

MUNICIPAL WATER AUTHORITY OF ALIQUIPPA

**MUNICIPAL WASTELOAD MANAGEMENT REPORT
OPERATING YEAR 2018**

NPDES PERMIT NO. PA0025968

MARCH 2019

**160 HOPEWELL AVENUE
ALIQUIPPA, PA 15001**

**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WATER POLLUTION CONTROL PLANT
MUNICIPAL WASTELOAD MANAGEMENT REPORT
OPERATING YEAR 2018**

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WATER POLLUTION CONTROL PLANT
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**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
SEWAGE TREATMENT PLANT
MUNICIPAL WASTELOAD MANAGEMENT REPORT
OPERATING YEAR 2018
MARCH 2019**

PURPOSE AND SCOPE

This report is submitted in fulfillment of the requirements of Chapter 94 - Municipal Wasteload Management, of the Pennsylvania Department of Environmental Protection (PaDEP) Rules and Regulations. This report presents the following:

1. Hydraulic and organic loading graphs including five-year projections.
2. A discussion of the hydraulic and organic load projection methodology.
3. A description of all sewer extensions approved and all sewer extensions constructed in the year reported; and all known proposed projects which will require public sewers but are presently in the preliminary planning stages.
4. A description of the operation and maintenance program for the sewer system including monitoring.
5. A discussion of the condition of the sewer system.
6. A discussion of the condition and capacities of all sewage pumping stations.
7. Description of industrial waste dischargers.
8. Plan to reduce or eliminate existing/projected overload conditions.
9. Information on tributary communities. See Appendix.

SECTION 1: HYDRAULIC LOADING GRAPH (§ 94.12.(a)(1))

Figure 1 contained in the Appendix presents the hydraulic loading graph presenting flows as recorded at the sewage treatment facility for the period of time between 2014 through

2018. Figure 1 also presents flow projections for the coming five-year period (2019 through 2023). The actual data is presented in tabular form appended as Table 1. Hydraulic loading data is taken from Discharge Monitoring Reports (DMRs) submitted monthly by the Municipal Authority to PaDEP. Section 3 of this report provides discussion of the past and projected future hydraulic loadings on the Municipal Authority's sewage treatment facility.

SECTION 2: ORGANIC LOADING GRAPH (§ 94.12.(a)(2))

Figure 2 contained in the Appendix presents the organic loadings tributary to the Municipal Authority's sewage treatment facility for the most recent five year period (2014 through 2018) and projects anticipated organic loadings for the coming five year period (2019 through 2023). Organic loading data is taken from DMRs submitted monthly by the Municipal Authority to PaDEP. Historic loading data is provided in tabular form appended as Table 2. Section 3 of this report discusses past and projected future organic loadings.

SECTION 3: DISCUSSION OF HYDRAULIC AND ORGANIC LOADINGS (§ 94.12.(a)(3))

Hydraulic Loadings

The average daily hydraulic loading for Operating Year 2018 ranged from a low of 2.10 mgd in August and October to a high of 4.90 mgd in February. The 3-month maximum hydraulic loading during the 2018 Operating Year was 4.23 mgd, therefore, the treatment plant was hydraulically overloaded in 2018.

The projected hydraulic loading for the next five years was determined using a nominal estimated increase of 1% additional flow per year. The average annual and 3-month

maximum hydraulic loading projections for 2023 is 3.14 mgd and 3.86 mgd respectively. Therefore, the treatment plant is projected to be hydraulically overloaded in the next five (5) years. A summary table of the projected hydraulic loading during each of the next five (5) years is presented as Table 3.

Organic Loadings

The average daily organic loading for Operating Year 2018 ranged from a low of 645 lbs/day in September to a high of 2,414 lbs/day in April. Monthly average organic loadings at the WWTP did not exceed the design organic capacity of 5,673 lbs/day at any time during the 2018 Operating Year, therefore the WWTP was not organically loaded in 2018.

The projected organic loading was determined using an estimated increase of 1% loading per year. The projected organic loading for 2023 is 1,190 lbs BOD₅/day with a maximum monthly load projection of 2,102 lbs BOD₅/day, which are lower than the permitted organic capacity of 5,673 lbs BOD₅/day. Therefore, the treatment plant is not projected to be organically overloaded in the next five (5) years. A summary of the projected organic loading during each of the next five years is presented as Table 4.

Sewage Sludge Management Inventory

Reported sludge transfer calculations and Sludge Estimating Worksheet is provided in the Appendix.

A total of 0 dry tons of dewatered sludge were removed from the reed beds and hauled to the landfill for disposal in 2018.

SECTION 4: SEWER EXTENSIONS (§ 94.12.(a)(4))

The Woodlawn Road sewer extension was completed in 2012, consisting of 1,392 linear feet of gravity sewer, 1,150 linear feet of force main and one pump station (Permit No. 0410402). All future flows will be metered through the pump station.

A sewer extension was completed in 2016 to serve a new 200,000 sf warehouse and laydown yard development along Woodlawn Road in Hopewell Township. The sewer extension consisted of 1,895 linear feet of 4-inch and 8-inch gravity sewer, 4-inch force main discharging into the existing 10-inch gravity sewer tributary to the Jail pump station, and one E-One duplex grinder pump station.

A sewer extension was completed in 2017 to serve 2 commercial buildings along Bet-Tech Drive, consisting of 505 linear feet of 8-inch gravity sewer. Construction drawings depicting as-built conditions are provided in the Appendix to this report.

No sewer extensions were completed in the Authority's service area in 2018.

SECTION 5: SEWER SYSTEM MONITORING, MAINTENANCE, REPAIR AND REHABILITATION (§ 94.12.(a)(5) and (a)(6))

The Municipal Water Authority of Aliquippa employs three (3) licensed wastewater operators and one (1) laborer to operate, maintain and oversee daily WWTP operations. Additionally, the Authority currently employs seven (7) full-time maintenance personnel that devote part of their time to sanitary system inspection and maintenance. Authority staff or outside contractors perform sanitary system rehabilitation and cleaning as needed to maintain system integrity.

Routine maintenance performed by Authority staff includes:

1. Maintain Operator License and meet all continuing education requirements of PaDEP.
2. Operate and maintain the sewage collection, conveyance and treatment facilities in good operating condition necessary to maintain compliance with NPDES Permit.
3. Keep good housekeeping of Authority facilities including the WWTP and five (5) active pump stations (Wye Lift Station, West Aliquippa Lift Station, Golf Course Road Lift Station, Jail Pump Station, Steel Street Pump Station).
4. Provide labor to perform all preventative maintenance on existing facilities in accordance with manufacturers' recommendations.
5. Collect influent and effluent samples at the WWTP in accordance with the NPDES Permit and delivered to CWM Environmental for analysis.
6. Prepare all documents required to report compliance with NPDES Permit.
7. Advise the Authority management as to necessary repairs, replacement and upgrades of the system.
8. Prepare and submit a monthly written report to the Authority summarizing all work performed. Provide in report an update on system operating condition and permit compliance.
9. Test operation of generators, pumps and equipment three times per week.
10. Investigate/resolve customer complaints.

The Authority maintains a stock of spare parts, filters and lubricants for its equipment. The Authority owns a backhoe, mini excavator and trailer, two (2) dump trucks, air compressor and other miscellaneous tools and equipment. In 2018, sewer maintenance equipment (i.e. root cutter, flush / jet truck, etc.) was contracted through Tri-State Maintenance.

Analysis of historical flow data indicates an infiltration / inflow (I/I) flow component is present. As shown in Table 1, average monthly flows are higher during winter/spring

season than during the summer. CCTV inspection and sewer line cleaning was performed by Tri-State Maintenance on an as needed basis in 2018. The Authority spent approximately \$43,000 in 2018 flushing and/or televising sewer lines in the following areas:

- Monaca Road
- Main Street
- St. Titus Church Alley
- Todd Street
- McMinn Street
- Van Buren Street
- Wilker Avenue
- Maratta Road
- McLean Street
- MWAA Office / Shop Service Line
- WWTP Grit Chamber
- Irwin Street
- Elgin Street
- Brodhead Road
- Davis Street
- Tyler Street
- Sheffield Avenue
- 4th Street
- Jarvis Street
- 16th Street
- Steel Street Pump Station
- Wauggman Street
- Grandview
- 22nd Street
- Elmira Street
- Mill Street
- Kennedy Boulevard
- Gregory Street
- Highland Avenue
- Kiehl Street
- Jail Pump Station
- Wye Pump Station
- Calvert Street
- Davidson Street
- Linmar Homes
- Green Street
- Franklin Avenue
- 3rd Avenue
- 3rd Street
- 4th Avenue
- Albert Street
- WWTP Primary Splitter Box

Sanitary sewer collection system repairs made in 2018 are as follows:

1. MH 35 to MH 36 – Repaired exposed 8” sewer located off of Boundary Street / 18th Street right-of-way damaged due to falling trees.
2. MH 127 – Replaced collapsed manhole and made 8” influent and effluent tie-ins.
3. MH 55 – Repaired section of unknown 8” sewer located off of Maratta Road right-of-way damaged by City maintenance employees while cleaning debris from stream.
4. MH 16 to MH 17 – Replaced collapsed 6” steel sewer (entire length between manholes) and added intermediate manhole off of Highland Avenue right-of-way. As a side note, the Contractor replaced storm sewer crossing Highland Avenue which was completely corroded beyond repair.

