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COMMITMENT & INTEGRITY DRIVE RESULTS

HULL WATER POLLUTION CONTROL FACILITY

January
2019

MONTHLY OPERATING REPORT



NPDES NO. MA0101231

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Cover pictures:

Setting of new above ground fuel tank

Above ground fuel tank on the chain wall platform

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 January 2019.

- No lost-time incidents for the month of January.
- There were 144 effluent samples taken in the month of January. Please see page (8) for details.
- There were no effluent permit violations.
- Plant average flows were typical for this time of year. There were a few days of significant rainfall during the month, but the dates were spread out some, and the impact on plant flows was moderate. The average daily flow for the month was 1.75 MGD, and the peak day was on 1/25/19 with a flow total of 3.800 MGD. 1.68 inches of rainfall was recorded.
- As noted last month, plant and collection system odors are low for this time of year. The Bioxide system at PS 3 remains off for the season.
- Asset Management Accounts checkbook for tracking of expenses is ongoing weekly for year #4. A summary of year-to-date totals for [04M]. Review of account status between W&C and Hull Sewer Dept. is on-going.
- There were two grinder pump call outs during the month of January that the staff responded to and corrected.
- In January the new 3,000 gallon above ground fuel tank was delivered and installed on top of the raised "chain-wall" structure. Comm-Tank also completed installation of the welded fuel supply and return lines with appurtenances from the fuel tank to the generator room. Jason Anderson - W&C Engineering provided the oversight for this project along with Bill Boornazian onsite.
- National Water Main sewer line cleaning and CCTV was completed in December and they returned in January to complete NASSCO level 1 Manhole inspections for all manholes identified in the paving project area.
- W&C O&M working with engineering and HSD on the development of the "Critical Equipment" needs list for the SRF funded account.
- Contractor Ted Berry was onsite for inspection of Secondary Clarifier #1 related sludge draw off piping and influent piping. See maintenance section for more details.
- At the end of January, the Odor Scrubber Media Replacement project work started. This work had been in planning for some time. The bulk of the work and completion was completed in early February, and additional details to be covered in the next February MOR.
- The Energy "Gap" work continued with Horizon installing the air flow meter and actuator on the air line to the sludge holding tank. Controls and electrical completion is pending.

