projects completed for the headworks [HW] bypass – screenings bar racks, transducer probe moved into screenings box, a transducer probe was reinstalled in the upstream manhole of the control building, grating and mat removal done in the headworks, assist D&C with channel cleaning with vac truck. Also, three sump pumps were installed in the aerated grit tank with hoses going into the 36-inch outlet pipe that flows toward the influent wet wells to handle all building flows during bypass.
- On 9/16 - Two Amwell reps onsite for startup services of new GT gear box - work with DW/BB on inspection and run - some electrical torque overload changes needed in MCC bucket, previously never wired in, and will co-ordinate with Glenn Fellows [electrician] to complete.

- 1000 gallons of low sulfur diesel fuel delivery made in mid-September to fill the A.S.T. No issues with the delivery.
- Increased RAS pump cleaning due to screenings box being online. Frequency of cleaning less due to fine bar rack modifications. [pictured: temporary RAS discharge to aeration tank #1]



- Hull Light Dept with bucket truck onsite 9/30. They fixed flag pull rope [which was jammed] and pulley at the top of the pole.
- On 9/11 - BB out to 47 Bay street to assist Hull Fire Dept with drainpipe inspection, as the house had a potential gasoline leak. The issue was contained under crawl space of the dwelling.
- Clean and calibrate odor scrubber probes.
- Hoist/pad eye inspection report received for recent weight limit testing done.
- Ongoing E-1 pump repairs and replacements. Co-ordinating through FRMahony. A number of the mid-1990's pumps are becoming too costly to repair and new pumps are being purchased as needed to replace these.
- Replace 4-inch isolation valve that had corroded that supplies plant water to the primary building. IPC Lydon assisted. Cut new length of 4-inch DI pipe and installed with valve, gaskets, and hardware. It was necessary to use a hydraulic jack to separate the piping.

- Replace failed RST drum wheels as needed. Pictured – failed wheels [left]; new installed wheel [right]



- Test run generator #2 – older 520KW under load and using the transfer switch selector switches. No issues.
- Isolated flows for building drain piping as part of the HW concrete repair project. Remove necessary sections and construct built new SCH40 drainage pipes and attach 4-inch hoses, all directed to the aerated grit chamber.





6.2 ASSET MANAGEMENT ACCOUNTS

- Please see the attached summary and planned expenditures for the Asset Management accounts for contract year (6). Most recent through **10/28/20**.

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 September.
- Corporate H&S Manager – Steve Lindemann visited the project on 9/11. While on site, he toured all areas for safety inspection and inspected all fall protection equipment.
- Safety Stand Down discussion on 9/30 for Grounds Maintenance incident at another project.
- Monthly PM's - Emergency eyewash and shower inspections, fire extinguisher and emergency lighting inspections completed.
- On-going Coronavirus Covid-19 awareness and updates discussed – daily & as needed. Staff separation planning, facility visitors, personal hygiene & company initiatives. Non-contact temp checks for staff & visitors. Work with onsite contractors to ensure that Covid-19 procedures in place and being followed. As outlined in the W&C COVID protocol for contractors entering O&M facilities, procedures were sent to all contractors that may need to enter the facility.
- Staff received flu shots from Hull Board of Health.
- Continue to work with O&M health & safety, W&C Engineering, to ensure safety protocols in place for the upcoming engineering projects at the facility.
- SRD review for hoist/retracting unit.
- Ongoing - Daily safety briefing meetings, review site safety policies with sub-contractors, safety tailgate topics. Pure Safety topic– September – Hot work, fall protection & machine guarding job aid.
- Monthly staff safety meeting conducted on 9/30/20. Reminders for daily safety briefing topics and discussion points & documentation, Coronavirus updates. Review "Lessons Learned" from August 2020, Near misses and incidents from other company projects. Winter gear/uniform needs. "Well Being/Live Well" safety campaign.

- Facility obtained a second rolling ladder to set up at the screenings box. Also, to be used at fuel tank, for inspections and fuel deliveries.



8 STAFF DEVELOPMENT

Training is an important part of any operation to ensure employee health and safety is assured, quality standards are maintained, 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 August discussed.
- Regular operational updates and process control discussions, pump station operations, especially with sewer department projects going on at the plant and pump stations. Safety Covid-19, dig-safes, etc.
- No off-site training currently due to Covid-19 limitations & conditions. Will need to discuss training needs and plan for remote training for on-going contact hours needed for license recertification.
- Ryan H – virtual training seminar with NEIWPCC for Industrial Waste [2 hrs.]

Staffing related items:

- Staffing schedule – on-going awareness for staff separation, social distancing, face masks, other safety protocols on days where the full staff was on site [Tues, Wed, Thurs, or when more than 4 staff members present.].
- Mass Maritime [MM] internship program on hold due to the Covid-19 emergency. Will possibly consider a candidate in 2021 if safe to do.
- No changes on the Sunday schedule plan. Coverage by Aram V., Roger B., Bill B., and Joe B. If Bill or Aram are not scheduled for a Sunday, they will be working on a Monday-Friday schedule.
- Supplementing staff needs with O&M tech support as needed. Currently limited due to Covid-19 emergency, however staff is available if needed.

9 COLLECTION SYSTEM

9.1 WET WELL CLEANING

The actual schedule for wet well cleaning: May 2020 to April 2021:

(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, 2020	X				X			
June, 2020								
July, 2020	X			X				
Aug., 2020								
Sept. 2020	X							
Oct.,2020								
Nov, 2020								
Dec., 2020								
Jan., 2021								
Feb., 2021								
March 2021								
April 2021								

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

9.2 COLLECTION SYSTEM MAINTENANCE

Woodard & Curran assisted/conducted camera work and sewer system support in the Hull collection system at the following areas during the month of September.

- In-Pipe units – on-going battery change out, dosing unit repairs & cleaning and inspection. Circuit board troubleshooting, dosing pump repairs and replacement as needed. Working with “In-Pipe” on these issues.
- All Pump station generators loaded, and non-loaded generator runs were done for the month.
- All Pump station wet wells were inspected in September.
- 77 Pt Allerton – assist NGrid with sewer lateral repairs – provide guidance and materials

- 4 grinder pumps replaced – see utility cloud summary. Investigate 175 George Washington Blvd grinder as building undergoing construction. Electrical panel dangling on outside and pump chamber has some top cover/band damage.

Manholes:

- Staff continues to respond to rattling manhole covers as requested., because of on-going SSES projects. Replace manhole covers and/or cushion rings as needed.

Dig Safe mark outs:

- Dig-Safe mark outs are completed throughout the Town of Hull to assist/facilitate scheduled and emergency gas repairs, broken water mains, upcoming roadway paving projects, and other town projects. Areas where work done – Kenberma, Alphabet Streets, & Bay Street area.