Influent and effluent samples are collected with an auto sampler at the headworks and downstream side of the chlorine contact tanks, respectively. The plant flow meter was calibrated in 2018. The flow meter calibration certificate is provided in the appendix.

The Authority inspects its sewage lift stations two to three times per week. The inspection includes a review of flow data, pump status / operation and observation of the wet well. Minor deficiencies found (i.e. grease on floats, clogged pumps, etc.) are repaired in-house. Major repairs such as pump service, wet well cleaning, electrical work, etc. is performed by outside contractors. The grounds at the lift stations are mowed and treated for weeds.

A copy of the maintenance records for the WWTP and pump stations is provided in the appendix.

The condition of the sewer collection and conveyance system is commensurate with age. Overflows and / or bypasses reported in 2018 are summarized in Table 5.

WWTP Total Residual Chlorine (TRC) Improvements

PaDEP issued a renewed NPDES Permit for the WWTP in November 2014. The renewed Permit includes a 50 percent reduction of the previously permitted TRC discharge limit of 1.6 / 0.5 ppm (Peak Instantaneous / Monthly Average).

A feasibility study was prepared in November 2015. The study recommended installing a sulfur dioxide dechlorination system. Part II Permit Application was prepared and submitted in November 2016 and was approved on June 8, 2017. Construction Bids were received by the Authority in August 2017 and the Contract was awarded in September 2017. In addition to the dechlorination facility, the project also includes the replacement of the mechanical bar screen and chlorination system. Notice-to-Proceed was issued on November 28, 2017. Construction was substantially completed and the dechlorination system was placed into operation in August 2018.

Primary Clarifier

Primary Clarifier No. 2 shut down in July 2017. An inspection determined rotating equipment is damaged beyond repair. Procurement bids were received by the Authority and a Contract was awarded to Envirodyne Systems in July 2018. Equipment shop drawings were submitted and approved in October 2018. All equipment has been delivered to the site.

Installation bids were received by the Authority in February 2019. It is expected that a Contract will be awarded in March 2019 and the new clarifier equipment will be installed and placed into operation later in 2019.

During the time that the clarifier has been out of service, the Authority has used the tank as an equalization tank during wet weather periods and continue to draw off settled solids as conditions warrant.

SECTION 6: PUMPING STATIONS (§ 94.12.(a)(7))

There are six active sewage pump stations that contribute flow to the WWTP which are detailed below. Flows from each of the lift stations are not metered. Each of the five (5) lift stations owned and maintained by the Authority is equipped with pump run time meters to estimate flow rates.

1. The Wye Lift Station serves Aliquippa and portions of Hopewell Township. It is equipped with four 3000 gpm pumps powered by 75 HP motors. The maximum daily flowrate in 2018 was 7,175 gpm. The projected 2-year maximum flow is 7,247 gpm.

2. The West Aliquippa Lift Station serves West Aliquippa and portions of Hopewell Township. It is equipped with two 500 gpm pumps powered by 10 HP motors. The maximum daily flowrate in 2018 was 217 gpm. The projected 2-year maximum flow is 220 gpm.
3. The Golf Course Road Lift Station serves the Hospital Drive area. It is equipped with two 160 gpm pumps powered by 15 HP motors. The maximum daily flowrate in 2018 was 217 gpm. The projected 2-year maximum flow is 220 gpm.
4. The Jail Pump Station serves the new Beaver County Jail. It is equipped with two 300 gpm pumps powered by 5 HP motors. The peak daily flowrate in 2017 was 97 gpm. The projected 2-year maximum flow is 98 gpm.
5. The Steel Street Pump Station serves the Industrial Park. It is equipped with two 200 gpm pumps powered by 5 HP motors. The peak daily flowrate in 2018 was 27 gpm. The projected 2-year maximum flow is 28 gpm.
6. *No response from Hopewell Township for 2018.* The Woodlawn Park Pump Station is owned and maintained by Hopewell Township. The pump station serves 11 residential units in the Woodlawn Park area and is equipped with two 85 gpm pumps. The 2017 maximum flow was 11 gpm and the projected 2-year maximum flow is 11 gpm

There is one inactive sewage pump station; the Woodlawn Road Pump Station completed in 2012. It is equipped with two 122 gpm pumps powered by 4 HP motors. Projected average future flows are 6,000 gpd (30,000 gpd peak).

SECTION 7: INDUSTRIAL WASTE DISCHARGES (§ 94.12.(a)(8))

There are no known industrial wastes being discharged into the sanitary sewer collection and conveyance system or treated at the WWTP.

SECTION 8: SEWAGE MANAGEMENT PLAN (§ 94.12.(a)(9))

The Wasteload Management Report for the 2017 Operating Year indicated that the treatment plant was hydraulically overloaded and was projected to be hydraulically overloaded during the next five (5) years. In addition, the report indicated that the Wye Lift Station overflowed. As a result of these findings, PaDEP requested the Authority in a letter dated July 19, 2018 to submit a written plan (Corrective Action Plan) setting forth the steps to be taken to prevent additional overflows at the Wye Lift Station and address the overload conditions at the treatment plant.

The proposed Correction Action Plan was submitted to PaDEP on September 24, 2018 and approved on November 15, 2018. The following tasks contained in the Corrective Action Plan will be completed over a 5-year period ending December 2024.

1. Mapping and Manhole Physical Surveys
2. Smoke / Dye Testing and Targeted CCTV
3. Flow Monitoring
4. Nighttime Flow Isolation (NFI) Measurements
5. NFI Bubble Diagram Preparation
6. Hydrograph Deconstruction
7. Hydrologic and Hydraulic Modeling
8. Cost-Effectiveness Analysis and Alternative Analysis
9. Sewage Facilities Planning

SUMMARY

As presented in this Municipal Wasteload Management Report, the Municipal Water Authority of Aliquippa Wastewater Treatment Plant was considered hydraulically overloaded in 2018. Projected loadings indicate that the WWTP will also be hydraulically overloaded in the next five (5) years.

SECTION 9: SIGNATURES

To comply with the requirements of the Chapter 94 Municipal Wasteload Management Program, the following signatures are provided.

Preparer / Permittee:



