PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT

2018 ANNUAL REPORT
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PREPARED FOR:

NORRISTOWN MUNICIPAL WASTE AUTHORITY
MONTGOMERY COUNTY, PA

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2018 ANNUAL REPORT

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NORRISTOWN MUNICIPAL WASTE AUTHORITY
SEWAGE COLLECTION, CONVEYANCE AND TREATMENT PLANT
2018 CHAPTER 94 REPORT

1 INTRODUCTION

This report is submitted as the 2018 Municipal Wasteload Management Annual Report (Chapter 94 Report) for the sanitary sewage collection and treatment facilities owned and operated by the Norristown Municipal Waste Authority (NMWA), as well as the associated tributary municipalities. The sewer service area for these facilities includes all of the Municipality of Norristown, most of West Norriton Township (WNT), and a small portion (10 EDUs) of Plymouth Township along Fairfield Road. The NMWA owns and maintains the sanitary sewer collection piping within the Municipality of Norristown and operates the Norristown Sewage Treatment Plant (STP) located at 368 East Washington Street. WNT owns and maintains the sewage collection piping within West Norriton Township, as well as an 18-inch diameter force main connecting its Rittenhouse Pump Station with the Norristown STP.

NMWA's collection and conveyance system consists of either brick or concrete manhole structures and approximately 65 miles of concrete, vitrified clay and PVC pipe ranging in size from eight (8) to 48 inches in diameter. Some portions of the collection system are in excess of 100 years old with certain sections dating back to the early 1900's.

The Norristown STP was originally constructed in 1932 and over the years has been expanded and updated many times as demand and the need for improved treatment increased. The original plant provided basic separation as treatment. In 1950 the plant saw a major upgrade and overhaul, as the original 1932 plant was converted to pre-aeration tanks and primary clarifiers. The addition of four aeration tanks and clarifiers, chlorine contact tanks with disinfection equipment and anaerobic digesters now provided the means of treatment. In 1968 three aeration tanks, two clarifiers, and one chlorine contact tank were added to provide additional capacity to the plant. In 1985 a circular primary clarifier was added to the process providing additional primary treatment, and in 2013 two post aeration tanks were added to better control the dissolved oxygen levels in the effluent prior to discharge to the Schuylkill River. In its current configuration the STP provides conventional activated sludge treatment with both primary and secondary treatment of sanitary sewage. The existing sludge processing system at the treatment facility consists of an anaerobic digestion system and a belt filter press for dewatering. Dewatered biosolids from the belt filter press are ultimately disposed of at a landfill. The Authority operates under NPDES permit No. PA0027421 which was issued effective 11/1/2018 and expires 10/31/2023.

2 HYDRAULIC AND ORGANIC LOADINGS

The STP has a permitted average organic loading of 34,540 pounds per day (lbs/day) of five-day biochemical oxygen demand (BOD_5), and a permitted hydraulic capacity of 9.75 million gallons per day (mgd) of flow. In accordance with a 1985 Intermunicipal Agreement between the Municipality of Norristown and the WNT Municipal Authority, WNT provides funds to cover 36% of the operating expenses of the STP to offset the costs of treatment of their flow for NMWA.

2.1 Hydraulic Loading

Total influent flows to the Norristown Sewage Treatment Plant consist of gravity flows from Norristown and WNT, as well as discharges from the force main from WNT's Rittenhouse Pump Station. In the past, the NMWA has reported effluent flow meter data for its annual Chapter 94 reporting because direct metering of total influent flows was not possible due to their combination with recycle streams from within the treatment plant. The recycle streams captured in the influent flow metering include skimmings from the primary and secondary clarifiers, filtrate from the sludge filter press, decant from the sludge digesters, and returned flows of wastewater temporarily stored within the plant for flow equalization purposes during high flow events.