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

10 PROJECT MANAGEMENT & ADMINISTRATION



10.1 ON-GOING PROJECTS AND SUPPORT ITEMS

September updates:

- Work with D&C and Vortex on bypass pump set-up planning, programming of pumps for cycling, and other related pump issues [ragging up]. Also continued coordination and work in the headworks where the asbestos removal contractor working.
- Bill has continued coordination and data review with the Aquasight team with the primary focus in September on the last phases of the sludge process milestones expected to be completed in October and more training in November.
- SSES Yard piping investigations and O&M assistance winding down at the plant. There were conference calls on 9/23 and 9/25 to discuss the finding of all the various SSES investigations done throughout the Town on all the clay pipe and comparison with O&M's experience with the system.
- Planning for additional yard hydrant replacements pushed back to October with D'Allessandro Corp, due to other D&C project work in September.
- With the cycling of the bypass pumps due to low flow conditions, some issues came up with maintaining the plant water [PW] system flow. The issue was more evident in the early morning hours, from 12 mid to 6am. The plant water system draws water from the secondary clarifier effluent that flows toward the effluent wet well. When the bypass pumps shut off for 30-60 minutes during the lowest flow periods of the day, the plant flow stops and the PW system becomes air bound, which causes the PW pump to get hot. There is the high likelihood for premature wear and damage of the PW pumps and equipment that depends on PW for cooling and lubrication – plant generators, RAS

pumps, influent pumps, odor scrubber. A decision was made to swap over to Town water to supply water for these critical systems.

- Support and communication for PS#9 Design Basis Report work, including existing pump information, testing, and O&M joining architectural rendering calls for the future building changes. BB assisted W&C engineers at PS 9 for additional wet well drawdown tests, pressure, and flow checks. O&M assisted review of the Design Basis report and reviewed the piping and valve plan station layout (wet-well and proposed valve vault).
- W&C operations reached out to the Town and T&B regarding final planning to maintain operations during the HVAC project. Calls to discuss on 9/15-16 to discuss pre-bid meeting, control room Scada equipment moves, new lab construction, and electrical. Concerns center on work/project schedule, and covid-19 planning.
- Working with Town, W&C Engineering, and D&C to support the headworks project. O&M has also looked at various needs in the facility: Primary D-box concrete work and valve support stands, PS #4 valve and check valve installation, and these needs will be worked into the D&C contract.
- Continued to assist contractor CNaughton as their project approached completion and as requested to shut down PS4 as needed while various sewer manhole and pipe work was repaired/installed. The station would be offline for short periods [1-2 hours] and then returned to service by the end of the day.
- D Street portable generator hook up pending a test operation of the “older” Onan generator there. The test is on hold until this generator is not committed at Lift Station A.
- PS A – Waiting for electrician to install new connection box to allow for hook up of the new portable generator at the pump station. The new hook-up box would be on the outside of the building and utilize the existing transfer switch and wiring.
- The inspection of SHT1 for possible demolition/removal of obsolete equipment and installation of diffuser piping is still pending. Initially, W&C O&M Tech support staff would be used for the demolition work. Upon approval, additional parts/items would be needed before equipment installation could begin. The use of this tank would provide additional underground sludge storage capacity.
- Update MS4 spreadsheet for the Town highlighting various SSO’s for the annual stormwater reporting.
- New England Pump & Valve [NEPV] final report received with recommendations for the gravity thickener repairs needed. W&C reviewed and advised the HSD on the needed repairs for rake arm supports and scraper blades. The Hull Sewer Dept. [HSD] authorized the repairs from their “Critical Spares” account. W&C also solicited a budgetary quote for sandblasting of the steel rake and baffles. The quote is pending.

- A recommendation was made by W&C to overhaul and make one Amwell gear box for use in the primary clarifier tank. NEPV offered a quote to evaluate and repair and the HSD approved for the work to go ahead.
- RAS box status and pipe condition updated by BB on 9/1 with pictures. Additional update provided on 9/30. O&M has documented the failure point well at this point and now coordinating with the Town as well as Engineering on future RAS changes to come up with the best course of repairs to be made at this time and restore the RAS FM function.



Asset Management Accounts - Year 6							
		Actual to date			Projected for Final Estimate		
Account		Budgeted Amount	Spent to Date	Delta	Projected costs and incl PO's	Final est	Delta
06M-101A	Preventive Maint	\$210,555.68	\$54,414.55	\$156,141.13	\$84,500.00	\$138,914.55	\$71,641.13
06M-102B	Capital and Major Repairs	\$140,000.00	\$27,531.90	\$112,468.10	\$137,218.78	\$164,750.68	(\$24,750.68)
06M-103A	Major Sub Contractors	\$178,370.75	\$97,271.40	\$81,099.35	\$142,600.00	\$239,871.40	(\$61,500.65)
blank					\$0.00		
	Asset Management	\$528,926.43	\$179,217.85	\$349,708.58	\$364,318.78	\$543,536.63	(\$14,610.20)

\$349,708.58

Budget expended	Time Status	
	NOW=	10/28/2020
	Start	5/1/2020
25.8%	49.4%	23.6%
19.7%	49.4%	29.8%
54.5%	49.4%	-5.1%
33.9%	49.4%	15.6%

06S	D Street	\$7,500.00	\$452.85	\$7,047.15	\$0.00	\$452.85	\$7,047.15
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6.0%	49.4%	43.4%
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For Sept M.O.R.

Hull 2019 - 06M Projects, Tasks, and Needs - 05-06-2020 (AV)

Maintenance Account - Year 6 - 05_01_20 to 04_30_21

\$364,318.78

10/28/2020 11:33

Priority	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Mechanical Work Labor	On Going		101A	\$18,000.00			Jody St. George, and WC Support Staff - estim \$3000/month; Total budget \$36,000; incl annual scrubber cleaning, remove old blowers [mech]; Adj made 9/9/20; adj 10/15;
1	Pump and Motor Repairs	Pending		101A	\$15,000.00			to keep existing equipment running - utilize various outside contractor repair shops, new purchases. Duperon motor, RST eurodrives, orig budget \$20,000; adj 10/15; RAS motor rewinding, influent motor rewinding. Adj remaining \$\$ 10/29;
1	Lubricants	Pending		101A	\$2,700.00			Various Suppliers for oil and grease. Budgeted \$3500; adj
1	Generator Repairs	Pending		101A	\$2,500.00			General Repair Work - Placeholder - PS4 & other
1	Fire Alarm Inspections and Service	On Going		101A	\$3,000.00			Semi Annual - Hart Security [October & April, central station, & Service]
1	Universal waste disposal	Pending		101A	\$500.00			
1		Pending		101A				
1	Service the Forklift	Pending		101A	\$400.00			Annual cost - outside vendor; work completed. Waiting for report and invoice.
1	Overhead Hoist Inspection	Pending		101A	\$1,500.00			Annual task - Applied Dynamics - PO usually is issued in April,
1	Flow meter verification and calibration	Pending		101A	\$1,000.00			Annual - Ray Ferland 1 visit annually Aug/Sept
1	Facility Building - Roof Inspection	Pending		101A	\$2,900.00			Annual Placeholder - Established contract with Tecta America
1	Pump Station #9 - Repairs Immediate	pending		101A				New valve, new check valve, replace pump assembly - Jody St. G. to assist; items rec'd [used up approx 50% of orig 4,000]; pending to be used if needed.
1	Jerome H2S Meter Inspection	Pending		101A	\$1,100.00			Placeholder for Annual Inspection - sent out includes annual service \$1100
1		Pending		101A				
1	butterfly valves for PW pumps 4 valves	On Going		101A	\$2,500.00			purchase and install - expect November installation [staff & O&M]
1	Hoisting platform ladder for the AST	Completed		101A				Completed, purchased for use with screenings box - \$600.00
1	Weather Station	completed		101A				Installed by Glenn F, June 2020, programming by SCADA group
1	Janitorial Supplies	On Going		101A	\$2,500.00			Estimated annual expenditures - Orig budget \$4,000; adj 4 months - 9/9; adj 10/15
1	Backflow device testing	Pending		101A	\$400.00			done by, 3rd party
1	Manhole Inspections	Pending		101A				As required, and/or scheduled
2	General mechanical and electrical items/supplies	Pending		101A	\$7,500.00			Grainger, FWWebb, EJP, Hoadley, McMasterCarr, etc; orig budget \$18,000. Adj 9/9/20; adj 10/15; adj 10/29;