Robert J. Bible, P.E., General Manager
Municipal Water Authority of Aliquippa

3-29-19

Date

FIGURE 1
HYDRAULIC LOADING GRAPH
MWAA WASTEWATER TREATMENT PLANT

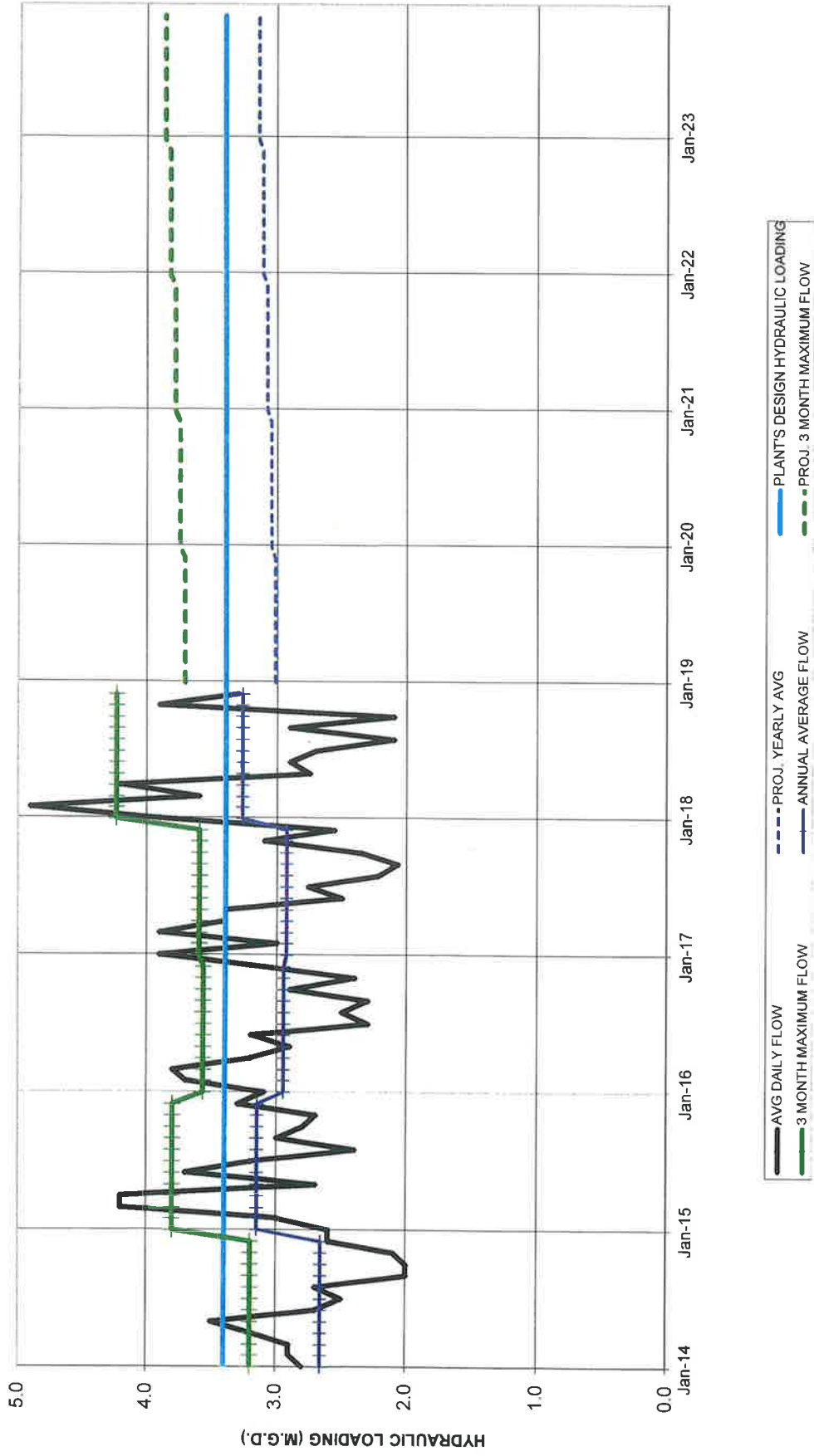


FIGURE 2
ORGANIC LOADING GRAPH
MWAA WASTEWATER TREATMENT PLANT

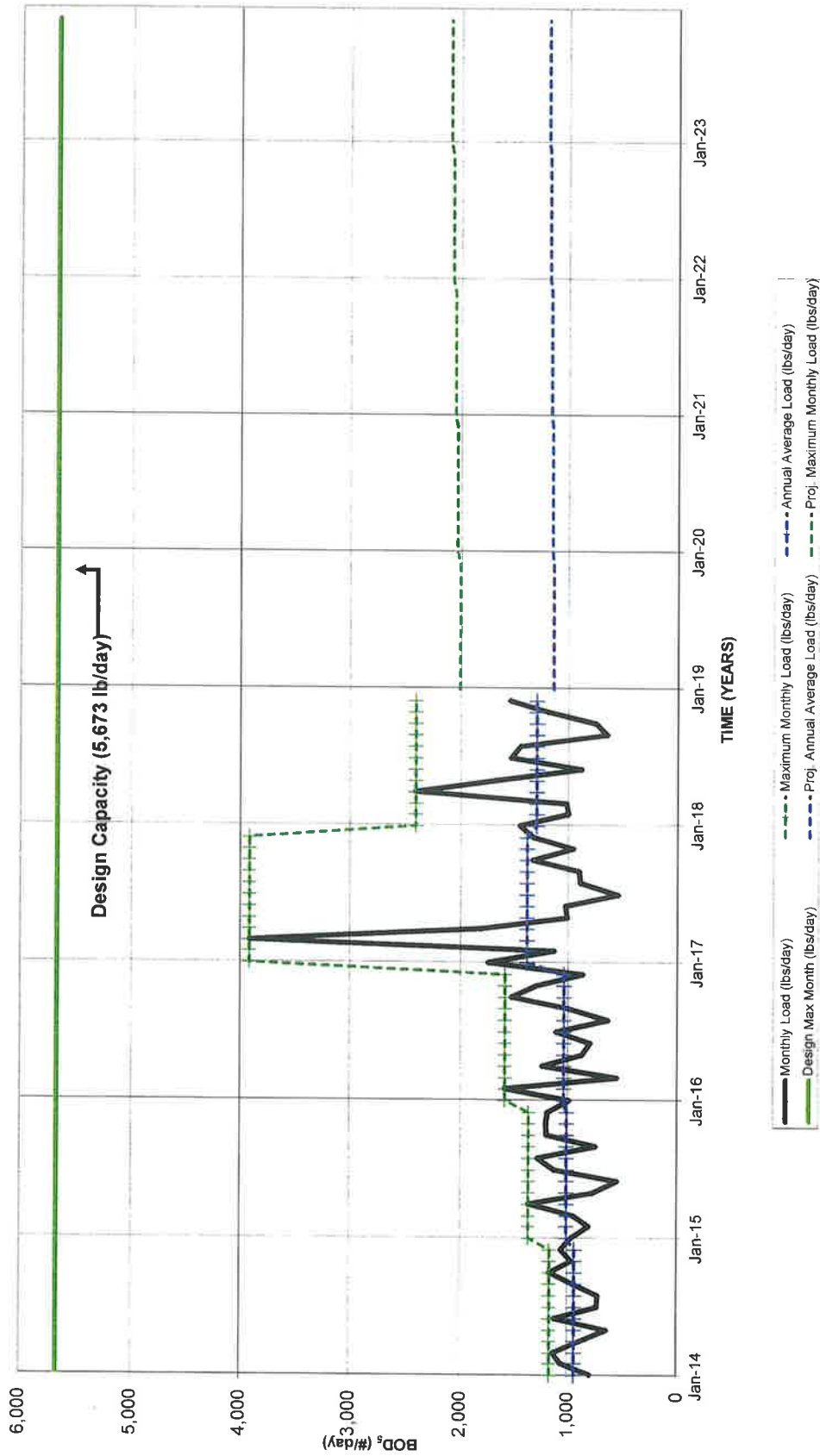


TABLE 1
MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WATER POLLUTION CONTROL PLANT
HYDRAULIC LOADING DATA SUMMARY
JANUARY 2014 THROUGH DECEMBER 2018

DATE	2014	2015	2016	2017	2018
January	2.80	2.60	3.10	3.90 *	3.90
February	2.90	3.00 *	3.70 *	3.00 *	4.90 *
March	2.90 *	4.20 *	3.80 *	3.90 *	3.60 *
April	3.20 *	4.20 *	3.20 *	3.40	4.20 *
May	3.50 *	2.70	2.90	3.40	2.75
June	2.70	3.70	3.20	2.50	2.90
July	2.50	3.20	2.30	2.76	2.70
August	2.70	2.40	2.50	2.22	2.10
September	2.00	3.00	2.30	2.07	2.90
October	2.00	2.80	2.90	2.35	2.10
November	2.10	2.70	2.40	3.10	3.90
December	2.60	3.30	3.10	2.56	3.30
Annual Average (mgd)	2.66	3.15	2.95	2.93	3.27
90 Day Sustained Flow Rate (mgd)	3.20	3.80	3.57	3.60	4.23
Ratio (90-Day Sustained to Annual Average)	1.20	1.21	1.21	1.23	1.29
5-Year 90-Day Sustained/Annual Average Ratio	1.23				
5-Year Annual Average Hydraulic Loading (mgd)	2.99				
5-Year 90-Day Sustained Hydraulic Loading (mgd)	3.68				

*Maximum 3-month flow period.