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

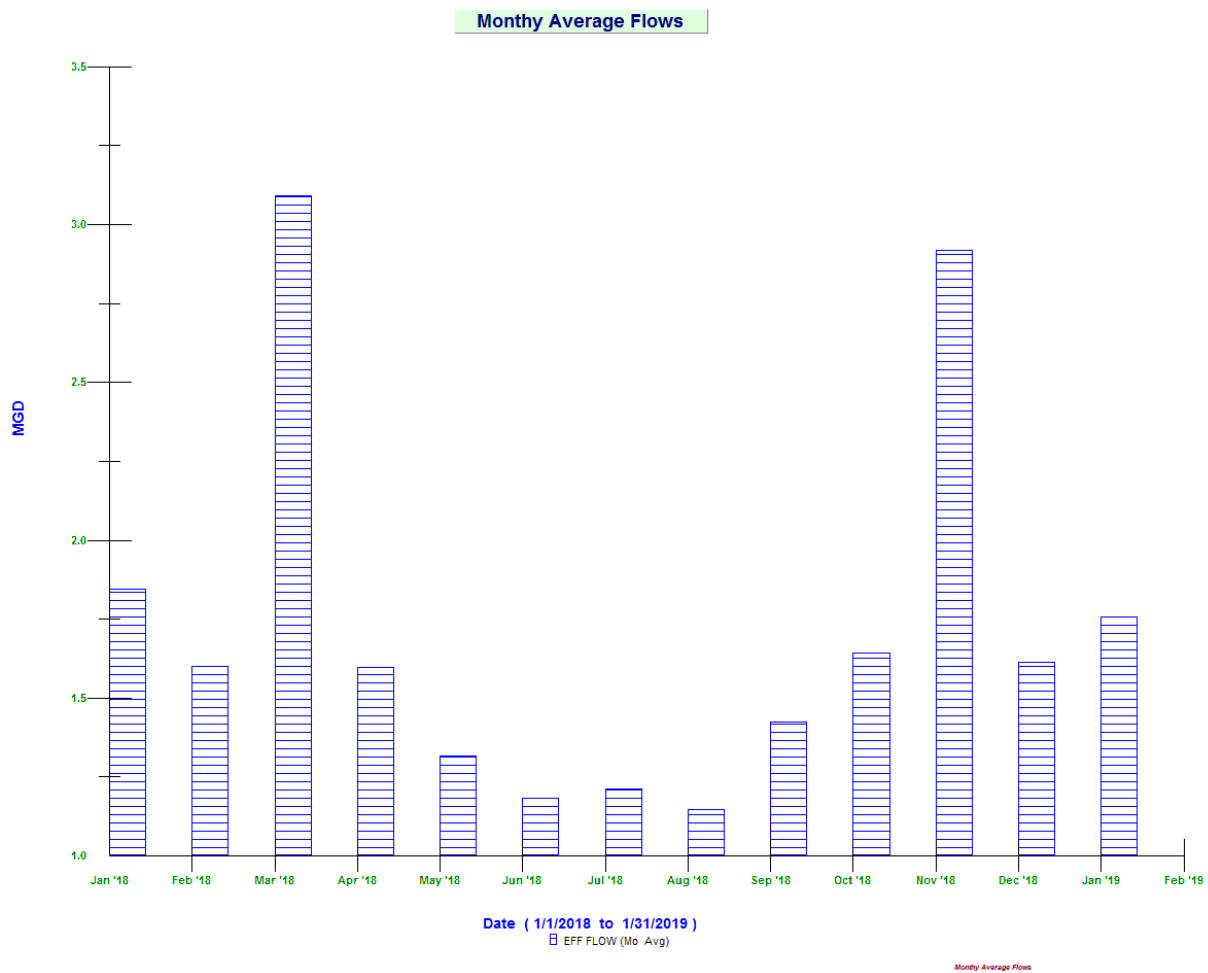


Average Daily Flows and Loadings for the Month:

	Eff Flow MGD	Inf Flow MGD	Inf BOD LBS	Inf TSS LBS	Eff BOD LBS	EFF TSS LBS
Jan 2017	1.967	2.295 *	1664	4324	170	410
Jan 2018	1.845	1.794 *	2518	2553	201	299
Jan 2019	1.755	1.968 *	1051	1679	123	170

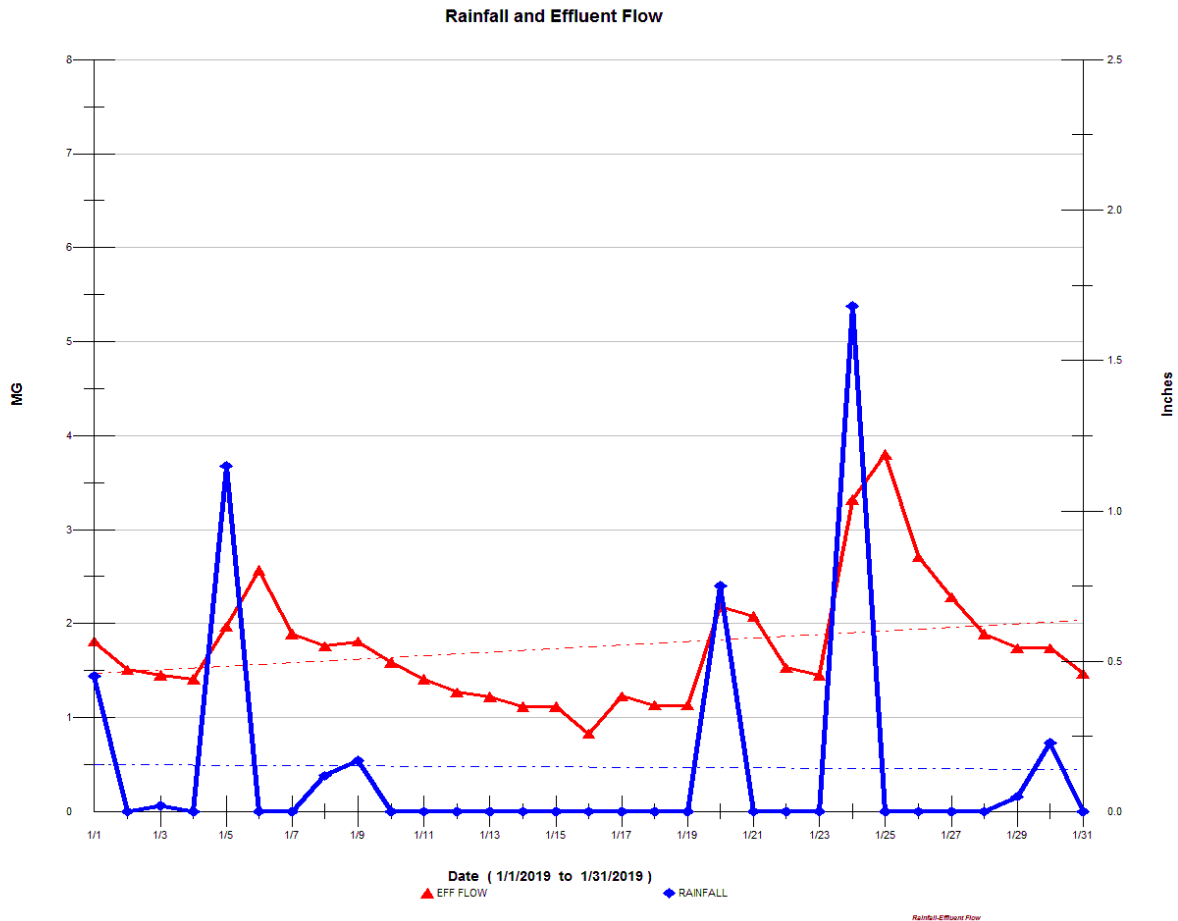
* Meter drift – influent flow meters are strap on doppler flow meters and the internal pipe condition prevents getting a strong signal. The staff adjusts accordingly and utilizes the area velocity meter in the aeration tank inlet channel as needed. All loadings are based on the effluent flow meter.