In November 2011, the NMWA issued an addendum to its 2010 Chapter 94 Report that analyzed the potential impact of these recycled flows on the metered influent flow. The results of the analysis showed that for the period evaluated, the estimated monthly average recycle flows varied between 0.268 mgd and 0.512 mgd, or between 2.91% and 7.74% of the metered influent flows. In the addendum, the NMWA proposed that for future reports, it would report adjusted monthly average influent flows, calculated by subtracting the estimated recycle flows from the metered influent flows. This approach was used previously for the 2011 thru 2017 reports, and has been used again for reporting the 2018 flows. In 2018, the monthly estimated recycle flows varied between 0.07 MGD and 0.18 MGD, with an average of 0.13 MGD. Details of these monthly estimated recycle flows for 2018 are included as Appendix A of this report.

Table 1 shows the historical hydraulic loading data, along with monthly precipitation data for 2018. The annual average adjusted influent flow to the Norristown STP in 2018 was 6.98 mgd, which is about 72% of the plant's design capacity flow of 9.75 mgd. The highest monthly average flow was 8.70 mgd in November 2018, and the three-month maximum average flow in 2018 was 7.50 mgd for September through November. Total rainfall for 2018 was 74.62 inches, which is 54% above the annual average of 48.43 inches and may be a contributing factor in the average flow reaching a 5-year high. The average hydraulic ratio (3-Month Max:Annual Average) for the past five years is 1.19. The monthly average flows from WNT, through both the Jackson Street Interceptor and the force main from the Rittenhouse Pump Station, are provided in Table 2. In 2018, 46% of the total influent flows to the plant were from WNT.

Figure 1 illustrates the historic monthly average flows for the years 2014 through 2018. In 2018, all recorded monthly average flows were below the plant's permitted capacity of 9.75 mgd. Although these measures indicate that there is no hydraulic overload at the Norristown STP, it is known that the instantaneous peak flow to the STP during wet weather events often exceeds the plant's hydraulic capacity due to infiltration and inflow in the collection and conveyance system. Instantaneous influent flows in excess of 35 mgd are known to occur on occasions. During such events, the NMWA implements its High Flow Maintenance Plan (HFMP). The HFMP includes various measures to reduce the impacts of wet weather flows, including temporary storage of excess flows within unused tanks at the STP and direct discharge of untreated sewage via the one remaining combined sewer overflow (CSO-3) outfall.

Table 1

Norristown STP
Hydraulic Loading Historical Data (MGD)
2014-2018

Month	2014	2015	2016*	2017	2018	Rainfall (inches)
January	6.59	5.61	5.46	4.59	5.00	3.24
February	**9.25**	5.45	**8.07**	4.18	7.60	5.84
March	7.73	**6.86**	5.44	4.90	8.22	5.66
April	7.64	5.58	4.62	**6.06**	6.16	3.96
May	8.72	4.26	4.95	5.42	6.85	6.76
June	6.23	5.40	4.34	5.05	6.76	7.19
July	4.10	5.63		4.99	6.13	6.66
August	4.33	4.20		4.87	7.03	8.65
September	4.16	3.99		4.30	7.82	9.95
October	4.33	4.12		4.28	5.97	2.71
November	4.89	3.90		4.43	**8.70**	9.77
December	5.82	4.86	4.79	4.11	7.57	4.23
Annual Average (AA)	6.15	4.99	5.38	4.76	6.98	
3 Month Max. Average	8.21	5.97	6.32	5.51	7.50	
Ratio (3 Month Max to AA Ratio)	1.33	1.20	1.18	1.16	1.07	
5 - Year Average Hydraulic Ratio =	1.19					

Note: Shaded cells reflect the periods used to calculate the yearly 3-Month Max Average