TABLE 2
MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WATER POLLUTION CONTROL PLANT
ORGANIC LOADING DATA SUMMARY
JANUARY 2014 THROUGH DECEMBER 2018

DATE	2014	2015	2016	2017	2018
January	794	968	988	1,747	1,450
February	1,064	806	1,590	1,131	1,001
March	1,137	945	552	3,920	1,020
April	881	1,364	1,238	1,809	2,414
May	642	765	871	1,009	1,679
June	1,126	547	798	1,027	879
July	730	1,129	1,111	544	1,534
August	721	1,280	634	888	1,445
September	951	745	995	901	645
October	1,168	1,197	1,527	1,328	748
November	963	1,202	1,291	954	1,187
December	1,063	1,187	865	1,325	1,542
Annual Average (LBS BOD₅/Day)	937	1,011	1,038	1,382	1,295
Maximum Month (LBS BOD₅/Day)	1,168	1,364	1,590	3,920	2,414
Ratio (Maximum Month to Annual Average)	1.25	1.35	1.53	2.84	1.86
5-Year Maximum Month/Annual Ratio Average	1.77				
5-Year Annual Average Organic Loading (LBS BOD₅/Day)	1,133				
5-Year Maximum Month Average (LBS BOD₅/DAY)	2,091				

TABLE 3
MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WATER POLLUTION CONTROL PLANT

PROJECTED HYDRAULIC LOAD

YEAR	ANNUAL AVERAGE FLOW (mgd)		90 DAY SUSTAINED AVERAGE (mgd)			
	BASE FLOW	ADDED FLOW *	TOTAL	AVERAGE	RATIO	FLOW
2019	2.99	0.030	3.02	3.02	1.23	3.71
2020	3.02	0.030	3.05	3.05	1.23	3.75
2021	3.05	0.031	3.08	3.08	1.23	3.79
2022	3.08	0.031	3.11	3.11	1.23	3.82
2023	3.11	0.031	3.14	3.14	1.23	3.86

* Estimated 1% increase per year

TABLE 4
MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WATER POLLUTION CONTROL PLANT

PROJECTED ORGANIC LOAD

ANNUAL AVERAGE LOADING LBS BOD ₅ /DAY					MAXIMUM MONTH LOADING LBS BOD ₅ /DAY				
YEAR	BASE	ADDED LOAD *	TOTAL	YEAR	BASE	RATIO	TOTAL		
2019	1,133	11.3	1,144	2019	1,144	1.77	2,020		
2020	1,144	11.4	1,155	2020	1,155	1.77	2,040		
2021	1,155	11.6	1,167	2021	1,167	1.77	2,060		
2022	1,167	11.7	1,179	2022	1,179	1.77	2,081		
2023	1,179	11.8	1,190	2023	1,190	1.77	2,102		

* Estimated 1% increase per year

TABLE 5**MUNICIPAL WATER AUTHORITY OF ALIQUIPPA
WASTEWATER TREATMENT PLANT****2018 OVERFLOW & BYPASS DATA**

Location	Date	Duration (hours)	Reason
Wye Lift Station	1/12/2018	33.00	Wet Weather
Golf Course Road Lift Station	1/12/2018	11.50	Wet Weather
Wye Lift Station	2/15/2018	14.25	Wet Weather
Golf Course Road Lift Station	2/15/2018	28.75	Wet Weather
Wye Lift Station	2/26/2018	98.00	Wet Weather
Wye Lift Station	3/1/2018	43.50	Wet Weather
Wye Lift Station	3/31/2018	47.50	Wet Weather
Wye Lift Station	4/3/2018	70.00	Wet Weather
Wye Lift Station	4/15/2018	49.75	Wet Weather
Wye Lift Station	8/29/2018	23.50	Wet Weather
Wye Lift Station	9/9/2018	52.67	Wet Weather
Golf Course Road Lift Station	9/9/2018	24.50	Wet Weather
Wye Lift Station	10/4/2018	15.33	Wet Weather
Wye Lift Station	11/15/2018	22.00	Wet Weather
Wye Lift Station	11/19/2018	17.00	Wet Weather
Wye Lift Station	12/16/2018	5.00	Wet Weather
Wye Lift Station	12/20/18	36.25	Wet Weather

SLUDGE ESTIMATING WORKSHEET

This document is designed as a diagnostic aid in the estimation of sludge quantities produced at a well operated wastewater treatment plant. The calculations are based upon the observations made at hundreds of facilities. The source document is the EPA Handbook "Improving POTW Performance Using the Composite Correction Program Approach"

Required Information

1. Average Daily Flow	3.27 mgd
2. BOD _{inf}	53 mg/l
3. BOD _{eff}	4 mg/l
4. Digester Capacity	84500 gallons
5. Waste Sludge (combined w/ primary)	30000 mg/l
6. % solids of sludge leaving plant	6.64 %

STEP 1: Calculate the pounds of BOD being removed by the plant.
 $(BOD_{inf} - BOD_{eff}) \times \text{flow, mgd} \times 8.34 = \text{pounds/day BOD}_{removed}$ 1336

STEP 2: Convert pounds/day BOD to pounds/day TSS removed
 $\text{Pounds/day BOD}_{removed} \times \text{TSS/BOD factor} = \text{Pounds/day TSS}_{removed}$ 1336
(from step 1) (see Table #1)

STEP 3: Determine sludge feed rate to digesters
(from step #2)
 $\frac{\text{Pounds/day TSS} \times 10^6}{(WAS_{conc} \times 8.34)} = \text{sludge feed rate, gpd}$ 5340 ok - 5,600 gpd in calcs

STEP 4: Determine Digester Hydraulic Detention Time (HDT)
 $\frac{\text{Digester Capacity, gallons}}{(\text{Sludge Feed Rate, gpd})} = \text{HDT, days}$ 15.82
(from step #3)

STEP 5: Estimate Volatile Solid destruction using HDT
(see Table #2) 0.45

STEP 6: Calculate digested solids amount
 $\text{TSS} \times (1.0 - \text{Total Solids Reduction}) = \text{Solids Produced, \#/d}$ 735 480 lbs/day in calcs
(from step #2) (from step #5)

STEP 7: Convert from Dried Solids to sludge
(from step #6)
 $\frac{\text{pounds per day dry solids produced}}{\% \text{ solids of sludge leaving plant}} = \text{sludge, pounds/day}$ 11068

STEP 8: Convert from pounds of sludge to gallons
 $\frac{\text{pounds/day sludge produced}}{8.34 \text{ pounds/gallon}} = \text{Sludge, gpd}$ 1327

Total Gallons Wasted 835

Low Range 0.85 x 1327 = 1128, gpd

High Range 1.15 x 1327 = 1526, gpd

This calculation should be within ± 15% of actual production of a well operated facility

TABLE 1

<u>Process Type</u>	<u>TSS_{sludge}/BOD_{removed}</u>
Primary Clarification	1.7
Activated Sludge with Primary Clarification	0.7
Activated Sludge w/o Primary Clarification	
Conventional	0.85
Extended Aeration	0.65
Contact Stabilization	1.00
Attached Growth (TF, RBC, ABF)	1.00

TABLE 2

	<u>Digester HDT</u>	<u>Total Solids Reduction</u>
Aerobic Digesters	Days	%
Following Extended Aeration (MCRT>20 days)	10	10
	15	20
	20	30
	30	35
Aerobic Digesters	10	20
Following Conventional Activated Sludge (MCRT<12)	15	35
	20	40
Anaerobic Digesters for	20	25
Activated + Primary, and Fixed Film (Supernating Capability Useable)	30	35
	40	45

TABLE 3

<u>Typical Sludge Concentrations for Suspended Growth POTW's</u>	
<u>Sludge Type</u>	<u>Waste Concentrations (mg/l)</u>
Primary	50,000
Activated	
Return Sludge/Conventional	6,000
Return Sludge/Extended	7,500
Return Sludge/Cont. Stab	8,000
Return Sludge/small plants with low SOR	10,000
Separate waste hopper in clarifier	12,000
Primary + Trickling Filter	45,000
Primary + RBC	45,000
Primary + ABF	35,000
Trickling Filter	30,000
RBC	30,000
ABF	12,000

Diameter ft 55
 SWD ft 18
 Area sq.ft 2,374.6
 Volume cu.ft 42,743
 Gal/ft 17,762.20
 Gal/Inch 1,480.18
 Volume gal 319,720
 85,487