1 of 5 10/28/2020

2020_05_01_06M_Checkbook_YTD

06M Planned Costs

For Sept. M.O.R.

Hull 2019 - 06M Projects, Tasks, and Needs - 05-06-2020 (AV)

Maintenance Account - Year 6 - 05_01_20 to 04_30_21

\$364,318.78

10/28/2020 11:33

Priority	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
2	Vibration Analysis Survey	Pending		101A	\$4,000.00			Annual - 2 to 3 Days - Aeration System Blowers, Pump Station Pumps, etc./tbd; Paul H from W&C.
2	Valves	Pending		101A	\$2,000.00			Replacements and/or Service - On-Going - As Needed; Cut planned budget to 2k 10/15;
2	Hoses	Pending		101A	\$1,200.00			Replacements and/or Service - On-Going - As Needed; Purchased three 6-inch hoses for the RAS bypass. [\$1800]; orig buget \$3000
2	Sump Pumps	Pending		101A	\$1,200.00			Replacements and/or Service - On-Going - As Needed -
2	Install 6" or 8" drop pipes in secondary clarifier #1 and #2	Pending		101A	\$2,000.00			In-house staff to fabricate, ? go to 8" pipe?
2	Effluent pump room pump bracket testing	Completed		101A				by Lightship Group - completed Aug 2020. On purchase order
2		Pending		101A				
2	Misc. Materials	On Going		101A	\$1,600.00			Hardware Store - \$200.00 per month - reoccurring expense; orig budget \$2,400
2		Pending		101A				
2	PS 1 impellers/flow	Pending		101A				look at increasing size of impellers, after Gunrock work completed; on hold due to area low flows [\$5,000]
2	Lift Station A	Pending		101A				Pump efficiency lower than desired
2		Pending		101A				
3	Install new aeration channel angle iron for a slide gate	Pending		101A				Jody S to install - 2 days, if we do.\$2,500 estimate
3	Install a flow meter on the generator cooling water system - plant water	Pending		101A				Have an estimate [Oct 2018]; possible after 5/1/20
3	Lockers for the staff - install	On Going		101A	\$1,500.00			Additional lockers ordered to replace those removed years ago;
3	Purchase (1) spare Euro drives for the RST drum drive	Completed		101A				spare part item now in stock [\$800]
3	Purchase an LMI pump for the RST	Completed		101A				spare part item now in stock [\$1700]
3	Purchase an equipment lift or gantry	Pending		101A	\$2,500.00			planned cost \$2,500 for moving elec hoists around, & other equip
	Purchase Dehumidifiers for pump stations LS A & PS4, PS5, PS6	Pending		101A	\$4,400.00			for 4 pump stations
		Pending		101A				

Hull 2019 - 06M Projects, Tasks, and Needs - 05-06-2020 (AV)

Maintenance Account - Year 6 - 05_01_20 to 04_30_21

\$364,318.78

10/28/2020 11:33

Priority	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
	Lab Equip Calibration	Pending		101A	\$600.00			Annual service - usually Jan/Feb.
		Pending		101A				
	Mech seal[s] for RAS pumps 1 & 2	Pending		101A	\$2,000.00			for RAS pumps 1 & 2
		Pending		101A				
		Pending		101A				
	Purchase Two 6" valves for PS 4	Completed		101A				Estim cost \$1450; Invoice paid.
	Springs for check valves	Completed		101A				Original budget \$400; Purchased
1	Tecta Roof Repairs - proposed per 2020 inspection	Pending		102B	\$8,000.00			TBD when work to be scheduled
1	(GT) Steel rake mechanism inspection and needed repairs	On Going						to be completed by NEPV under critical spares bond account.
1	(SC#1) Steel rake mechanism inspection and needed repairs	Completed						completed by Lydon under critical spares bond account.
1	(SC#2) Steel rake mechanism inspection and needed repairs	Completed						completed by Lydon under critical spares bond account.
1	Pri D-Box repairs	Pending		102B				possibly by D&C Construction as part of structural repair project. Estim \$15,000
1	Replace scrubber recirc pump	Pending		102B	\$2,200.00			spare pump ordered & received October 2020
1	Sludge transfer pump #1 rebuild	Pending		102B	\$5,000.00			rebuild pump needed
1	Dynablend System is obsolete - mixing valve worn - need in kind or like system	Pending		102B	\$12,000.00			May or may not proceed with replacement, since unit still functioning, and polymer addition point changed and yielding good results. Shutting down in December 2020. Will Removed cost \$11,000
2	grit classifier spare parts	Pending		102B	\$3,500.00			based on limited spare parts currently.
2	Pump Station Ladders	Pending		102B				We are complete except for PS #9; nothing further planned for PS 9, since new pump station planned.
2	Sanitaire hardware purchase for aer tk 1	Completed		102B		\$3,054.03		Purchased July 2020
2	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, may hold until after 5/1/20; orig planned cost \$3,000.
2	Install (4-5) additional yard hydrants	On Going		102B	\$6,000.00			original budget \$\$12,000 - hydrants already purchased, and materials & contractor installation [2 days]; 1st day completed Aug 2020. Second day planned early October. 3 replacements planned. Completed 10/27;
2	PS 4 valves, check valves - installation	Pending		102B	\$7,500.00			After structural work, replace. Valves and check valves. May be a changeorder for D&C Constr. [\$4,000] Also 1 day for pump & hauling 2 trucks [\$3200]

Hull 2019 - 06M Projects, Tasks, and Needs - 05-06-2020 (AV)