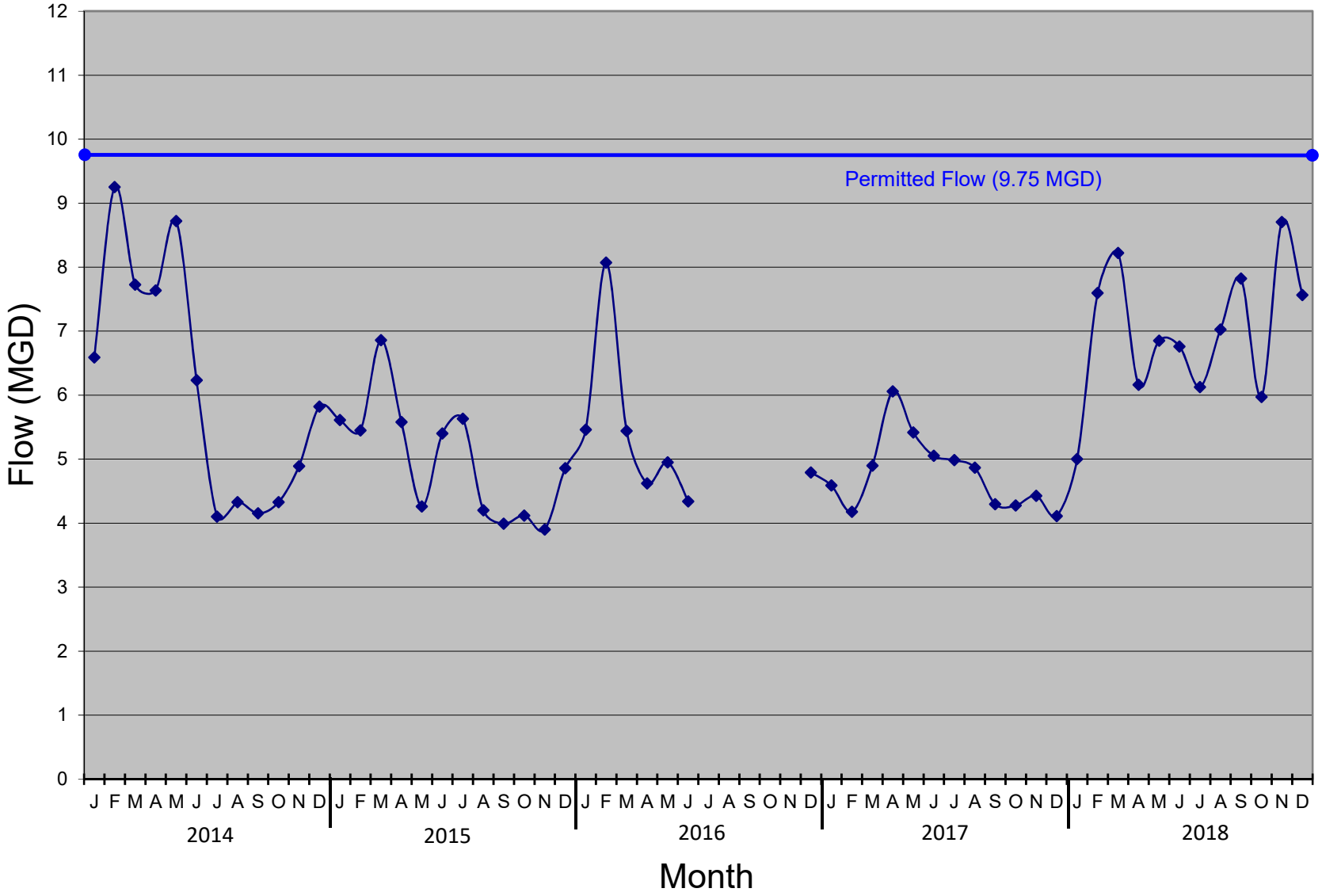
Note: Flows reported for Table 1 are adjusted influent flows. These adjusted influent flows were calculated by subtracting monthly estimated recycle flows from the metered monthly average influent flows.