Formula = (Col. K /1,000,000)* (Col. L*10,000)*8.34

Reported Sludge Transfers

Date	From Process To #1		From #1 To #2		Supernate from #2		From #2 To Reed Beds			
	inches	gallons	inches	gallons	inches	gallons	inches	gallons	% Solids	#s Dry Solids
1/31/2017	152	224,988	132	195,384	69	102,133	-	-	-	-
2/28/2017	93	137,657	116	171,701	128	189,463	-	-	-	-
3/31/2017	123	182,062	137	202,785	73	108,053	-	-	-	-
4/30/2017	122	180,582	100	148,018	70	103,613	-	-	-	-
5/31/2017	115	170,221	132	195,384	64	94,732	90	133,216	7.00%	77,772
6/30/2017	114	168,741	144	213,146	76	112,494	-	-	-	-
7/31/2017	117	173,181	104	153,939	69	102,133	-	-	-	-
8/31/2017	98	145,058	89	131,736	72	106,573	96	142,098	8.00%	94,807
9/30/2017	86	127,296	81	119,895	75	111,014	-	-	-	-
10/31/2017	112	165,780	130	192,424	0	-	90	133,216	7.59%	84,327
11/30/2017	114	168,741	101	149,498	124	183,543	-	-	-	-
12/31/2017	98	145,058	91	134,697	113	167,261	-	-	-	-
Monthly Average		1,989,366		2,008,608		1,381,011		408,590		256,906
Daily Average		165,780		167,384		115,084		40,853		704
		5,526		5,579		3,875		1,119		
							4,995	Total Supernate plus volume to reed beds		
1/31/2018	118	174,662	125	185,023	66	97,692	84	124,335	7.62%	79,016
2/28/2018	110	162,820	99	146,538	68	100,652	-	-	-	-
3/31/2018	105	155,419	108	159,860	73	108,053	-	-	-	-
4/30/2018	137	202,785	132	195,384	139	205,745	-	-	-	-
5/31/2018	114	168,741	76	112,494	148	219,067	-	-	-	-
6/30/2018	115	170,221	130	192,424	0	-	96	142,098	6.50%	77,031
7/31/2018	100	148,018	93	137,657	0	-	-	-	-	-
8/31/2018	103	152,459	75	111,014	68	100,652	-	-	-	-
9/30/2018	116	171,701	118	174,662	66	97,692	-	-	-	-
10/31/2018	97	143,578	105	155,419	139	205,745	-	-	-	-
11/30/2018	129	190,944	119	176,142	0	-	110	162,820	7.24%	98,313
12/31/2018	118	174,662	141	208,706	64	94,732	80	118,415	5.20%	51,354
Monthly Average		2,016,009		1,955,322		1,230,032		304,918		175,344
Daily Average		168,001		162,943		102,503		42,925		835
		5,600		5,431		3,431		835		480
							4,267	Total Supernate plus volume to reed beds		

HCS Instrumentation, LLC

326 Cycle Drive
Portersville, PA 16051
P: (724) 368-9282
F: (724) 368-9264

Certificate of Calibration

Customer: Ally on White


Model #: (1) Vandave 1220, 1/2 inch 301

Location: Effluent

Type of Primary Device: 1) 3. 1220 water w/ 1/2 inch 301

Date of Calibration: 6/12/2015

Remarks: 1 - 10.0000, 10.0000, 10.0000



HCS Instrumentation Representative

JANUARY 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

PRIMARY ✓

DATE: <u>1-8-18</u>	GRADE: <u>2</u>	RECORD NUMBER: <u>118-001</u>
MALFUNCTION or PM: <u>GET CHAMBER SHUT DOWN</u> <u>FROZEN</u>		
DATE: <u>1-8-18</u> REMEDY: <u>UNFREEZE LINES + CLEAN</u> <u>SOLENOID + PIPING. BACK ON LINE</u>		
		SIGN OFF: <u>BK</u>

SEC ✓

DATE: <u>1-10-18</u>	GRADE: <u>2</u>	RECORD NUMBER: <u>118-002</u>
MALFUNCTION or PM: <u>SEC CLARIFIERS PLUGGED</u> <u>UP ICE + SLUDGE</u>		
DATE: <u>1-10-18</u> REMEDY: <u>JET SLUDGE LINES</u> <u>+ TUBES</u>		
		SIGN OFF: <u>BK</u>

PUMP HOUSE

DATE: <u>1-15-18</u>	GRADE: <u>2</u>	RECORD NUMBER: <u>118-003</u>
MALFUNCTION or PM: <u>#3 RAW SEWAGE PUMP MAKING</u> <u>NOISE</u>		
DATE: <u>1-19-18</u> REMEDY: <u>BACK FLUSH #3 + CHECK</u> <u>FOR VIBRATION OK AT 100%</u>		
		SIGN OFF: <u>BK</u>

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

DATE: 1-16-18 GRADE 2 RECORD NUMBER: 118-004
MALFUNCTION or PM: #1 PUMP NOT PUMPING FULL
PUMP SHAFT BROKEN CALL RAM INA
FOR QUOTE PICKED UP 1-24-18
DATE: _____ REMEDY: _____
SIGN OFF: _____

✓

DATE: 1-24-18 GRADE 2 RECORD NUMBER: 118-005
MALFUNCTION or PM: GLT CHAMBER PLUGGED UP
DATE: 1-25-18 REMEDY: LET GLT CHAMBER PUMP
SUCTION LINE + CONE OPEN FULL
SIGN OFF: BK

PRIMARY ✓

DATE: 1-26-18 GRADE 2 RECORD NUMBER: 118-006
MALFUNCTION or PM: #2 CLARIFIER MOTOR NEEDS
CHANGED NOISY BEARINGS FAR ONE
DATE: 1-26-18 REMEDY: CHANGE MOTOR AS
ORIGINAL FAR SEC CLARIFIER
SIGN OFF: BK

SECONDARY ✓

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

DATE: 1-31-18 GRADE 4 RECORD NUMBER: 118-007
MALFUNCTION or PM: WEAR RINGS ON #2 PUMP
NEED CHANGED #1 PUMP SHAFT BROKEN
DATE: 1-31-18 REMEDY: CHANGE WEAR RINGS #2
PUMP SEND #1 TO RMA END FOR QUOTE
SIGN OFF: BK

DATE: _____ GRADE _____ RECORD NUMBER: _____
MALFUNCTION or PM: _____
DATE: _____ REMEDY: _____
SIGN OFF: _____

DATE: _____ GRADE _____ RECORD NUMBER: _____
MALFUNCTION or PM: _____
DATE: _____ REMEDY: _____
SIGN OFF: _____

FEBRUARY 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

Prim

DATE: <u>2-21-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>218-004</u>
MALFUNCTION or PM: <u>BRUSH BEARING BAD</u>		
DATE: <u>2-21-18</u> REMEDY: <u>INSTALL NEW OUTBOARD BEARING</u>		
SIGN OFF: <u>BK</u>		

Primacy

DATE: <u>2-25-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>218-005</u>
MALFUNCTION or PM: <u>GRIT CHANGE PLUGGED UP</u>		
DATE: <u>2-25-18</u> REMEDY: <u>UNPLUG PUMP & SCAFEN</u>		
SIGN OFF: <u>BK</u>		

DATE: _____	GRADE <input type="checkbox"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____ REMEDY: _____		
SIGN OFF: <input type="checkbox"/>		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

PUMP HOUSE SEC. ✓

DATE: <u>2-6-2018</u>	GRADE <u>4</u>	RECORD NUMBER: <u>218-001</u>
MALFUNCTION or PM: <u>PM 1-2-3- SECONDARY PUMPS</u>		
DATE: <u>2-6-2018</u> REMEDY: <u>PM 1-2-3- PUMPS</u>		
SIGN OFF: <u>BK</u>		

PEI ✓

DATE: <u>2-7-2018</u>	GRADE <u>2</u>	RECORD NUMBER: <u>218-002</u>
MALFUNCTION or PM: <u>AQUA SCREEN KICKED OUT</u>		
DATE: <u>2-7-2018</u> REMEDY: <u>CLEAR SCREEN + RESET OVERLOAD</u>		
SIGN OFF: <u>BK</u>		

CUB TRACTOR ✓

DATE: <u>2-13-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>218-003</u>
MALFUNCTION or PM: <u>PM TRACTOR CUB CADET</u>		
DATE: <u>2-13-18</u> REMEDY: <u>LUBE SERVICE AIR FILTER 652 HRS</u>		
SIGN OFF: _____		

MARCH 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: 3-5-18 GRADE 2 RECORD NUMBER: 318-001
MALFUNCTION or PM: 2" WATER LINE LEAKING TO SECONDARY
DATE: 3-5-18 REMEDY: MAINTENANCE DEPT & SEWAGE PLANT REPAIRED
SIGN OFF: BK

DATE: 3-13-18 GRADE 2 RECORD NUMBER: 318-002
MALFUNCTION or PM: INTEGRENK SCREEN BAD CANT SEE LEVELS
DATE: 3-13-18 REMEDY: INSTALL NEW INTEGRENK PUMP CONTROL
SIGN OFF: BK

DATE: 3-21-18 GRADE 2 RECORD NUMBER: 318-003
MALFUNCTION or PM: #2 PUMP VACUUM PUMP WON'T PRIME PUMP.
DATE: 3-21-18 REMEDY: MANUALLY CLEAN LINES CHECK FLOATS VACUUM OK
SIGN OFF: BK

SEC ✓

WAK ✓

G-COURSE ✓

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

PRIMARY ✓

DATE: 3-27-18	GRADE: 4	RECORD NUMBER: 318-004
MALFUNCTION or PM: GELT CHAMBER NEEDS PND LINES HOSES SCREEN ECT		
DATE: 3-27-18 REMEDY: P.M GELT CHAMBER COMPLETE CLEAN + TEST		
		SIGN OFF: BK

PRIMARY ✓

DATE: 3-27-18	GRADE: 4	RECORD NUMBER: 318-005
MALFUNCTION or PM: #1 DIGESTER FOAMING		
DATE: 3-27-18 REMEDY: ADD 55 GALLONS OF DIGESTER BACTERIA + DEFOAMER		
		SIGN OFF: BK