Maintenance Account - Year 6 - 05_01_20 to 04_30_21

\$364,318.78

10/28/2020 11:33

Priority	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
3		Pending		102B				
3	Influent Distribution Box - Aerate Primary/Influent D-Box/Overflow Project	Pending		102B				Contracted Project - need State Approval - Facility/Process modification. Facilities Plan possible modification
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
1	Jerome meter replacement	Pending		102B				replace unit, if done \$11,000
	Rotating Sludge Thickener - Thickened Sludge Pump - rotor/stator	Completed		101A				purchased spare stator
	D'Alessandro - WAS line replacement & gate valve	Completed		102B	\$16,018.78			Work Authorization submitted 10/14/20
		Pending		102B				
		Pending		102B				
		Pending		102B				
	Electrical LS A hook up	On Going		102B	\$2,000.00			estimate look at 2 options - going with option one for new hook up only; early October planned.
1	Electrical Work	On Going		103A	\$10,000.00			Electricians: Glen Fellows, HiVoltage, other; remv old blowers lighting, sec bldg elec outlets - \$2,000/month; orig budget \$25,000; adj YTD - funds left; adj 9/30; Adj 10/15/20;
1	SCADA Work	On Going		103A	\$19,000.00			Steve Rose and the SCADA Support Team; orig budget \$25,000; reduce by \$6K on 9/9/20
1	E-One Repairs and Replacement	On Going		103A	\$12,000.00			Based on historical costs. E1 repairs where cost-effective & new replacement pumps; control panels, other equip; Orig budget \$25,000
1	Annual Generator inspection	Pending		103A	\$4,200.00			Annual - Highland Power - Generator PM/Service work - due in November
1	Automatic Transfer Switch inspection and servicing	Pending		103A	\$2,400.00			Annual Service planned for April Highland Power - NETS - Transfer Switch;
1	Wetwell Inspections and Cleaning - Pump Stations	On Going		103A				As required, plant or pump stations; orig budget \$10,000; reduce to zero on 9/9
1	Wetwell Inspection and Cleaning- Plant	On Going		103A				
1	Sewer Line Cleaning - Emergencies	On Going		103A				Placeholder - As required for various sub-contractors; could be Hoadley, Truax, WindRiver, BMC, or other, collection system & plant; orig budget \$10,000; YTD already over \$10k.
1	Collection System - emerg & unplanned calls - Jetting & CCTV work	On Going		103A	\$10,000.00			Budget - orig \$20,000; reduce it to \$10,000
1	Collection System - Jetting Work & CCTV	On Going		103A	\$35,000.00			up to 35K - roadway proj work related - TBD for contractor [Truax] PO issued.
4 of 51	10/28/2020 Aer tank repairs [labor]	Completed		103A	2020_05_01_06M_Checkbook_YTD			2 days - millwrights - Lydon \$3800

06M Planned Costs

Hull 2019 - 06M Projects, Tasks, and Needs - 05-06-2020 (AV)

Maintenance Account - Year 6 - 05_01_20 to 04_30_21

\$364,318.78

10/28/2020 11:33

Priority	Description	Status	completed	Task	Estimates & funds remaining	Final Completed Cost	Lead	Comments
1	Pump Station communication - changover to radio - phase 1	Pending		102B	\$75,000.00			Equipment purchase to come from 05M on the Critical Spare List; based on latest quote from Doug Tirrel. \$14,200; Addit hardware cost \$900.00; 4/19 -adj down due to expenses coming in. Final costs to post w/e 4/24
1	Pump Station communication - changover to radio - phase 2	Pending		102B				labor to come from 05M on the Critical Spare List; based on latest quote from Doug Tirrel. \$11,500.00; Addit programming costs for aer controls. Adj down due to expenses coming in. Final costs to post w/e 4/24.
1	Pump Station communication - changover to radio - phase 3	Pending		102B				
1	Pump Station communication - changover to radio - phase 4	Pending		102B				Electrical wiring and tie into the SCADA system -
2		Pending		103A				
2	Regen Aeration System - Pump Station #5	Pending		103A	\$1,500.00			Orig est \$1,500 -Tie into the SCADA system - Glen Fellows; may wait until after 5/1/20
2	Dehumidifiers at three pstat - install	Pending		103A	\$8,000.00			approx 2K per station - PS A,4, 5 &6
2	SHT1 - demo of equip, air piping & diffuser install/materials	Pending		103A	\$30,000.00			In-house O&M project and staff labor \$10,000, demo of tank equip \$5,000; air piping \$10,000; materials \$5,000 - rough estimate - future needs
2	Generators - Load Bank Testing	Pending		103A	\$3,000.00			Look at under 06M - PS#1, PS#3, PS#4, PS#5, PS#6, and PS#9 [\$3,000]
		Pending		103A				
		Pending		103A				
		Pending		103A				
		Pending		103A				
	Highland Power - Servicing the heat exchangers, fuel filters, etc	Pending		103A				Per proposal \$4,550.00
	Front building window repairs	Pending		101A				To be done under Engin project
1	Low pressure sewer valve box insp & mtce	Pending		103A	\$7,500.00			placeholder for contractor O&M inspections and potential repairs; Looking at Rosano-Davis or another contractor & W&C to investigate
1								
1								
TOTAL					\$364,318.78			

Date	Asset ID	Asset Description	Asset Class	Name	Workflow Class	View
9/9/2020 11:24	23-105	112 SAMOSET AVE	Hull Parcels	Boornazian, Bill	Generic WO	View
9/11/2020 12:56	36-017	47 BAY STREET	Hull Parcels	Boornazian, Bill	Generic WO	View
9/3/2020 11:24	MH-20083	MH-20083	Sanitary Manhole	Sutton, Eric	Generic WO	View
9/15/2020 12:28	MH-20920	MH-20920	Sanitary Manhole	Sutton, Eric	Generic WO	View
9/10/2020 12:01	16 Dellawanda Rd	16 Dellawanda Rd Grinder Pump	Hull Grinder Pumps	Boornazian, Bill	Hull - Grinder Pump Maintenance	View
9/21/2020 14:47	5 Nantasket Ave	5 Nantasket Ave Grinder Pump	Hull Grinder Pumps	Sutton, Eric	Hull - Grinder Pump Maintenance	View
9/27/2020 13:39	97 N Truro St	97 N Truro St Grinder Pump	Hull Grinder Pumps	Sutton, Eric	Hull - Grinder Pump Maintenance	View
9/25/2020 14:22	HULL_GRINDPUMP-2	51 Elm Grinder Pump	Hull Grinder Pumps	Sutton, Eric	Hull - Grinder Pump Maintenance	View
9/3/2020 12:17	Bacteria UNIT #21	UNIT #21	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:09	Bacteria UNIT #21	UNIT #21	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/24/2020 14:00	Bacteria UNIT #22	UNIT #22	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:13	Bateria UNIT # 8	UNIT # 8	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:18	Bateria UNIT #1	UNIT #1	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:13	Bateria UNIT #10	UNIT #10	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:10	Bateria UNIT #11	UNIT #11	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:04	Bateria UNIT #12	UNIT #12	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:07	Bateria UNIT #13	UNIT #13	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:06	Bateria UNIT #14	UNIT #14	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:08	Bateria UNIT #15	UNIT #15	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:10	Bateria UNIT #16	UNIT #16	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:12	Bateria UNIT #17	UNIT #17	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:11	Bateria UNIT #19	UNIT #19	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:17	Bateria UNIT #2	UNIT #2	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:09	Bateria UNIT #20	UNIT #20	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/24/2020 13:59	Bateria UNIT #23	UNIT #23	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:18	Bateria UNIT #24	UNIT #24	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/3/2020 11:59	Bateria UNIT #3	UNIT #3	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:11	Bateria UNIT #3	UNIT #3	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/3/2020 11:11	Bateria UNIT #4	UNIT #4	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:16	Bateria UNIT #4	UNIT #4	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:15	Bateria UNIT #5	UNIT #5	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:15	Bateria UNIT #5	UNIT #5	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:16	Bateria UNIT #6	UNIT #6	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/25/2020 14:14	Bateria UNIT #7	UNIT #7	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/24/2020 13:57	Bateria UNIT #9	UNIT #9	Hull In Pipe Bacteria Unit	Sutton, Eric	Hull - In Pipe Bacteria Units	View
9/3/2020 12:33	17-173	722 NANTASKET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/18/2020 16:25	18-026	681 NANTASKET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View