*Reported loading data for July – November 2016 was not available due to the influent flowmeter being out of service from 6/15/16 to 11/30/16

Table 2 - WNT 2018 Flow to Norristown STP			
Month	**Rittenhouse Pump Station (gpd)**	**Jackson Street (gpd)**	**Total Flow to Norristown (gpd)**
January	1,545,870	380,893	1,926,763
February	3,219,714	358,636	3,578,350
March	3,624,032	305,284	3,929,316
April	2,449,800	282,746	2,732,546
May	2,658,733	454,340	3,113,073
June	2,992,933	291,976	3,284,909
July	2,438,613	278,948	2,717,561
August	3,143,258	338,738	3,481,996
September	3,051,066	293,736	3,344,802
October	2,607,935	223,765	2,831,700
November	3,822,066	309,236	4,131,302
December	3,146,064	276,477	3,422,541
Avg Total	34,700,084	3,794,775	38,494,859
Average	2,891,674	316,231	3,207,905
Total Flow from WNT in 2018			**1,174,093,200**

Note: Information provided by WNT Engineer-of-Record.

Figure 1
Historical Monthly Average Flows
Norristown Municipal Waste Authority



The CSO-3 is located on East Washington Street immediately west of the treatment plant property line. This outfall discharges directly to Saw Mill Run, which is tributary to the Schuylkill River. Inspections of CSO-3 are performed weekly and consist of an overall visual inspection for potential blockages, removal of debris (if present), and testing of the discharge alarm to assure proper operation. Table 3 lists the dates on which discharges from CSO-3 were required in 2018, and includes the duration of the discharge, metered flow, and a description of the associated precipitation amounts.

In 2018, a total of about 4.057 million gallons were discharged through CSO-3 over a period of 73 hours of operation, representing about 0.16% of the total annual influent flow to the treatment plant.

Table 3
2018 Discharges from Combined Sewer Overflow (CSO-3)

Date	Flow (Gallons)	Duration (Hours)	Description of Events and Precipitation
2/11/2018	125,000	12	Rainfall 0.95"
4/16/2018	250,000	6	Rainfall 2.25"
5/17/2018	35,000	2	Rainfall 1.17"
5/19/2018	20,000	2	Rainfall 0.50"
5/27/2018	16,000	1	Rainfall 1.47"
6/10/2018	15,000	1	Rainfall 3.67" Between Both Days
6/11/2018	128,000	10	
8/11/2018	900,000	4	Rainfall 1.82"
8/13/2018	1,700,000	13	Rainfall 3.45"
8/14/2018	23,000	1	Rainfall 0.30"
9/9/2018	440,000	9	Rainfall 2.20"
9/28/2018	120,000	4	Rainfall 1.30"
12/21/2018	285,000	8	Rainfall 1.83"
Total Flow	4,057,000	73	

2.2 Organic Loadings

Sampling of influent BOD_5 to the Norristown STP is conducted weekly. The Norristown STP does not accept hauled-in septage. Time proportioned 24-hour composite samples are collected with an automated sampler from the headworks screening chamber at the plant, prior to any treatment processes. These samples are representative of the sewage generated within Norristown and the tributary flows from WNT entering through the Jackson Street Interceptor, but do not include the flows discharged to the plant through the force main from WNT's Rittenhouse Pump Station. The only location at the STP where a single representative organic sample of all influent flow can be collected is in the same location as the "influent" flow meter near the grit removal unit.

In July 2011, the NMWA began taking BOD_5 samples from within the grit removal unit to evaluate whether this location could be used as a more representative sampling location. However, the results indicated that the BOD_5 results of these samples were consistently lower than those collected in the headworks screening chamber. Consequently, in the addendum to the 2010 Chapter 94 Report the NMWA proposed to continue using the samples collected from the screening chamber as the basis for calculating the organic loadings to the treatment plant. This approach was used again in 2018.

The 2018 organic sampling and loading calculations are shown in Table 4. The average BOD_5 concentration of the samples was 195 mg/L. The average organic loading in 2018 was 11,148 lbs/day and the highest monthly average loading was 14,118 lbs/day in November 2018. All of the monthly average organic loadings were well below the plant's permitted loading.