#29 ✓

DATE: 3-28-18	GRADE: 2	RECORD NUMBER: 318-006
MALFUNCTION or PM: TRUCK HAS PLAY IN STEERING & SWAYING		
DATE: 3-28-18 REMEDY: INSTALL NEW ANTI SWAY BARS L + F END.		
		SIGN OFF: OK

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

SEC ✓

DATE: <u>3-29-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>318-007</u>
MALFUNCTION or PM: <u>TANKS IN SECONDARY NEED CLEANED</u>		
DATE: <u>3-29-18</u>	REMEDY: <u>CLEAN & SCRUB SECONDARY TANKS</u>	
SIGN OFF		<u>BK</u>

DATE: _____	GRADE <input type="text"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="text"/>

DATE: _____	GRADE <input type="text"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="text"/>

APRIL 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

PRIMARY ✓

DATE: 4-3-18 GRADE 2 RECORD NUMBER: 418-001
MALFUNCTION or PM: INFLUENT SAMPLER NOT
SAMPLING CORRECT AMOUNT
DATE: 4-3-18 REMEDY: CLEAN SAMPLER LINES
+ SAMPLER PUMP
SIGN OFF: BK

Y ✓

DATE: 4-5-18 GRADE 2 RECORD NUMBER: 418-002
MALFUNCTION or PM: OVERFLOW GATE OPERATOR NEEDS
REPAIRED
DATE: 4-5-18 REMEDY: REPAIR OPERATOR WELD
+ REINSTALL AS ORIGINAL
SIGN OFF: BK

Y ✓

DATE: 4-11-18 GRADE 4 RECORD NUMBER: 418-003
MALFUNCTION or PM: PUMP STATION FLOATING DEGREASER
DATE: 4-11-18 REMEDY: 15 GALLONS PUMP
FLOATING DEGREASER
SIGN OFF: BK

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

SECONDARY
TREAT ✓

DATE: <u>4-12-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>418-004</u>
MALFUNCTION or PM: <u>PUMP COOLANT LINE BROKEN</u> <u>ON # 3 PUMP</u>		
DATE: <u>4-12-18</u> REMEDY: <u>CUT & THREAD COOLANT LINE ON # 3</u>		
SIGN OFF: <u>BK</u>		

GOLF
COURSE ✓

DATE: <u>4-17-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>418-005</u>
MALFUNCTION or PM: <u>GENERATOR BLOCK HEATER NOT WORKING</u>		
DATE: <u>4-24-18</u> REMEDY: <u>INSTALL NEW BLOCK HEATER</u> <u>AND ANTIFREEZE</u>		
SIGN OFF: <u>BK</u>		

SECONDARY
TREAT ✓

DATE: <u>4-19-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>418-006</u>
MALFUNCTION or PM: <u>OIL CHANGE ON SECONDARY</u> <u>PUMPS</u>		
DATE: <u>4-19-18</u> REMEDY: <u>CHANGE OIL # 1 # 2 # 3</u> <u>SECONDARY PUMPS</u>		
SIGN OFF: <u>BK</u>		

MAY 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

PROP
MAIN ✓

DATE: <u>5-1-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>518-001</u>
MALFUNCTION or PM: <u>PROPERTY NEEDS WEED WACKED</u> <u>+ WEED KILLER</u>		
DATE: <u>5-3-18</u> REMEDY: <u>ALL STATIONS + PLANT WEED</u> <u>WACKED + WEED KILLER</u>		
		SIGN OFF: <u>BK</u>

LAB ✓

DATE: <u>5-4-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>518-002</u>
MALFUNCTION or PM: <u>CUMBUSTIBLE GAS METER</u> <u>NEED CALIBRATED</u>		
DATE: <u>5-4-18</u> REMEDY: <u>CALIBRATE CUMBUSTIBLE</u> <u>GAS METER</u>		
		SIGN OFF: <u>BK</u>

TRUCK
#29 ✓

DATE: <u>5-10-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>518-003</u>
MALFUNCTION or PM: <u>TRUCK EMERGENCY LIGHT</u> <u>NOT WORKING</u>		
DATE: <u>5-10-18</u> REMEDY: <u>NEW SWITCH FUSE +</u> <u>WIRING OK</u>		
		SIGN OFF: <u>BK</u>

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

SEC TREATMENT ✓

DATE: <u>5-17-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>518-004</u>
MALFUNCTION or PM: <u>SECONDARY CLARIFIERS NEED CLEANED</u>		
DATE: <u>5-17-18</u>		
REMEDY: <u>SCRUB + CLEAN SECONDARY CLARIFIERS</u>		
SIGN OFF: <u>BK</u>		

CHLORINE DISINFECT ✓

DATE: <u>5-18-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>518-005</u>
MALFUNCTION or PM: <u>CHLORINE CONTACT TANKS NEED CLEANED</u>		
DATE: <u>5-18-18</u>		
REMEDY: <u>SCRUB + CLEAN CHLORINE CONTACT TANK DRAIN + HOSE</u>		
SIGN OFF: <u>BK</u>		

GATE HOUSE ✓
SUPGE DIS ✓

DATE: <u>5-22-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>518-006</u>
MALFUNCTION or PM: <u>CONDUIT + WIRING HANGING IN GATEHOUSE</u>		
DATE: <u>5-22-18</u>		
REMEDY: <u>ANCHOR CONDUIT + REPLACE BAA BULB</u>		
SIGN OFF: <u>BK</u>		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

PUMP HOUSE ✓
SEC
TREAT ✓

DATE: <u>5-22-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>518-007</u>
MALFUNCTION or PM: <u>LIGHT SWITCH + WIRING NEEDS REPAIRED OR REPLACED TOP FLOOR</u>		
DATE: <u>5-22-18</u> REMEDY: <u>REPLACE SWITCH + REPAIR WIRING TOP FLOOR</u>		
SIGN OFF: <u>BK</u>		

SLUDGE DIGESTER ✓

DATE: <u>5-24-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>518-008</u>
MALFUNCTION or PM: <u>TIMER ON MIXER BAD</u>		
DATE: <u>5-24-18</u> REMEDY: <u>INSTALL NEW TIMER MOTOR + REWIRE</u>		
SIGN OFF: <u>BK</u>		

STEEL ST ✓

DATE: <u>5-29-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>518-009</u>
MALFUNCTION or PM: <u>GENERATOR EXERCISER NOT WORKING</u>		
DATE: <u>5-29-18</u> REMEDY: <u>CHECK + TEST, INSTALL NEW BATTERIES ON EXERCISER</u>		
SIGN OFF: <u>BK</u>		

JUNE 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

DATE: 6-1-18 GRADE 2 RECORD NUMBER: 618-001
MALFUNCTION or PM: BAR SCREEN SHEAR PIN BROKEN
DATE: 6-1-18 REMEDY: CLEAN BAR SCREEN + REPLACE SHEAR PIN
SIGN OFF: BR.

DATE: 6-5-18 GRADE 2 RECORD NUMBER: 618-002
MALFUNCTION or PM: CHLORINE LEAK ON REGAL CHLORINATOR
DATE: 6-5-18 REMEDY: REPAIR LEAK ON REGAL CHLORINATOR
SIGN OFF: BR.

DATE: 6-11-18 GRADE 2 RECORD NUMBER: 618-003
MALFUNCTION or PM: U.S SCREEN BATTERY DEAD
DATE: 6-11-18 REMEDY: INSTALL NEW BATTERY + TEST OK
SIGN OFF: BR.

Y ✓

DISINFECTION ✓

PRIMARY ✓

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

LAB ✓

DATE: <u>6-12-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>618-004</u>
MALFUNCTION or PM: <u>FINAL EFF FLOW METER</u> <u>NEEDS CALIBRATED</u>		
DATE: <u>6-12-18</u> REMEDY: <u>W.C.S CALIBRATED</u> <u>FINAL EFF FLOW METER</u>		
		SIGN OFF: <u>BK</u>

PR1 CHANNEL ✓

DATE: <u>6-12-18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>618-005</u>
MALFUNCTION or PM: <u>PRIMARY CHANNEL + AQUA</u> <u>SCREEN NEEDS VACUUMED</u> <u>CALLED TRI-STATE</u>		
DATE: <u>6-14-18</u> REMEDY: <u>VACUUM PRIMARY CHANNEL</u> <u>& SCREENS</u>		
		SIGN OFF: <u>BK.</u>

PR1 AQUA SCREEN ✓

DATE: <u>6-15-18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>618-006</u>
MALFUNCTION or PM: <u>DISCONNECT BREAKER NEED</u> <u>REPLACED + OVERLOADS</u>		
DATE: <u>6-15-18</u> REMEDY: <u>INSTALL NEW BREAKER</u> <u>#TED 134015 WL to 3 W-26 BR OVERLOAD</u> <u>HEATERS</u>		
		SIGN OFF: <u>BK</u>



MECHANICAL COMPLETION CERTIFICATE

PROJECT NAME: Aliquippa WWTP

PARKSON PROJECT NO.: P02011024

ADDRESS: 120 N. Beaver Ave.
Aliquippa, PA 15001

TEL. NO. Jeff Pickens 724-366-1237

Parkson Corporation Engineer Peter W. Mattson has completed the mechanical start-up and training of the Aqua Guard® at the Aliquippa WWTP, Aliquippa, PA, on 6/20/18.