2.1 AVERAGE EFFLUENT MONTHLY FLOWS – ONE YEAR COMPARISON



Monthly average flow for January was 1.76 MGD, a typical amount for the winter period, and similar to January 2017. There was little to no snow recorded during the month of January.

2.2 MONTHLY SUMMARY OF RAINFALL AND THE INFLUENCE ON EFFLUENT FLOWS



This graph shows the days where plant flows were higher due to rainfall [Blue Peaks]. This graph provides a good indication of the influence that rainfall has on the effluent flows. Inflow and Infiltration out in the collection system has been noted with the increased effluent flow values when it rains.

3 COMPLIANCE



➤ Plant Effluent

- There were no exceedances for the month of January.
- Plant process conditions continue to be good & maintaining very well. The clarifier surface was good during the month. For much of the month only one secondary clarifier was necessary. Sludge settleability was good and chlorination of the RAS was stopped. The process solids inventory varied depending on plant flows and wasting schedule. All of the primary sludge generated is being pumped to the gravity thickener [GT] and co-settling with the secondary waste activated sludge. Due to lower odors for this time of year, the sludge blanket in the GT is allowed to be higher in order to achieve a higher sludge concentration for pumping to the sludge truck.
- Utilizing various aeration blower modes during the month, due to excessively high dissolved oxygen levels in the aeration tanks. Modes used were timed on and off mode during the daytime hours & restricting suction valve on blower to draw in less air to the system. Both modes saved on some electrical costs.
- Aeration Process mode remains in contact stabilization mode, with varying amounts of flow into aeration tank #1, depending on system inventory and flows.
- A Copy of the NPDES report for January 20198 was submitted to the DEP and then forwarded to the Hull Sewer Dept.
- Continued working with corporate team [Frank C and Chibby A] for planning and rollout of company process control plan/template. A meeting was held on 1/17/19 to review of the various process control reports and the control and warning limits.

- The Drylet Trial continued well passed the initial 90-day milestone date. Since there is still some uncertainty as to the anticipated solids reduction, W&C has decided to continue with the program in order to monitor for a longer period of time. The variable plant flows also contributed to the uncertainty of the amount of solids reduction, with the use of this product. The daily dose of product is being changed, based upon plant flows, in order to optimize the product dose. To date, the facility's biological system has adapted well to the supplemental bacteria that is being added daily, and secondary clarifier performance is very good. As noted above, the process scheme was changed in late December to the "contact stabilization" mode to lessen the solids loading on the secondary clarifiers. There have been fewer regular calls and data exchange as of late, but dosage rates and updates are discussed with the Drylet Team on an on-going basis.

Photos below show the current conditions as a result of lowering the sludge inventory and changing of process flow mode. The spray water that is typically on, was shut off during the very cold periods in January to prevent the freezing of the clarifier rake arm. These pictures were taken on 1/18/19.



Secondary Clarifier - good clarity & no water spray



Aeration tank #3 – good solids level & color

- Kristina Richards [KR] working on Tier II annual reporting for the facility for certain chemical stored at the facility in 2018.
- KR also assisting with questions and updates needed for the permanent Above ground Storage Tank (AST) and Spill Prevention and Containment Control (SPCC) plan and decommissioning of the temporary AST when the time comes.

4 KEY PERFORMANCE INDICATORS



4.1 WATER QUALITY - JANUARY

Parameter Info		Permit Requirements					Results				
Parameter	Units	Daily Max	Daily Min	Weekly Avg. Max	Monthly Avg. Max	Freq	Period Avg.	Period Min	Period Max	# of Samples	# of Violations
Eff TSS	MG/L	50		45	30	1 X Week	12.4	8.0	18.0	5	0
Eff TSS	LBS			1152	768	1 X Week	170.3	84.1	271.7		0
% TSS Rem	%		85			1 X Month	90.2				0
Eff BOD	MG/L	50		45	30	1 X Week	8.6	3.0	17.0	5	0
Eff BOD	LBS			1152	768	1 X Week	122.8	28.0	246.7		0
% BOD Rem	%		85			1 X Month	89.0				0
Eff Chlorine	MG/L	1.0			0.7	3 X Day	0.12	0.01	0.45	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	6.7	7.6	31	0
Enterococci	#/100 ML	276			35	1 X Week	18	10	40	5	0

- There were 144 effluent samples taken in the month of January with zero [0] NPDES Permit exceedances.