9/16/2020 8:30	18-075	671 NANTASKET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/21/2020 14:41	18-075	671 NANTASKET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/15/2020 9:50	21-078	148 SAMOSET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/17/2020 11:00	22-016	282 NEWPORT RD	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/3/2020 11:54	22-032	4 TOURAINE AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/3/2020 12:28	23-105	112 SAMOSET AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/17/2020 10:57	24-137	264 NEWPORT RD	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/17/2020 11:06	27-136	7 WHITEHEAD AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/15/2020 10:17	34-047	45 ROOSEVELT AVE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/15/2020 10:21	36-029	3 HAMPTON CIRCLE	Hull Parcels	Sutton, Eric	Hull - Markout	View
9/15/2020 8:37	MH-20257	MH-20257	Sanitary Manhole	Sutton, Eric	MH Frame & Cover Inspection	View
9/3/2020 11:43	MH-20408	MH-20408	Sanitary Manhole	Sutton, Eric	MH Frame & Cover Inspection	View
9/15/2020 8:39	MH-20448	MH-20448	Sanitary Manhole	Sutton, Eric	MH Frame & Cover Inspection	View
9/11/2020 13:15	MH-20912	MH-20912	Sanitary Manhole	Boornazian, Bill	MH Frame & Cover Inspection	View
9/21/2020 14:44	5 Nantasket Ave	5 Nantasket Ave Grinder Pump	Hull Grinder Pumps	Sutton, Eric	Sticker Replacement - Grinder Panels	View



Maintenance History Report

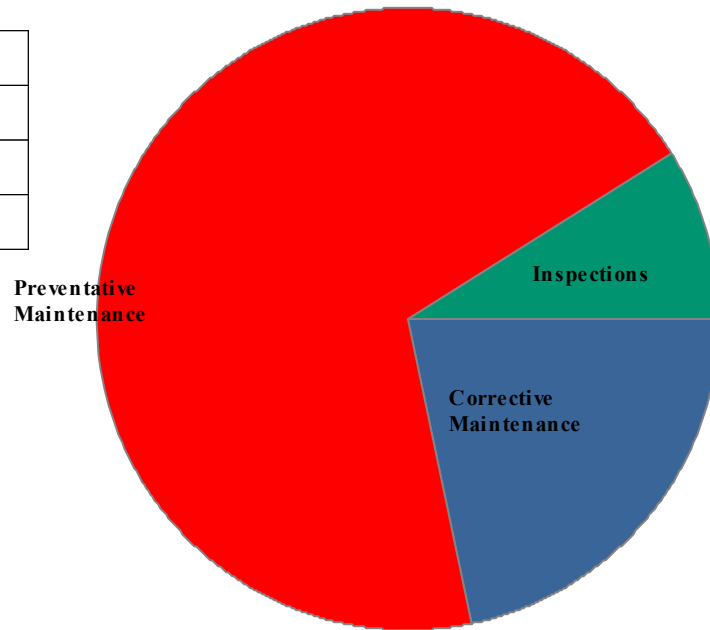
Hull Wastewater

Start Date: 9/1/2020

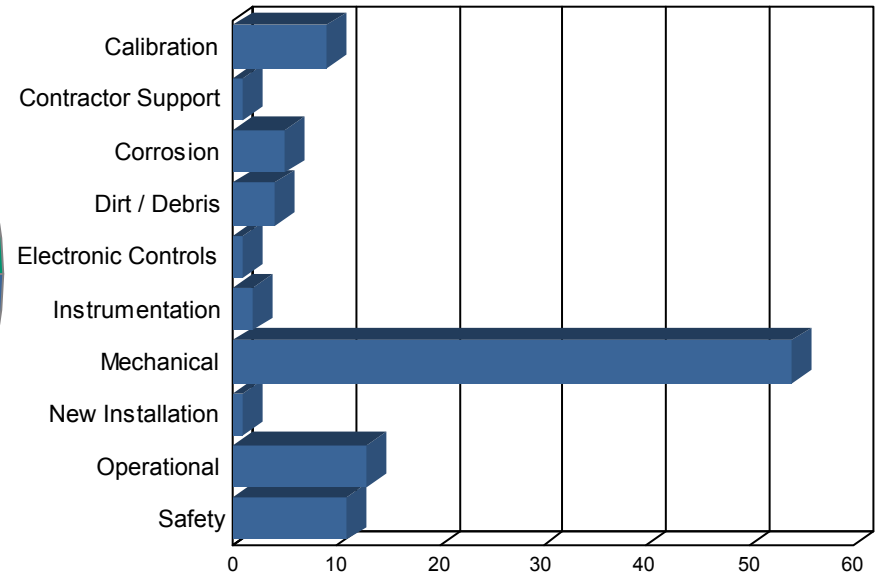
End Date: 9/30/2020

Work Order History By Type

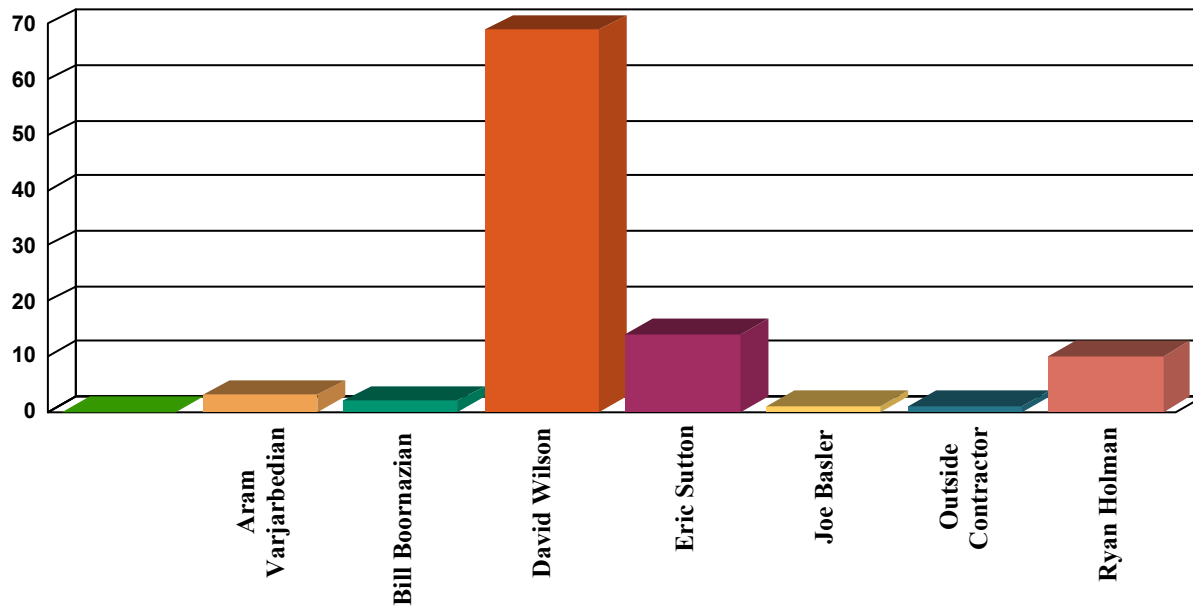
Corrective Maintenance	22
Inspections	9
Preventative Maintenance	70
Total Work Orders	101