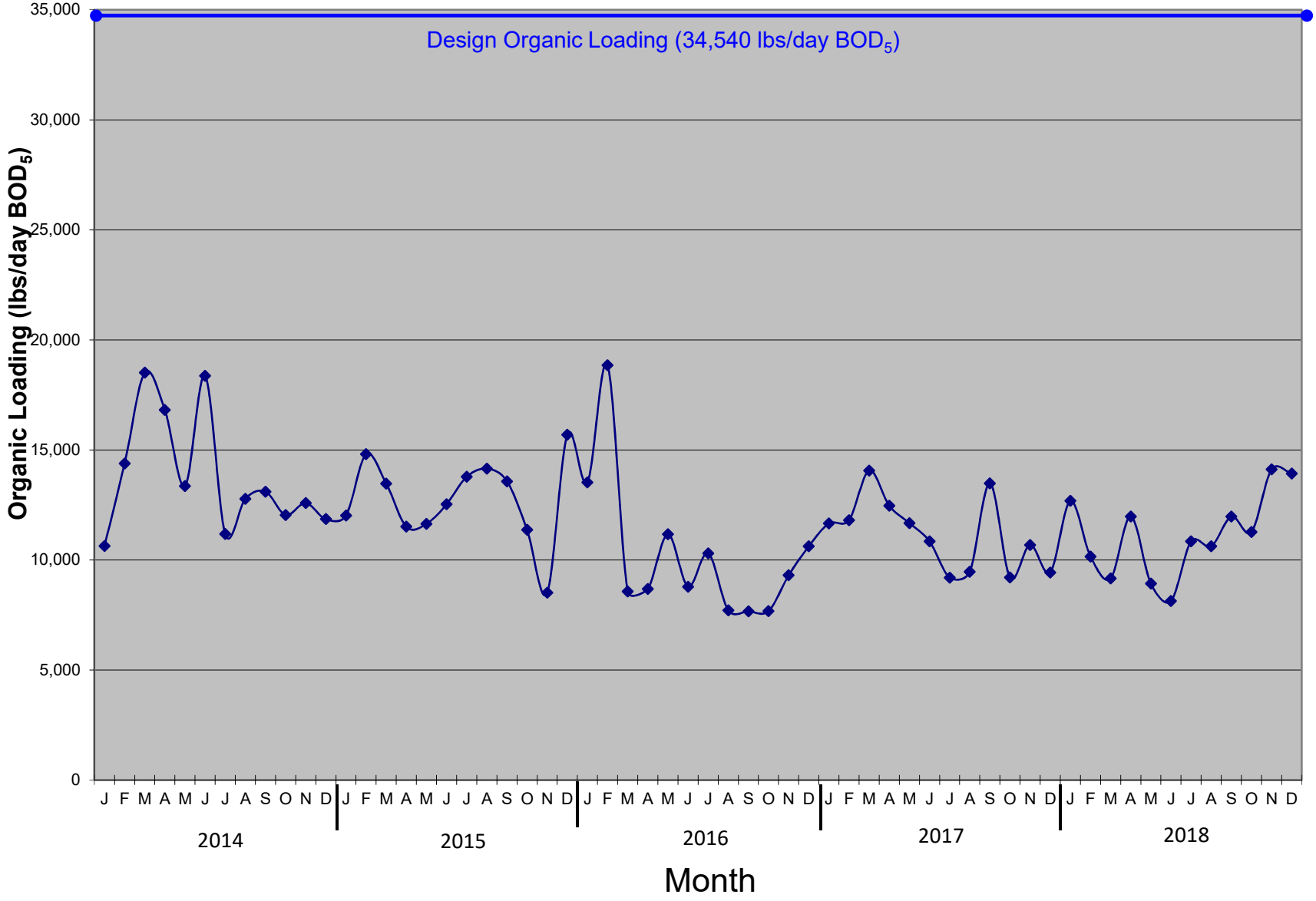
Table 5 contains historical organic loading data for 2014 through 2018. These same data are illustrated in Figure 2. During this five-year period, the monthly average organic loadings have never exceeded the plant's design organic loading capacity. The monthly averages have ranged from a minimum of 7,665 lbs/day in September of 2016 to a maximum of 18,852 lbs/day in February 2016. Based on the annual average and maximum monthly loadings at the STP over the last five years, an average organic loading ratio, or "peaking factor," was calculated as 1.39.