Gallons Treated vs Sludge Disposed

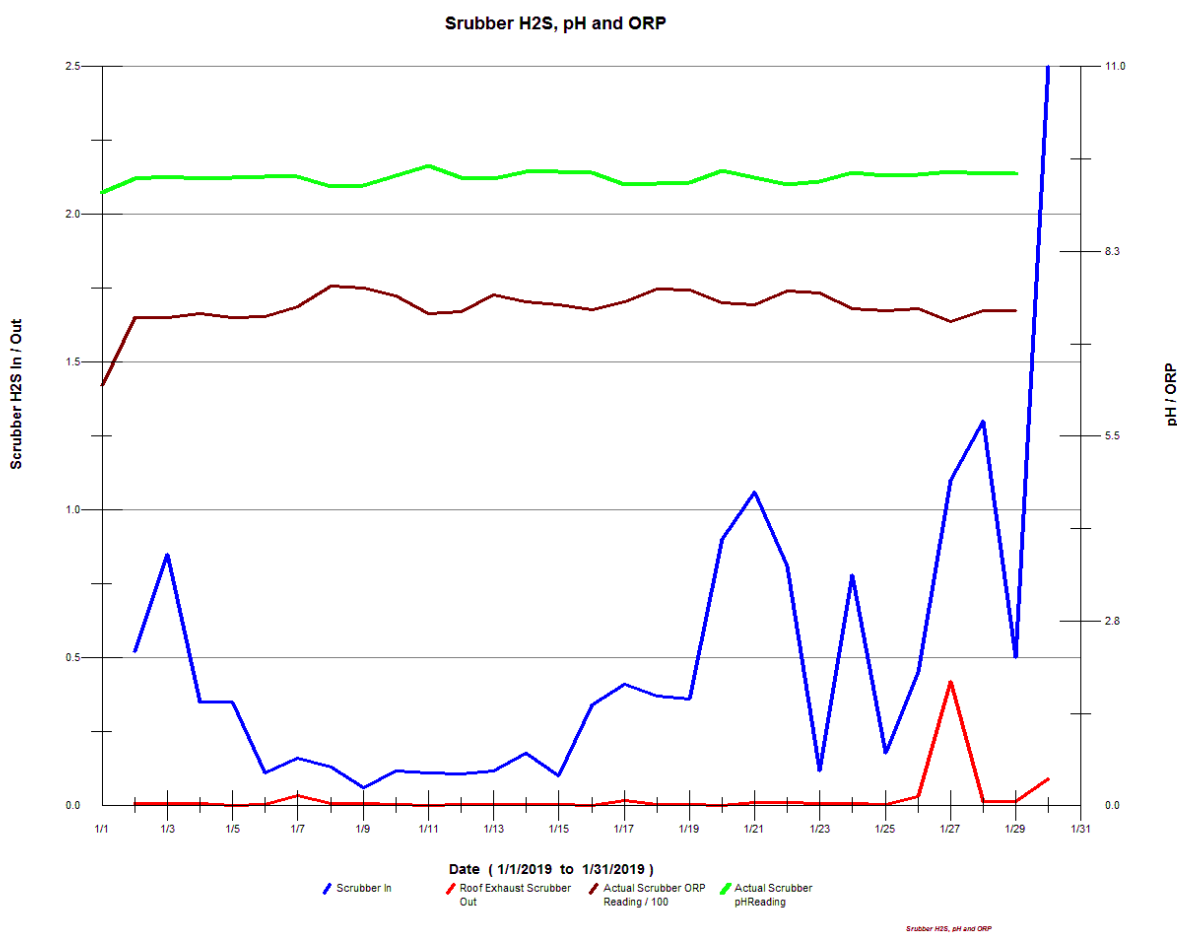
Month	Effluent Treated, MG	Sludge Disposed, Gals
January 2017	60.99	126,000
January 2018	57.21	135,000
January 2019	54.42	117,000

5 ODOR CONTROL

There were no odor complaints reported in January 2019.

The gravity thickener and primary clarifier were on for the month of January. Due to recent high plant flows, colder temperatures, and a high sludge inventory, it is necessary to keep these process units on line. The waste activated sludge currently is being pumped to the underground sludge holding tank #2, via the blend box. Aeration tank troughs are being flushed to minimize build-up of odors.

The odor scrubber system was on line for the almost the entire month up until January 30th when it was taken off line to start the scrubber media replacement project. The colder temperatures are favorable to performing this work, with little impact to plant site odors. An odor notification letter was distributed to the neighborhood and included some details on the purpose of maintenance. This media replacement work was completed in early February and will be updated in the next month's MOR.



Graph shows some peaks for H₂S to the scrubber. These peaks were primarily due to the H₂S generated in the primary sludge resulting from intermittent primary sludge pumping to the gravity thickener [GT] as the off-line primary tank #1 was pumped and cleaned following high flow events. At the end of the month, the spike in H₂S was from the GT.