The Parkson equipment will be certified for operation upon completion of the following:

No exceptions. Equipment is ready for operation.

Future contacts on site are: Name: Ben Koda
724-378-3892 semci@yahoo.com

Note Contacts at Parkson will be: Peter W. Mattson
954-681-3468

Technical/Operation: Mark Parker
954-917-1860

Spare Parts: Louise Dunevant
954-917-1838 or 1-888-PARKSON

Plant Accepted By: Peter W. Mattson

Report Received By: H. J. Springer Jr.

Print Name: Holbert J. Springer Jr.

Representing: JP Environmental

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

PRIMARY ✓

DATE: <u>6-20-18</u>	GRADE: <u>1</u>	RECORD NUMBER: <u>618-007</u>
MALFUNCTION or PM: <u>INSTALL NEW AQUA SCREEN</u>		
DATE: <u>6-20-18</u> REMEDY: <u>START UP WITH</u>		
<u>FACTORY REP FROM PACKSON P02011024</u>		
S# <u>5#</u>		SIGN OFF: <u>BK</u>

STEEL ST ✓

DATE: <u>6-26-18</u>	GRADE: <u>4</u>	RECORD NUMBER: <u>618-008</u>
MALFUNCTION or PM: <u>MISSION CONTROL SENT AN</u>		
<u>ALERT ON WET WELL HIGH LEVEL</u>		
DATE: <u>6-26-18</u> REMEDY: <u>TEST WET WELL</u>		
<u>HIGH LEVEL ALARM & INPUTS NO DEFECTS</u>		
		SIGN OFF: <u>BK</u>

DATE: _____	GRADE: _____	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____ REMEDY: _____		
		SIGN OFF: _____

JULY 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

Wye

DATE: <u>7/25/18</u>	GRADE <u>1</u>	RECORD NUMBER: <u>718-001</u>
MALFUNCTION or PM: <u>Installed #1 Pump AT Wye</u>		
DATE: <u>7/25/18</u>	REMEDY: <u>Need to replace check valve</u>	
SIGN OFF		<u>R. ROSS</u>

Pump #1

DATE: <u>7/26/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>718-002</u>
MALFUNCTION or PM: <u>GRIT CHAMBER NOT WORKING</u>		
DATE: <u>7/26/18</u>	REMEDY: <u>CLEAN SENSOR BOWL AND PROBE</u>	
SIGN OFF		<u>R. ROSS</u>

DATE: _____	GRADE <input type="checkbox"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="checkbox"/>

August 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>8/6/18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>818-001</u>
MALFUNCTION or PM: <u>Penn Power Systems Performed</u> <u>PM. OIL FILTER AND OIL. NEEDS AIR</u> <u>FILTER</u>		
DATE: <u>8/10/18</u>	REMEDY: <u>INSTALLED NEW FILTER</u>	
SIGN OFF: <u>R ROSS</u>		

DATE: <u>8/7/18</u>	GRADE <u>1</u>	RECORD NUMBER: <u>818002</u>
MALFUNCTION or PM: <u>Yates Electrical checked #1 Pump</u> <u>FOR ELECTRICAL PROBLEMS</u>		
DATE: <u>8/7/18</u>	REMEDY: <u>unplugged moisture</u> <u>sensor ran pump electrically check OK</u>	
SIGN OFF: <u>R ROSS</u>		

DATE: <u>8/9/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>818003</u>
MALFUNCTION or PM: <u>Fixed GFI Chamber Dumbster</u> <u>drain TO RETURN TO influent channel</u>		
DATE: <u>8/9/18</u>	REMEDY: <u>Replaced Camlock +</u> <u>gpe</u>	
SIGN OFF: <u>R ROSS</u>		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: 8/12/18 GRADE 2 RECORD NUMBER: 818-004

MALFUNCTION or PM: #2 Pump AT JAIL High Temperature Kicked out.

DATE: 8/9/18 REMEDY: Called Yates Electric. High Temperature Switch in #2 Pump motor BAD. Disconnect High Temperature Switch so Pump can run

SIGN OFF: R. ROSS

DATE: 8/16/18 GRADE 4 RECORD NUMBER: 818-005

MALFUNCTION or PM: Preparing Grundfos nonpotable Pumps for STARTUP for Sulfur Dioxide Building

DATE: 8/17/18 REMEDY: STARTUP for Grundfos Pumps Pumps in use

SIGN OFF: R. ROSS

DATE: 8/21/18 GRADE 4 RECORD NUMBER: 818-006

MALFUNCTION or PM: STARTUP for New Chlorinators

DATE: 8/21/18 REMEDY: New Chlorinators are in use

SIGN OFF: R. ROSS

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>8/23/18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>818-007</u>
MALFUNCTION or PM: <u>START-UP FOR Sulfur Dioxide</u> <u>Injectors IN Sulfur Building</u>		
DATE: <u>8/23/18</u>	REMEDY: <u>Sulfur Dioxide is in</u> <u>use.</u>	
SIGN OFF: <u>R. Ross</u>		

DATE: <u>8/28/18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>818-008</u>
MALFUNCTION or PM: <u>Pm bleed fittings for</u> <u>filter screen in SO2 Building to flush</u> <u>and clean.</u>		
DATE: <u>8/29/18</u>	REMEDY: <u>Installed fittings and</u> <u>hose to flush and clean filter screen</u>	
SIGN OFF: <u>R. Ross</u>		

DATE: <u>8/13/18</u>	GRADE <input type="checkbox"/> 3	RECORD NUMBER: <u>818-005</u>
MALFUNCTION or PM: <u>GRIT Chamber plugged up. Tried</u> <u>Pressure Washer to unplug but it GOT STUCK</u> <u>influent channel and Grit Chamber. GRIT</u> <u>Chamber still NOT running</u>		
DATE: <u>8/30/18</u>	REMEDY: <u>TRI-STATE Sucked</u> <u>GRIT Chamber. STILL NOT running</u>	
SIGN OFF: <u>R. Ross</u>		

SEPT. 2018

MONTHLY MAINTENANCE RECORD

- Classes of Grading: Serious enough to require Shut Down = 1
- Serious enough to Repair = 2
- Long range Repair = 3
- Preventative Maintenance = 4

DATE: 9/4/18 GRADE RECORD NUMBER: 918-001
MALFUNCTION or PM: #1 Pump wouldn't run since Ram installed AT Wye

DATE: 9/4/18 REMEDY: Ram came and check wiring. wiring was wrong Pump is running Put AS lead

SIGN OFF:

DATE: 9/6/18 GRADE RECORD NUMBER: 918-002
MALFUNCTION or (PM): DRAINED #1 pump opened discharge valve to check check valve.

DATE: 9/6/18 REMEDY: check valve is working. Put #1 pump back on line

SIGN OFF:

DATE: 9/5/18 GRADE RECORD NUMBER: 918-003
MALFUNCTION or PM: Hour meter not working on U.S. screen

DATE: 9/7/18 REMEDY: Replaced Hour meter

SIGN OFF:

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>9/6/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>918-004</u>
MALFUNCTION or PM: <u>Bottom Valve on Secondary Sludge Well Needs Pin Replace on Valve Actuator</u>		
DATE: <u>9/7/18</u>	REMEDY: <u>Replaced Pin on Valve Actuator</u>	
SIGN OFF: <u>R Cross</u>		

DATE: <u>9/6/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>918005</u>
MALFUNCTION or PM: <u>#1 Pump AT JAIL kept Kicking out</u>		
DATE: <u>9/7/18</u>	REMEDY: <u>Ruled # 1 Pump and Cleaned. Took Jail jumpsuit out of pump. Called Yates Electric. Cause starter wouldn't reset. Got starter to reset</u>	
SIGN OFF: <u>R Cross</u>		

DATE: <u>9/10/18</u>	GRADE <u>3</u>	RECORD NUMBER: <u>918-006</u>
MALFUNCTION or PM: <u>BAR SCREEN chain AT Wye Broken</u>		
DATE: _____	REMEDY: _____	
SIGN OFF: _____		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>9/11/18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>918-007</u>
MALFUNCTION or PM: <u>STRAINER ON NON-POTABLE Pump</u> <u>Line Needs cleaned</u>		
DATE: <u>9/11/18</u>	REMEDY: <u>Cleaned STRAINER ON</u> <u>NONPOTABLE Pump Line.</u>	
SIGN OFF: <u>R Ross</u>		