TABLE 4 - 2018 Organic Loading Summary				
Date of Sample	**(A) BOD5 (mg/l)**	**(B) Influent Flow (MGD)**	**(C) = (A)x(B)x8.34 Daily BOD Load (lbs/day)**	**Monthly Average (lbs/day)**
2-Jan	182	4.89	7,422	
9-Jan	585	4.44	21,662	
16-Jan	141	5.20	6,115	
23-Jan	367	5.84	17,875	
30-Jan	238	5.21	10,341	12,683
6-Feb	158	6.02	7,933	
13-Feb	114	8.41	7,996	
20-Feb	213	8.03	14,265	
27-Feb	158	7.92	10,436	10,157
6-Mar	94	9.59	7,518	
13-Mar	170	8.79	12,462	
20-Mar	123	6.27	6,432	
27-Mar	195	6.30	10,246	9,165
3-Apr	270	5.96	13,421	
10-Apr	157	5.45	7,136	
17-Apr	217	9.91	17,935	
24-Apr	175	6.45	9,414	11,976
1-May	160	6.13	8,180	
8-May	146	5.45	6,636	
15-May	195	6.44	10,473	
22-May	131	8.02	8,762	
29-May	156	8.12	10,564	8,923
5-Jun	109	6.68	6,073	
12-Jun	115	11.42	10,953	
19-Jun	195	6.40	10,408	
26-Jun	104	5.87	5,091	8,131
3-Jul	238	5.57	11,056	
10-Jul	309	5.50	14,174	
17-Jul	207	5.60	9,668	
24-Jul	202	8.33	14,033	
31-Jul	100	6.35	5,269	10,840
7-Aug	186	5.87	9,106	
14-Aug	56	15.17	7,060	
21-Aug	139	6.70	7,767	
28-Aug	373	5.96	18,540	10,618
4-Sep	173	5.78	8,339	
11-Sep	139	11.89	13,784	
18-Sep	144	7.17	8,611	
25-Sep	319	6.44	17,133	11,967
2-Oct	97	8.22	6,643	
9-Oct	243	6.17	12,504	
16-Oct	144	6.34	7,614	
23-Oct	426	5.16	18,333	11,273
6-Nov	163	6.68	9,081	
13-Nov	202	8.32	14,017	
20-Nov	205	8.57	14,652	
27-Nov	144	15.59	18,723	14,118
4-Dec	208	7.74	13,427	
11-Dec	119	5.78	5,736	
18-Dec	130	7.03	7,622	
25-Dec	436	7.95	28,908	13,923
AVG	**195**		**AVG**	**11,148**

Table 5 2014-2018 Organic Loading Data BOD (lbs/day)					
Month	**2014**	**2015**	**2016**	**2017**	**2018**
January	10,627	12,014	13,523	11,657	12,683
February	14,380	14,805	**18,852**	11,810	10,157
March	**18,511**	13,470	8,566	**14,062**	9,165
April	16,813	11,509	8,676	12,465	11,976
May	13,353	11,637	11,167	11,674	8,923
June	18,370	12,535	8,784	10,842	8,131
July	11,174	13,775	10,302	9,196	10,840
August	12,779	14,147	7,706	9,458	10,618
September	13,101	13,573	7,665	13,484	11,967
October	12,041	11,365	7,677	9,205	11,273
November	12,582	8,509	9,300	10,682	**14,118**
December	11,855	**15,690**	10,617	9,431	13,923
Annual Avg.	13,799	12,752	10,236	11,164	11,148
Monthly Max.	18,511	15,690	18,852	14,062	14,118
Ratio	1.34	1.23	1.84	1.26	1.27
Avg 5-yr Ratio	1.39				

Note: Bolded values are the maximum monthly average for the corresponding year.