Scrubber media removal



Removal of old scrubber media from vessel



Totes of old media – waiting for disposal approval

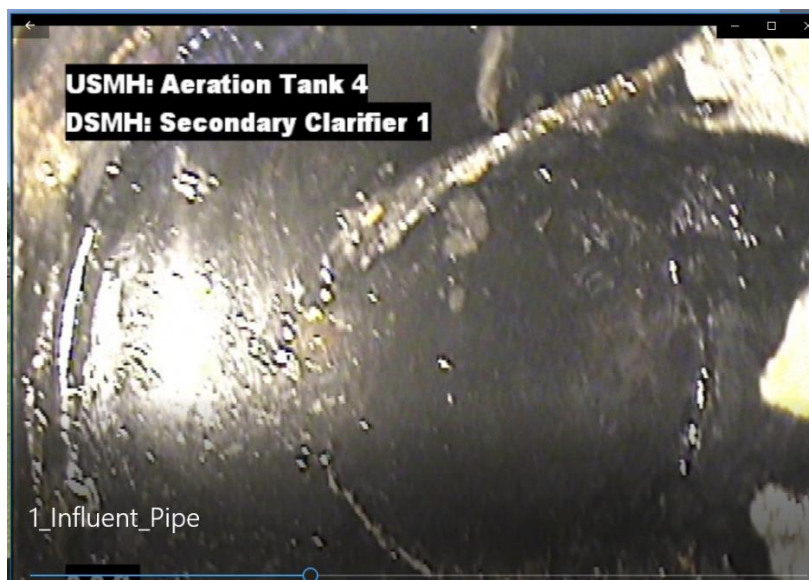
- “In-Pipe” bacteria addition continued with all 24 dosing stations operational. No additional actions taken for headworks sulfide reduction plan proposed by “In-Pipe. The inspection/replacement with full bottles took place on 01/10/18. All work being tracked on the Utility Cloud [UC]. In-Pipe’s technician assisted with the dosing station bottle changeouts, inspection of the dosing units, provided feedback on various maintenance tasks associated with the dosing stations.
- Continued the bi-weekly change outs of the bacteria bottles at three lift stations Microbe Dosing Stations (MDU’s) with installation just in front of the three largest pump stations [in the wet wells or manhole just prior to the station. [PS 3, PS 5, PS 9] The re-load plan is delivering an additional 5.4 liters per month in total (1.8 liters x 3 locations). The goal is to see if we get a step change and reduce odors, while at the same time potentially reducing sludge. This change is being monitored closely over the summer months, for pump stations and at the plant.
- On-going – frequent pumping of the secondary scum wells. Tank cleaning performed quickly and as needed.
- No [Bioxide] product added, system off for the winter period.
- Mixing systems/aerators all functional at the pump stations, except for pump station #3. New Medora Gridbee mixing system for PS 3 not installed yet. Mixer/Aerators at PS 4 & PS 6 put on timed control through SCADA.
- Still in Progress - discussing options for headworks area to reduce corrosion and odors with Tighe and Bond’s HVAC evaluation/upgrade.

6.1 TASKS COMPLETED THIS MONTH

The SEMS monthly work order summary for January is compiled and attached as a pdf file for review.

Key items of note are listed below.

- 1) Completed Ted Berry [Ted Berry Co.] assisted with the secondary clarifier #1 piping inspection. Ted Berry had a camera truck, vactor truck, and confined space team onsite for 1 full day during this work. The Town DPW allowed the heated garage area for storage of their vactor truck overnight for the two nights that Ted Berry Co. was in the area. This assistance helped to lessen the time needed to mobilize and demobilize.
 - a. The goal of the inspection work was to further evaluate the rot holes found in the RAS draw off piping and determine if lining might be feasible within the center well area. In addition, they could camera the remaining sludge draw off piping for condition inspection and as well as the influent pipe to the tank that carries mixed liquor from the aeration tanks.
 - b. A summary of their findings were provided in February and is being reviewed by W&C and the Town presently.



Large Rot / Abrasion Hole Snap shot of the video within the SC center well “drum”

- 2) The Deragger unit at PS6 continues to function very well with no issues. To date, the #1 pump has not needed any cleaning.
- 3) In-Pipe units – battery change out and circuit board troubleshooting and replacement as needed.

- 4) Verizon "Comm Fail" issues with the pump station communication on 1/9 for stations 4,6 & 9. Worked with Verizon to repair on 1/9-1/10 until issue was corrected. With no pump station data or alarms, the pump stations were checked 3 times daily at 8-hour intervals to ensure proper operation and wetwell levels.
- 5) Some extremely low temperatures caused for some minor issues – sludge transfer line to truck was frozen and discharge hose cracked and needed replacement. The shear pin in primary clarifier #2 had to be replaced when the rake arm got stuck on the frozen beach plate.
- 6) Working with HSD and RM Systems for call forwarding issues during non-business hours.
- 7) On-going issue – the need to add oil to sec clarifier gear boxes and the GT gear boxes. All of the units have leaks [lower gear box seals are no good]. We are using a flowable grease product that is heavier to lessen the amount of leakage. The estimated use of product is 2.5 gallons per week.
- 8) Weekly exercise without loads and Monthly load tests completed on all generators including the portable generator and pump stations.
- 9) Visits to D Street stormwater station as needed to ready/prime portable trash pump for back-up use. With the cold weather conditions, the trash pump "readiness" involved draining the pump on the extreme cold days, and re-priming when tides were expected to be high during the heaviest rainfall periods. The pump also needed some maintenance to address corrosion issues on the starting circuit and chassis. One of the 4-inch submersible pumps stopped working in late January, and further evaluation is needed.