Work Order History by Reason



Work Order History By Employee



Employee	WO Count	Labor Hours
Aram Varjarbedian	3	8
Bill Boornazian	2	2
David Wilson	69	45
Eric Sutton	14	16
Joe Basler	1	0
Outside Contractor	1	6
Ryan Holman	10	8
Unassigned	1	0
Totals	101	86

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/2/20	12675	Wet Scrubber System	Fan motor bearing failure	DW/ES/RH LOTO of equipment. Uninstalled motor and pulleys. Mounted and wired motor. Aligned pulley and set belt deflection. Verified rotation. Returned to service.	David Wilson	9/2/20	Completed
9/3/20	12676	30 - WW Treatment Plant - General	Remove screen for fabrication	Drilled new upper holes in steel framework and installed hardware. Holes in mounting tabs along sides do not align with welded in threaded plates. Drilled new holes or milled existing hole to line up. Installed stainless hardware on side mounts. Two lower bolts needed shims between mounting tab and treaded plates.	David Wilson	9/3/20	Completed
9/3/20	12677	31 - WW Headworks	Replace pipe hanger.	Disassembled pipe hanger assembly. Cut all thread rod to fit new hanger. Assembled new hanger with antiseize.	David Wilson	9/6/20	Completed
9/8/20	12678	PS 3 Pump 2	Diagnose and repair low output.	DW/RH/JB LOTO of equipment. Relived pressure and removed cleanouts. Pushed debris into face from side. Pulled rag ball out from suction cleanout. Reassembled and returned to service. Draw down of wet well mad 800gpm. (VFD maw frequency set to 56hz)	David Wilson	9/8/20	Completed
9/10/20	12679	Plant Floor Drains	Reroute plant floor drainage inside of headworks for bypass.	Isolated flow to drainage. Cut out section of floor drain riser. Attached to "Y" and built new SCH40 drainage into aerated grit chamber. Supported with a hanger and tied off at two other points. Seperated another section and redirected flow with pvc and a 4" suction hose.	David Wilson	9/10/20	Completed
9/15/20	12683	Truck 1 - 2010 Dodge Ram 1500	Diagnose beacon failure	Removed drivers side lower to expose wiring. Performed voltage drop through circuit until cause of failure was found. Lights tied into cigarette lighter circuit. Blown 20A fuse replaced. Verified function and reassembled lower panel.	David Wilson	9/15/20	Completed
9/16/20	12684	RAS Pump 3	Lower pump seal leaking RAS into seal water.	Inspected pump assembly. Restricted valve on seal waster line leaving seal box to increase pressure on lower seal. Sounds like the lower pump bearing is starting to fail. Pump vibration has increased slightly. Upper pump seal is holding. Reccomend switching pumps.	David Wilson	9/16/20	In Process
9/16/20	12685	Waste Activated Sludge Pump 3	Pump seal failure	Verified seal water to pump. Seal sowly leaking WAS onto floor.	David Wilson	9/16/20	In Process
9/17/20	12682	30 - WW Treatment Plant - General	Removal of debris at pit from channel cleaning	At plant cleaned head works channel removed grit at pit with hoadley	Eric Sutton	9/17/20	Completed
9/20/20	12686	RST unit	Replace failed drum support wheels.	LOTO of equipment. Inspected drum support wheels and identified failures. Removed and installed two new wheels on backside of drum on the feed side. Returned to service.	David Wilson	9/20/20	Completed

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/22/20	12687	Plant Water Pump 1	Low discharge pressure.	While cleaning strainer baskets during rounds, noticed suction and discharge pressure was very low. Pump went air bound. Pumps were shut off. Tried multiple times to reprime pump 1. Would not prime. Switched over to pump 2. Will require follow up time to diagnose failure.	David Wilson	9/22/20	In Process
9/22/20	12688	PS 9 Wet Well	Replace temporary wet well transducer.	Uninstalled 5psi level transducer and installed 10psi level transducer. Set installed height of 18' from first ladder rung.	David Wilson	9/22/20	Completed
9/22/20	12689	RAS Pump 3	Impeller inspection and cleaning	LOTO of equipment. Separated pump from volute. Inspected and cleaned impeller. 1 vein clogged and partially blocked impeller face. Reassembled and returned to service.	David Wilson	9/22/20	Completed
9/24/20	12690	PS 4 SCADA Panel	Diagnose loss of pump 1.	Set HOA to run in hand. No signal. Opened panel to bypass soft start. Tried to run pump. No signal. Verified voltage across leads. Found contactor overload tripped. Reset breaker. Tested pump with soft start. Signal present and pump runs. Noticed on shut down the pump stopping abruptly. Used other pump to try and flush out impeller of pump 1. Better. Set switch to run across the line when pump 1 runs.(as per AV)	David Wilson	9/24/20	Completed
9/25/20	12691	RAS Pump 2	Derag pump	Derag and loto. Two rag balls removed. Discharge elbow and impeller	Bill Boomazian	9/25/20	Completed
9/25/20	12692	RST unit	Remount rubber wash guard custom	Old hanger rotted out new custom mounts made and remounted.	Bill Boomazian	9/25/20	Completed
9/28/20	12694	PS 4 Generator	Auxiliary belts squealing and water pump seal weeping.	Inspected all fluid levels before starting weekly no load. Observed some loss of coolant. Inspected cooling system and found water pump seal weeping. Allowing coolant to drip on belts causing squeal during start up. Will discuss correction with AV/BB.	David Wilson	9/28/20	In Process
9/29/20	12695	PS 4 Generator	Block heater failure.	Isolated block heater for replacement.	David Wilson	9/29/20	In Process
9/30/20	12828	Primary Building	Replace isolation valve supplying plant water to primary building.	LOTO of plant water system. IPC Lydon onsite for work in secondary gallery. They finished secondary gallery work early. We worked together to replace the failed valve. Had to use hydraulic jack to create enough of a gap to remove the valve. Supply side of pipe fell out of the wall. Excessive corrosion on the end required replacement. Cut new length and installed with valve, gaskets and hardware. Unloaded hydraulic jack and observed pipe penetrate 1/2" into wall. Removed lockout devices and brought system online. Bled out air and pressure tested repair. No leaks.	David Wilson	9/30/20	Completed