Figure 2
Historical Monthly Average Organic Loading
Norristown Municipal Waste Authority



3.0 FIVE-YEAR HYDRAULIC AND ORGANIC LOADING PROJECTIONS

3.1 Hydraulic Loading Projections

The five-year hydraulic loading projections have been calculated using an adjusted annual average flow. This approach adjusts the annual average flows for the previous five years to account for the EDUs of new connections added in each year. Table 6 summarizes the additional EDUs and resulting flow added in years 2014 through 2018, which then becomes the basis for the adjusted annual flow calculations shown in Table 7. Based on these calculations, the adjusted annual average flow for the Norristown STP is 5.709 mgd.

The five-year adjusted annual flow of 5.709 mgd becomes the starting point for projecting the future hydraulic loadings for years 2019 through 2023. In Table 8, the estimated number of new EDUs to be added in each of the next five years has been used to calculate the annual increased flow and ultimately the total projected flow for each year. The five-year average hydraulic ratio of 1.19 was then multiplied by the projected annual average to calculate the projected three-month maximum flows. Based on the projected hydraulic loadings in Table 8, there are no hydraulic overloads projected for the Norristown STP. Figure 3 illustrates the historical and projected annual average flows and three-month maximum flows through 2023.

3.2 Organic Loading Projections

Based on the BOD_5 sample results presented in Table 4, the average influent BOD_5 concentration in 2018 was 195 mg/l. Assuming that this average organic concentration will remain relatively steady over the next five years, the projected organic loadings for years 2019 through 2023 have been calculated by multiplying this average influent BOD_5 concentration by the projected increased flows (based on new EDUs) for each year. Maximum monthly organic loading projections are then calculated by multiplying the annual average loading projections by the five-year organic ratio of 1.39 as calculated in Table 5. Table 9 summarizes these calculations and the projected organic loadings. These historical organic loadings are illustrated in Figure 4. Based on these results, there is no projected organic overload at the Norristown STP during the next five years.

TABLE 6 - Basis for 5-yr Adjusted Annual Flow			
Year	# of EDUs Connected	gpd/EDU	Additional Flow (MGD)
2014	101	275	0.028
2015	0	275	0.000
2016	3	275	0.001
2017	171	275	0.047
2018	130	275	0.036

*For sewer planning purposes NMWA uses 275 gpd/EDU

TABLE 7 - Adjusted Annual Average Flow Calculation							
Year	Avg. Annual Flow (MGD)	Additional Flow Based on Completed Connections (MGD)					Adjusted Avg Annual Flow (MGD)
		2014	2015	2016	2017	2018	
2014	6.15		0.000	0.001	0.047	0.036	6.234
2015	4.99			0.001	0.047	0.036	5.074
2016	5.38				0.047	0.036	5.463
2017	4.76					0.036	4.796
2018	6.98						6.980
Total	**28.26**					**Total**	**28.55**
5-Yr. Avg.	**5.652**				**5-Yr. Adjusted Avg.**		**5.709**

TABLE 8 - 5-Year Adjusted Hydraulic Loading Projections					
Year	Previous Year's Annual Avg. Flow (MGD)	Projected New EDU's	Increased Flow (MGD)	Projected Annual Avg. Flow (MGD)	Projected Max. Month Flow (MGD)
2019	5.709	55	0.015	5.724	6.812
2020	5.724	108	0.030	5.754	6.847
2021	5.754	52	0.014	5.768	6.864
2022	5.768	17	0.005	5.773	6.870
2023	5.773	242	0.067	5.839	6.949

Figure 3
Historical and Projected Hydraulic Loading at the Sewage Treatment Plant
Norristown Municipal Waste Authority
2014-2023