- 10) On-going Dig-Safe mark outs completed, due to emergencies, upcoming paving projects, and responded various rattling manhole covers, broken manhole covers/rims, sunken manholes covers/rims. All work that W&C completed is documented in the monthly Work Order Report.
- 11) Conducted a successful bypass pumping trial at LS A [1/3/19], since the portable generator was off-site for repairs to the charging/starting circuit. Upon the generator's return, the station

emergency power system was checked and successful [1/17/19]. The portable generator's readiness has been tested weekly [no load] and monthly [loaded] with no issues.

12) On-going repairs to E-1 grinder pumps by F R Mahony Corp. Maintaining the current spare pump inventory, as well as maintaining some stocked items/supplies for these systems. The current plant inventory of new and rebuilt spares is 8 units.

13) There were two grinder pump call outs during the month of January.

- 101 Rockaway Ave. – replace grinder pump
- 56 North Truro – replace grinder pump and cover on pump chamber

6.2 ON GOING PROJECT UPDATES



- Drylet bacterial process enhancement trial continued in January. [See effluent/compliance section].
- Pump Station 4, Pump Station 9, and Plant Headworks are now being evaluated together for a structural concrete repair design and bid to be done as part of an on-call services agreement with a contractor. The details are still being evaluated. As noted, before, the mechanical work is being held up at pump station 4 due to structural safety concerns. As the bidding is not possible to do through O&M team, a larger structural project concrete repair work scope is in now in discussion / planning stages.
- Plant water basket strainer – We are still investigating a replacement unit, either the same as the current unit, or from a different Mfr. We have yet to evaluate the operating mode - manually cleaned or auto-cleaned. Also looking at where effluent water is drawn into the system, evaluating the size of the suction piping, considering other suction location for system to improve water quality – utilizing water from effluent wet well versus drawing from bottom of a manhole just after the secondary clarifiers. Will be listed under critical needs equipment under the SFR. Looking at the current manufacturer, Hellan, as well as another supplier, Eaton Products.

- The sluice gate supports for the inlet gates to primary clarifiers at the D-box. As noted previously, the supports have lifted away from the concrete and there is also cracked concrete under the supports. Quotes for the repair are on hold, and the work may be done, when the influent headworks structural repairs are performed. This item is currently listed under the 04M projected costs, as work could be committed in Spring.
- Still looking at an alternative use for one of the existing primary clarifiers, especially the #1 PC, since the drive unit has extensive damage. Conversion to a mixed tank and floating aerator are being considered. This would allow for hydraulic flow into the tank, and not restrict flow at the D-box, which is currently a concern, as having the primary tanks off line in the warmer months eliminates many of the odors around the facility. This item is being considered under the SFR Critical needs equipment. A couple of budgetary quotes have been received.
- Pump Station #1 – The new pumps are currently operating normally. Out put flows from each pump are being investigated to determine how higher capacities could be reached. Pressure tests and draw downs / flow testing was completed in January and found slightly higher pressures are contributing to lower outputs than the original design points. In review of prior reports and investigations it was determined that the pump capacities were always lower than the designed points, going back to the 1980's. It was also found that the motors are not reaching their full load amps and have approximately 25% more available amps that handle an increase in flows if the impellers are upsized. Aram & Bill are working on summarizing the findings and evaluating larger impeller trim sizes to take advantage of the existing available motor power.
- Four new yard hydrants are on-site and W&C is working with Aqualine Utility to plan for installation/replacement of four failed units. A yard hydrant replacement day is planned [weather permitting] in late February, along with the necessary pipe adapters, valves, gate boxes as needed.
- The ladder replacement project is on hold until some issues can be discussed regarding the costs to replace came in above expectations and the OSHA regulations that apply based on the current installation and condition. The current ladders that are installed are not for the purpose intended and are portable extension ladders and bolted to the wall. There are issues with the step-across distance from the rungs. Some ladders are damaged including access points to the wall, and these should be tagged and removed from service until replaced or repaired.
 - In January the Horizon related Energy grant was waiting on an actuator motor for automated air flow control to Sludge Holding Tank #2. Currently the two sludge smaller blowers, which are normally online, have been taken off line. Through the piping modification off of the larger air line leading to the aeration tanks, the aerated grit chamber air and Sludge holding Tank #2 air is being supplied with air from this main aeration air feed line. This modification and plan is working very well at the present time and saving the electricity equivalent of a **20 horsepower motor**. The remaining work on the energy grant includes completing the installation of the electric actuator and some power & SCADA controls work. The anticipated completion is expected in late February/early March.