Corrective Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/30/20	12696	RAS Pump 2	Diagnose low output	LOTO of RAS 2. Seperated pump from volute. Cleaned impeller and reassembled pump. Primed pump and returned to service. RAS flow was .23 and is now .63 mgd.	David Wilson	9/30/20	Completed
9/30/20	12697	RAS System	8 inch piping access.	IPC LYDON removed 8 inch piping as it leaves pump room for further inspection and possible repair planning. Josh & Sean remvd and supported remaing piping with chainfall	Outside Contractor	9/30/20	Completed
9/30/20	12698	PS 1 Wet Well	Odors at PS1 especially at end of gravity line at base of Atlantic	AV, DW, ES set up 2 drums of bioxide with feed to the wetwell. Rate to start 10gpd per Evoqua. Odor logger set up last week supports the action to try and mitigate.	Aram Varjarbedian	9/30/20	Completed

Inspections

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/5/20	12079	Eyewash Stations	WWTF Eyewash Inspection - Weekly	Inspected and tested all emergency eye wash and shower stations throughout the plant.	Ryan Holman	8/30/20	Completed
9/8/20	12238	Eyewash Stations	WWTF Eyewash Inspection - Weekly	Tested and inspected all emergency eye wash and shower stations throughout the plant.	Ryan Holman	9/6/20	Completed
9/13/20	12351	Truck 3 - 2015 Chevy 3500 HD	Monthly vehicle inspection on do-Forms	State inspection completed. Tires rotated, oil and filter changed. Brakes were inspected. No issues found.	David Wilson	9/7/20	Completed
9/15/20	12334	Truck 1 - 2010 Dodge Ram 1500	Monthly vehicle inspection on do-Forms		David Wilson	9/7/20	Completed
9/15/20	12239	Eyewash Stations	WWTF Eyewash Inspection - Weekly	Inspected and tested all emergency eye wash and shower stations throughout the plant.	Ryan Holman	9/13/20	Completed
9/15/20	12681	Truck 1 - 2010 Dodge Ram 1500	Perform vehicle inspection	Inspected vehicle - See doFORMS report for full details.		9/15/20	Completed
9/24/20	12240	Eyewash Stations	WWTF Eyewash Inspection - Weekly	Inspected and tested all emergency eye wash and shower stations throughout the plant.	Ryan Holman	9/20/20	Completed
9/29/20	12242	Emergency Lighting & exit signs	Emergency Lighting Inspection - Monthly		Ryan Holman	9/9/20	Completed
9/29/20	12331	Fire Extinguishers	WWTF Fire Extinguisher Inspections - Monthly		Ryan Holman	9/7/20	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/1/20	12350	Chlorine probe ATI	Change electrolyte	Cal ok, solution not changed	Aram Varjarbedian	9/1/20	Completed
9/2/20	12215	Generators "All Pump Station"	Generator Weekly - Test Run no load		Eric Sutton	8/31/20	Completed
9/2/20	12183	PS Trailer Mounted Generator	Generator Weekly - Test Run no load		Eric Sutton	8/31/20	Completed
9/2/20	12294	PS 1 Generator	PS #1 Generator Inspection and Test - Weekly		Eric Sutton	9/2/20	Completed
9/2/20	12306	PS 4 Generator	PS #4 Generator Inspection and Test - Weekly		Eric Sutton	9/2/20	Completed
9/2/20	12311	PS 5 Generator	PS #5 Generator Inspection and Test - Weekly		Eric Sutton	9/2/20	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/2/20	12323	PS 6 Generator	PS #6 Generator Inspection and Test - Weekly		Eric Sutton	9/2/20	Completed
9/2/20	12317	PS 9 Generator	PS #9 Generator Inspection and Load Test - Monthly		Eric Sutton	9/2/20	Completed
9/3/20	12270	Aeration Tank 1 Oxygen Probe	AT #1 DO Probe Clean and Calibrate - Monthly	Cleaned probe and tested calibration.	David Wilson	9/1/20	Completed
9/3/20	12271	Aeration Tank 3 Oxygen Probe	AT #3 DO Probe Clean and Calibrate - Monthly	Replaced LDO probe. Completed calibration and set up.	David Wilson	9/1/20	Completed
9/3/20	11891	Truck 5 - Fork truck Doosan G25E-5	Annual PM	United Rental service representative came out and completed annual service and inspection.	David Wilson	6/18/20	Completed
9/4/20	12205	High level floats	Weekly High Float Alarm test	Tested all high level floats and alarms throughout the plant.	Ryan Holman	8/30/20	Completed
9/6/20	12365	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY	Drained off condensation and verified fluid level.	David Wilson	9/6/20	Completed
9/7/20	12252	Influent Sluice Isolation Gate	Weekly operate through full range	Completed during testing of bypass pumps. No issues found.	David Wilson	9/9/20	Completed
9/8/20	12251	Influent Sluice Isolation Gate	Weekly operate through full range	Closed gate for bypass pump test with Vortex/D&C. No issues	Aram Varjarbedian	9/2/20	Completed
9/9/20	12273	Wet Scrubber Fan	Scrubber Exhaust Fan PM - Monthly	Inspected belt tension and alignment. Greased all bearings.	David Wilson	9/9/20	Completed
9/9/20	12193	Confined Space 4 Gas Meter	monthly calibration	Zeroed and tested calibration. No issues found.	David Wilson	8/27/20	Completed
9/9/20	12187	Meter #4 - 4 Gas	4 Gas Meter #4 Calibration - Monthly	Zeroed and tested calibration. No issues found.	David Wilson	8/27/20	Completed
9/9/20	12186	Meter #3 - 4 Gas	4 Gas Meter #3 Calibration - Monthly	Zeroed and tested calibration. No issues found.	David Wilson	8/27/20	Completed
9/9/20	12185	Meter #2 - 4 Gas	4 Gas Meter #2 Calibration - Monthly	Out of service. Sent out for repair.	David Wilson	8/27/20	Completed
9/9/20	12188	Meter #5 - 4 Gas	4 Gas Meter #5 Calibration - Monthly	Out of service. Sent out for repair.	David Wilson	8/27/20	Completed
9/9/20	12357	Meters - 4 Gas Confined Space #2	4 gas meter calibration - monthly	Taken out of service. Cal gas ran out.	David Wilson	9/1/20	Completed
9/10/20	12256	Mechanical Screen & Washpress System	Monthly Maintenance	Cleaned and inspected flexrake and wash press. No issues found.	David Wilson	9/7/20	Completed
9/12/20	12353	High level floats	Weekly High Float Alarm test	Tested all high level floats and alarms throughout the plant.	Ryan Holman	9/6/20	Completed
9/13/20	12129	Waste Activated Sludge Pump 3	Vaughan Centrifugal pump - Semi Annual	Exercised all valves. Inspected fluid level. Pump seal leaks.	David Wilson	8/20/20	Completed
9/13/20	12332	Meters - 4 Gas Confined Space #1	4 gas meter calibration - monthly	Zeroed and tested calibration. No issues found.	David Wilson	9/1/20	Completed
9/13/20	12189	Meter #6 - 4 Gas	4 Gas Meter #6 Calibration - Monthly	Out of service. Sent out for repair.	David Wilson	8/27/20	Completed
9/13/20	12090	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load		David Wilson	8/24/20	Completed
9/13/20	12237	Portable Generator - Honda	Portable Generator Inspection - Monthly	Checked fluid levels. Started and brought up to operating temp. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12333	GODWIN Portable Pump	Test Run Godwin Pump-Monthly	Inspected all fluid levels. Started and brought up to operating temp. Surge protector shorted and replaced.	David Wilson	9/2/20	Completed
9/13/20	12285	Sludge Transfer Pump 2	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12284	Sludge Transfer Pump 1	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/13/20	12277	RST Feed Pump 1	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12278	RST Feed Pump 2	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12282	Primary Sludge Pump 1	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12283	Primary Sludge Pump 2	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12275	RAS Pump 2	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/13/20	12274	RAS Pump 1	Monthly Check Pump Couplings	Inspected hubs and coupling. No issues found.	David Wilson	9/2/20	Completed
9/14/20	12366	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY	Inspected for condensation and verified fluid levels.	David Wilson	9/13/20	Completed
9/14/20	12680	30 - WW Treatment Plant - General	Install level transducer in screening dumpster.	Cleaned debris from transducer. Removed wiring box and mounted to corner of dumpster. Routed transducer wiring along side of dumpster and mounted before first screen. Required making a mount.	David Wilson	9/14/20	Completed
9/14/20	12348	Chlorine probe AT1	Weekly calibration		Joe Basler	9/14/20	Completed
9/15/20	12243	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load	Inspected all fluid levels and brought up to operating temp. Recorded all run data and cleaned strainer basket.	David Wilson	9/14/20	Completed
9/15/20	12361	Generators "All Pump Station"	Generator - Monthly Load Test		Eric Sutton	9/6/20	Completed
9/15/20	12335	PS Trailer Mounted Generator	Generator - Monthly Load Test		Eric Sutton	9/6/20	Completed
9/15/20	12362	Generators "All Pump Station"	Generator Weekly - Test Run no load		Eric Sutton	9/14/20	Completed
9/15/20	12336	PS Trailer Mounted Generator	Generator Weekly - Test Run no load		Eric Sutton	9/14/20	Completed
9/15/20	12250	Fixed Gas Monitoring System	Quarterly Calibration Headworks room gas meters	Zeroed and tested calibration of all fixed gas sensors. Calibration gas canisters to be ordered.	David Wilson	9/2/20	Completed
9/15/20	12086	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	8/31/20	Completed
9/15/20	12085	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	8/24/20	Completed
9/15/20	12084	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load		David Wilson	8/17/20	Completed
9/15/20	12017	Meter #2 - 4 Gas	4 Gas Meter #2 Calibration - Monthly		David Wilson	7/30/20	Completed
9/15/20	12247	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load	Inspected fluid levels and brought up to operating temp. Recorded all run data.	David Wilson	9/14/20	Completed
9/16/20	12106	Aeration Blower 2	Aeration Blower #2 Oil Change - Semi Annual	LOTO of blower 2. Drained oil from each side. Refilled to proper level with Royal Purple syn 46. Cleaned area and put spent oil into recycling drum.	David Wilson	8/25/20	Completed
9/18/20	12354	High level floats	Weekly High Float Alarm test	Tested all high level floats and alarms throughout the plant.	Ryan Holman	9/13/20	Completed
9/18/20	12253	Influent Sluice Isolation Gate	Weekly operate through full range	Shut the influent gate. Will be shut for headworks work for approximately 2 months.	Ryan Holman	9/16/20	Completed
9/20/20	12367	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY	Inspected fluid levels in SC2 gearbox. Oil levels are correct. No condensation.	David Wilson	9/20/20	Completed