DATE: <u>9/12/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>918-008</u>
MALFUNCTION or PM: <u>Tail Control NOT working. #1</u> <u>Pump shorted out. Pump chord got shopped</u> <u>in impeller</u>		
DATE: <u>9/12/18</u>	REMEDY: <u>ORDERED CONTROLLER And</u> <u>Repaired chord on #1 pump</u>	
SIGN OFF: <u>R ROSS</u>		

DATE: <u>9/17/18</u>	GRADE <u>4</u>	RECORD NUMBER: <u>918-009</u>
MALFUNCTION or PM: <u>TRI-STATE sucked TAIL OUT</u>		
DATE: <u>9/17/18</u>	REMEDY: <u>TRI-STATE sucked TAIL</u> <u>OUT</u>	
SIGN OFF: <u>R ROSS</u>		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>9/20/18</u>	GRADE <input type="checkbox"/> 2	RECORD NUMBER: <u>918010</u>
MALFUNCTION or PM: <u>EFFLUENT REFRIDGERATOR FOR SAMPLER</u> <u>NOT WORKING</u>		
DATE: <u>9/24/18</u>	REMEDY: <u>REPLACE FRIDGE FOR</u> <u>EFFLUENT SAMPLER</u>	
SIGN OFF: <u>R. ROSS</u>		

DATE: <u>9/20/18</u>	GRADE <input type="checkbox"/> 2	RECORD NUMBER: <u>918011</u>
MALFUNCTION or PM: <u>EFFLUENT SAMPLER FRIDGE NOT</u> <u>WORKING</u>		
DATE: <u>9/24/18</u>	REMEDY: <u>REPLACE EFFLUENT SAMPLER</u> <u>FRIDGE</u>	
SIGN OFF: <u>R. ROSS</u>		

DATE: _____	GRADE <input type="checkbox"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF: _____		

OCTOBER 2018

MONTHLY MAINTENANCE RECORD

- Classes of Grading: Serious enough to require Shut Down = 1
- Serious enough to Repair = 2
- Long range Repair = 3
- Preventative Maintenance = 4

DATE: <u>10/3/18</u>	GRADE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	RECORD NUMBER: <u>1018-001</u>
MALFUNCTION or PM: <u>JAIL CONTROLLER NOT WORKING</u>		
DATE: <u>10/3/18</u>	REMEDY: <u>INSTALLED NEW CONTROLLER (YATES ELECTRIC). PROGRAMMED CONTROLLER (R. ROSS) WITH HELP OF BRIAN FROM GORMAN PUMP</u>	
SIGN OFF: <input type="checkbox"/> R. ROSS		

DATE: <u>10/8/18</u>	GRADE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	RECORD NUMBER: <u>1018-002</u>
MALFUNCTION or PM: <u>BUBBLER NOT WORKING AT JAIL LIFT STATION</u>		
DATE: <u>10/8/18</u>	REMEDY: <u>INSTALLED NEW BUBBLER</u>	
SIGN OFF: <input type="checkbox"/> R. ROSS		

DATE: <u>10/9/18</u>	GRADE <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	RECORD NUMBER: <u>1018-003</u>
MALFUNCTION or PM: <u>INFLUENT SAMPLER NOT WORKING</u>		
DATE: <u>10/9/18</u>	REMEDY: <u>UNPLUGGED HOSE ON SAMPLER AND PUMP.</u>	
SIGN OFF: <input type="checkbox"/> R. ROSS		

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>10/10/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>1018-004</u>
MALFUNCTION or PM: <u>GENERATOR AT JAIL LIFT STATION HAD Pre-High Temperature LIGHT ON. Anti-freeze under motor. Cummins checked GENERATOR 10/12/18 needs WATER pump Replaced.</u>		
DATE: <u>10/24/18</u> REMEDY: <u>Cummins Replaced WATER Pump ON GENERATOR</u>		
SIGN OFF: <u>R. ROSS</u>		

DATE: <u>10/25/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>1018-005</u>
MALFUNCTION or PM: <u>Grundfos Pump # 1 WAS showing Hours when NOT Running.</u>		
DATE: <u>10/25/18</u> REMEDY: <u>BRIAN from Grundfos Replaced Hour meter ON # 1 Pump And Rerouted Wires AWAY FROM Drives.</u>		
SIGN OFF: <u>R. ROSS</u>		

DATE: <u>10/31/18</u>	GRADE <u>2</u>	RECORD NUMBER: <u>1018-006</u>
MALFUNCTION or PM: <u>Influent Sampler Plugged UP.</u>		
DATE: <u>10/31/18</u> REMEDY: <u>unplugged Influent Sampler</u>		
SIGN OFF: <u>R. ROSS</u>		

NOVEMBER 2018

MONTHLY MAINTENANCE RECORD

- Classes of Grading: Serious enough to require Shut Down = 1
- Serious enough to Repair = 2
- Long range Repair = 3
- Preventative Maintenance = 4

DATE: <u>11-17-18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>1118-001</u>
MALFUNCTION or PM: <u>FRAMED WALKWAY + SO2 BUILDING PAD</u>		
DATE: <u>11-17-18</u>	REMEDY: <u>POURED CONCRETE</u>	
SIGN OFF		<input type="checkbox"/> BK

DATE: <u>11-20-18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>1118-002</u>
MALFUNCTION or PM: <u>C WATER PRESSURE LOW ON NON POTABLE WATER</u>		
DATE: <u>11-20-18</u>	REMEDY: <u>CLEAN STRAINERS OK 100PSI</u>	
SIGN OFF		<input type="checkbox"/> BK

DATE: <u>11-29-18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>1118-003</u>
MALFUNCTION or PM: <u>SO2 RUNNING LOW</u>		
DATE: <u>11-29-18</u>	REMEDY: <u>CHANG SO2 TANKS</u>	
SIGN OFF		<input type="checkbox"/> BK

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DATE: <u>11-29-18</u>	GRADE <input type="text" value="4"/>	RECORD NUMBER: <u>1118-004</u>
MALFUNCTION or PM: <u>CHLORINE RUNNING LOW</u>		
DATE: <u>11-29-18</u>	REMEDY: <u>CHANGE 1 TON CYLINDER</u> <u>+ 150 LB TANK</u>	
SIGN OFF		<input type="text" value="BK"/>

DATE: _____	GRADE <input type="text"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="text"/>

DATE: _____	GRADE <input type="text"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="text"/>

DECEMBER 2018

DEC 2018

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1
Serious enough to Repair = 2
Long range Repair = 3
Preventative Maintenance = 4

DIS ✓

DATE: 12-3-18 GRADE 4 RECORD NUMBER: 1218-001
 MALFUNCTION or PM: DRIVEWAY NEED FRAMED FOR SO₂ BLDG.

 DATE: 12-4-18 REMEDY: FRAME DRIVEWAY FOR CONCRETE FOR SO₂ BLDG. & POURED CONCRETE

 SIGN OFF BK

GC ✓

DATE: 12-4-18 GRADE 2 RECORD NUMBER: 1218-002
 MALFUNCTION or PM: FLYGT DEWATER PUMP NOT WORKING. ORDER NEW STARTING RELAY

 DATE: 12-12-18 REMEDY: INSTALL NEW RELAY OK

 SIGN OFF BK

✓

DATE: 12-15-18 GRADE 1 RECORD NUMBER: 1218-003
 MALFUNCTION or PM: #1 PUMP AT 4 SEAL FAILURE PULL PUMP + CALL RAM IND TO PICK UP.

 DATE: 12-15-18 REMEDY: RAM IND PICKED UP.

 SIGN OFF BK

MONTHLY MAINTENANCE RECORD

Classes of Grading: Serious enough to require Shut Down = 1

Serious enough to Repair = 2

Long range Repair = 3

Preventative Maintenance = 4

DIS.

DATE: <u>12-20-18</u>	GRADE <input type="checkbox"/> 4	RECORD NUMBER: <u>1218-004</u>
MALFUNCTION or PM: <u>WATER PRESSURE LOW ON NON POTABLE WATER</u>		
DATE: <u>12-20-18</u>	REMEDY: <u>CLEARED STRAINER</u>	
SIGN OFF		<input type="checkbox"/> OK BK

DATE: _____	GRADE <input type="checkbox"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="checkbox"/>

DATE: _____	GRADE <input type="checkbox"/>	RECORD NUMBER: _____
MALFUNCTION or PM: _____		
DATE: _____	REMEDY: _____	
SIGN OFF		<input type="checkbox"/>