- The co-ordination with Duperon for a site visit to inspect the influent channel flex rake is still being worked on. They have not had an available technician scheduled for our area. They were booked at least into mid-January. A follow up call will be made.
- Looking at available weather stations for use on the Operations building roof to replace a failed unit, no longer at the facility. No specific unit has been selected, but SCADA group has provided recommendation for a unit where the data can be transmitted and tracked in the SCADA system.
- SPCC: Plan for monitoring fuel stored at the facility. Regular inspections of the temporary AST and fuel day tank, as well as container storage of waste oil. Updated file.

Please see the attached summary of the Asset Management accounts for contract year (4)

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 for the month of January
- Ongoing - Daily safety briefing meetings, review site safety policies with sub-contractors, safety tailgate topics.
- Pure Safety topic– January – Chemical Spills Safety
- Continued working with Andy Rowe on pump station ladder standards & specifications for replacement and other safety related issues.
- Hull's Jerome meter for H₂S readings returned from factory service and working well. The loaner unit was returned.
- Evaluating & calibrating the facility's 4-gas personal gas meters. Some new components are needed – various sensors and rechargeable batteries.
- Monthly staff safety meeting conducted on 1/31/19
 - Cold Weather safety – tool box discussion – several handouts.
 - A recording of the Working in Winter Weather Mini Session reviewed
 - Discuss confined space LEL and flammability ranges
 - Confined space characterization form discussed.
 - December 2018 Lessons Learned, and safety observations discussed – Near misses and incidents from other company projects.
- A decision was made to scrap the electric 2-ton electric hoist that was out of service, since parts to repair were not available, and the facility had several other electric hoists to meet the needs of the current work being done.
- Storm Readiness Report prepared as requested.

- Secure a ramp over communications feed line from operations building to HSD trailer [eliminate trip hazard & protect wire].



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:

- W&C new intern Ryan Holman began his internship on 1/7/19. He is already assisting operations and maintenance with various projects. He completed the required site-specific safety training during his first week and is now learning facility daily rounds and assisting with general operations and maintenance.
- Monthly staff Safety training – completed – Pure Safety and monthly safety meeting.
- Operational updates and process control discussions, especially with recent electrical issues and plant shut-downs, pump station operations, odor issues, dig-safes, etc.
- W&C “near-miss” incidents at all projects for January discussed.
- Jim G continues to work with staff on various SEMS training – work order management & scheduling.
- Aram & Bill attended NEWEA conference in Boston on 1/29/19
- Utility Cloud training planned for early February 2019

Staffing related items:

- Continued involvement with Mass Maritime [MM] internship program/career fair for future interns. Corporate human resources department leading the effort for future intern for summer months.
- Sunday rotation schedule in place with Jim Gagliard working every other Sunday, and remaining weekends being filled by Roger B., Aram V., and Bill B. When Bill is not scheduled for a Sunday, he will be on a Monday-Friday schedule.
- Supplementing staff needs with O&M tech support where needed. Jim G and Jody S providing coverage when staff levels are lower due to sickness, vacation, or training.

9 COLLECTION SYSTEM

9.1 WET WELL CLEANING

[ALL WERE INSP 1/15]

The actual schedule for wet well cleaning: May 2018 to April 2019:

(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, 2018		X			*1	*1		
June, 2018					X	X		
July, 2018					*2			
Aug., 2018					X			
Sept. 2018				#3	#3		#3	
Oct., 2018	X	X	X	X	X		X	
Nov, 2018	#4	#4		#4	#4	#4		
Dec., 2018					X			
Jan., 2019								
Feb., 2019								
March 2019								
April 2019								

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

- *1 Inspected and needs to be cleaned in June**
- *2 Inspected and needs to be cleaned in August**
- *3 Inspected and needs to be cleaned in October**
- #4 Wet wells were not inspected this month**

9.2 COLLECTION SYSTEM MAINTENANCE

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

Dump Access Road
30 Kenberma
36 Pt Allerton
1 Adducci Way

Nantasket & A Street
9 Manomet
Bay Street/Porazzo Rd.

10 PROJECT MANAGEMENT & ADMINISTRATION



10.1 ON-GOING PROJECTS AND SUPPORT ITEMS

- Asset management checkbook for tracking of expenses. Review of account status between W&C and Hull Sewer Dept. is on-going. [04M]. The report information is available to the Sewer Department and located in the shared file location. The current snapshot of the account status as of 1/18/19 is included as an attached pdf file with this report.
- On-going AST work: Comm-Tank is currently working on final installation of the AST and related piping and appurtenances. Discussing dispensing of fuel to portable containers with electric hand pump. Glenn Fellows of Fellows Electric is expected to start work on related electrical & controls upgrades to the new system in mid-February. The anticipated completion of all AST work and fuel transfer to the new AST from the temporary tank is at the end of February / early March.
- Multiple engineering tasks were setup and being coordinated through engineering, and there is also SRF funded projects being developed for construction including an interceptor lining project and gun rock area collection system improvements project. In addition to this SRF phase the O&M team has been working on a critical needs list to be an equipment / "goods" purchase only SRF funded project. These items are to have a 20-year service life to qualify for consideration. The O&M team has identified and compiled a priority list of equipment that could be purchased to provide critical equipment replacements and critical spare needs at the WWTF. Jason Kriel and Rosemary Blacquier are leading the submittal effort.
- Utility Cloud [UC] is currently being used for collection system related asset tracking. The system is being utilized more and more with positive results. The recently completed Tie-Card uploads into utility cloud in December is making the program much more usable and efficient, as all users can access tie-card information from any location, from a computer or cellular device [phone]. In February an onsite training work shop is planned for W&C staff and the Town to learn more about UC and to feel more comfortable with Utility Cloud use and capability. Pete Lyons and Bill Boornazian are working on ways to backlog all of the CCTV and Manhole inspections information into the system. This will ultimately mean that all collection system data can be tracked, accessed and reviewed from one location.