Preventative Maintenance

Status Date	WO #	Asset Name	Work Description	Work History Note	Employee	Schedule Date	Status
9/22/20	12248	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load	Inspected all fluid levels and brought up to operating temp. Recorded all run data and returned to stand by.	David Wilson	9/21/20	Completed
9/22/20	12276	RAS Pump 3	Monthly Check Pump Couplings	LOTO of equipment. Inspected hubs and coupling. Good overall. Returned to service.	David Wilson	9/2/20	Completed
9/23/20	12254	Influent Sluice Isolation Gate	Weekly operate through full range	Influent gate is lock out closed for headworks bypass.	David Wilson	9/23/20	Completed
9/28/20	12693	Wet Scrubber System	Clean and calibrate pH and ORP probes.	Cleaned probes with hydrochloric acid. Neutralized acid and mixed into batch tank. Tested calibrations. ORP tested with 400 and 600mv solutions. .51mv offset. pH tested with 7pH buffer. .52 offset. Returned to service.	David Wilson	9/28/20	Completed
9/29/20	12368	All Plant Gear box reducers	GEAR BOX MAINT - WEEKLY	Inspected fluid level in SC2.	David Wilson	9/27/20	Completed
9/29/20	12249	Generator #1- Emergency Kohler 750	Generator Weekly - Test Run no load	Inspected all fluid levels. Brought up to operating temp and recorded all run data. No issues found.	David Wilson	9/28/20	Completed
9/29/20	12245	Generator #2 - Backup Detroit 500	Generator Weekly - Test Run no load	Inspected all fluid levels. Brought up to operating temp and recorded all run data. Cleaned strainer basket.	David Wilson	9/28/20	Completed
9/29/20	12082	Generator #2 - Backup Detroit 500	Generator - Monthly Load Test	Inspected all fluid levels. Performed loaded generator run. Brought up to operating temp and recorded all run data. Transferred to utility power and allowed cool down. Cleaned strainer basket.	David Wilson	8/2/20	Completed
9/29/20	12363	Generators "All Pump Station"	Generator Weekly - Test Run no load		Eric Sutton	9/21/20	Completed
9/29/20	12337	PS Trailer Mounted Generator	Generator Weekly - Test Run no load		Eric Sutton	9/21/20	Completed
9/29/20	11929	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	7/5/20	Completed
9/29/20	11787	Generator #1- Emergency Kohler 750	Generator - Monthly Load Test		David Wilson	6/7/20	Completed
9/29/20	12338	PS Trailer Mounted Generator	Generator Weekly - Test Run no load	Inspected all fluid levels and brought up to operating temp. No issues found.	David Wilson	9/28/20	Completed
9/29/20	12364	Generators "All Pump Station"	Generator Weekly - Test Run no load	Inspected all fluid levels and brought up to operating temp. Corrective work order made for PS4 generator.	David Wilson	9/28/20	Completed