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- Participated in several support meetings to discuss engineering task orders, CZM grants, capital planning, effluent outfall pipe assessment, SRF funding, HVAC support for T&B efforts., resiliency upgrades & budget estimates. Discussed effluent room flooding and flood elevation design settings/levels. AST support on-going.
- Effluent outfall pipe condition assessment. The actual work would take place in the spring, as it is being funded thru a more comprehensive state SRF loan project. To get a jump start on this specific task, Bill Boornazian and the Town have met with a number of contractors to solicit their input and proposals using various types of technology or divers to inspect the outfall condition in different ways.
- Assisted AST project contractor with 2nd floor storage area equipment relocation so that the fuel lines could be installed along the building wall. All stored equipment, supplies, and records were moved out so welding of pipes could be completed. Plans underway to re-organize stored materials & equipment, prepare a list of equipment to be classified as surplus for removal from the plant, and install larger racks for storage.
- Town Paving Program related CCTV work. Pete Lyons has been leading the contractor coordination. Listed in the table below is an update from December 2018 of the CCTV work completed by National Water Main [NWM] and their findings/observations. Related to this work, National Water Main came back in January and inspected all of the associated manholes in these areas. As mentioned in the Utility Cloud item above, Pete and Bill are working on getting all of this data input into Utility Cloud and utilizing our new Intern Ryan for support. The total CCTV footage completed was **21,206** liner feet and the summary was compiled by staff member Cody P.

Street Name	Footage	Dates / Comments / Issues Discovered
Nantasket Ave	3,432 LF	12/17/2018: W&C replaced 3 broken covers. We removed an old CIPP liner (left in place from original installation, not cut out) in the most downstream CIPP section. Two significant defects including a manhole potentially needing replacement and a 5-10gpm leaker.
Newport Rd	4,379 LF	12/18/2018: No significant defects were found in the pipes inspected today 12/19/2018: We had a small incident where a resident at the intersection of Bates Street and Newport Road thought their basement toilet may have been affected by cleaning activities. Prior to the call, NWMC hadn't cleaned the mainline on Bates Street where the resident's sewer service was connected. The cause of the bubbling toilet is undetermined at this point
Bay St	4,096 LF	12/18/2018: NWM moved over to Bay Street to continue inspection along this area. No significant defects were found in the pipes inspected today 12/20/18: thru 12/27/18 No significant defects were located
Waltham St	240 LF	12/19/2018: No significant defects were located
Revere St	827 LF	12/19/2018 thru 12/31/2018: No significant defects were located

Belmont St	176 LF	12/19/18: <i>No significant defects were located</i>
Bates St	148 LF	12/19/18: <i>We had a small incident where a resident at the intersection of Bates Street and Newport Road thought their basement toilet may have been affected by cleaning activities. Prior to the call, NWMC hadn't cleaned the mainline on Bates Street where the resident's sewer service was connected. The cause of the bubbling toilet is undetermined at this point</i>
Kenberma St	3,313 LF	12/19/2018: <i>No significant defects were located</i> 12/27/2018: <i>Broken cover at the intersection of Samoset and Kenberma Street.</i>
Guild St	299 LF	12/19/2018: <i>No significant defects were located</i>
Russell St	161 LF	12/19/2018: <i>No significant defects were located</i>
Touraine Ave	264 LF	12/21/2018: <i>No significant defects were located</i>
Prospect St	80 LF	12/26/2018: <i>No significant defects were located</i>
Roosevelt Ave	431 LF	12/26/2018: <i>No significant defects were located</i>
Merrill Rd	35 LF	12/26/2018: <i>No significant defects were located</i>
Fairmont Way	160 LF	12/26/2018: <i>No significant defects were located</i>
Massasoit Ave	601 LF	12/27/2018 & 12/31/2018: <i>No significant defects were located</i>
Stafford Rd	534 LF	12/28/2018 thru 12/31/2018: <i>No significant defects were located</i>
Beach Ave	245 LF	12/28/2018: <i>No significant defects were located</i>
Manomet Ave	443 LF	12/28/2018: <i>No significant defects were located</i>
Samoset Ave	655 LF	12/31/2018: <i>No significant defects were located</i>
Massasoit Ave	275 LF	12/31/2018: <i>No significant defects were located</i>
Kingsley Rd	412 LF	12/31/2018: <i>No significant defects were located</i>