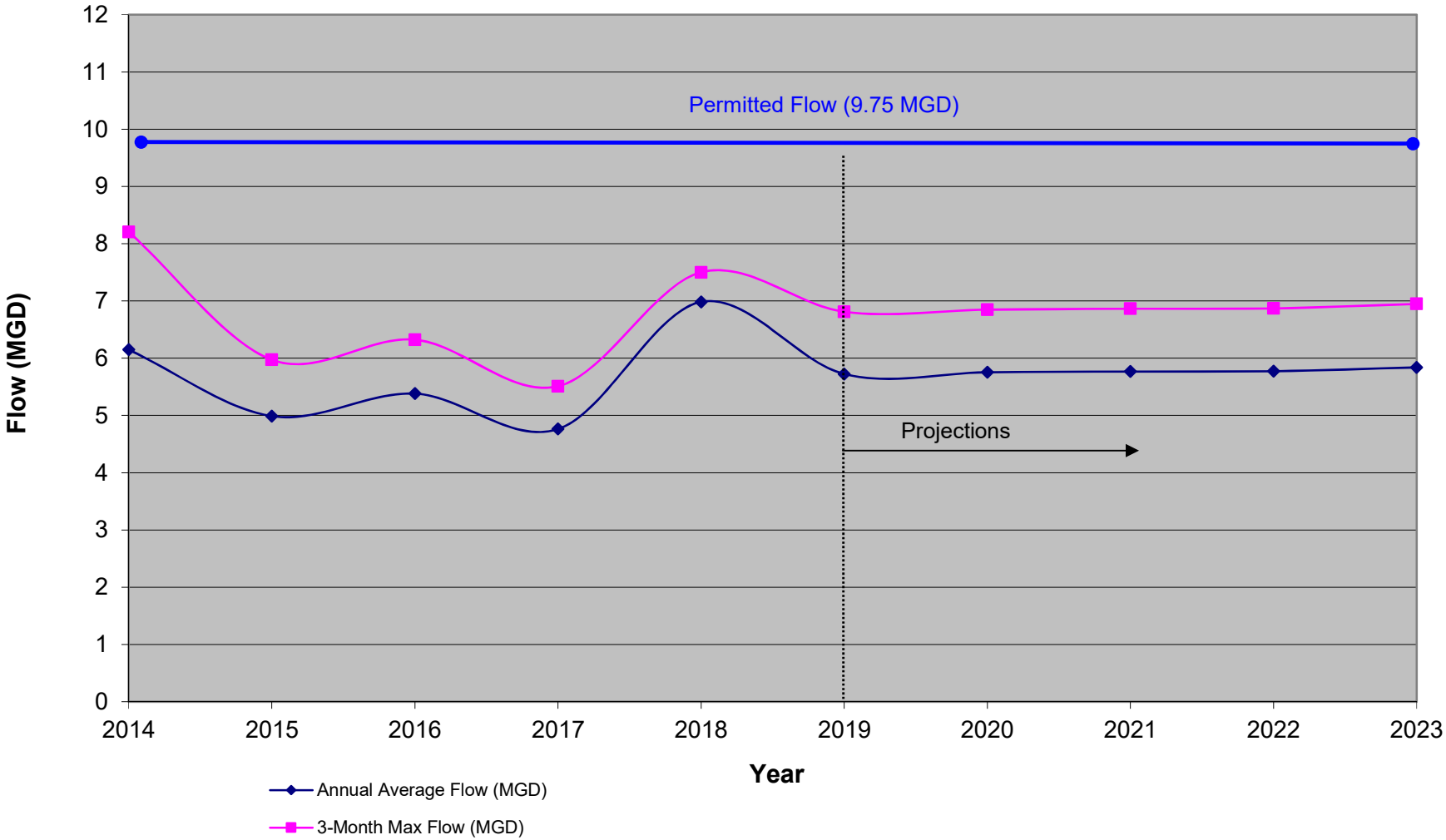
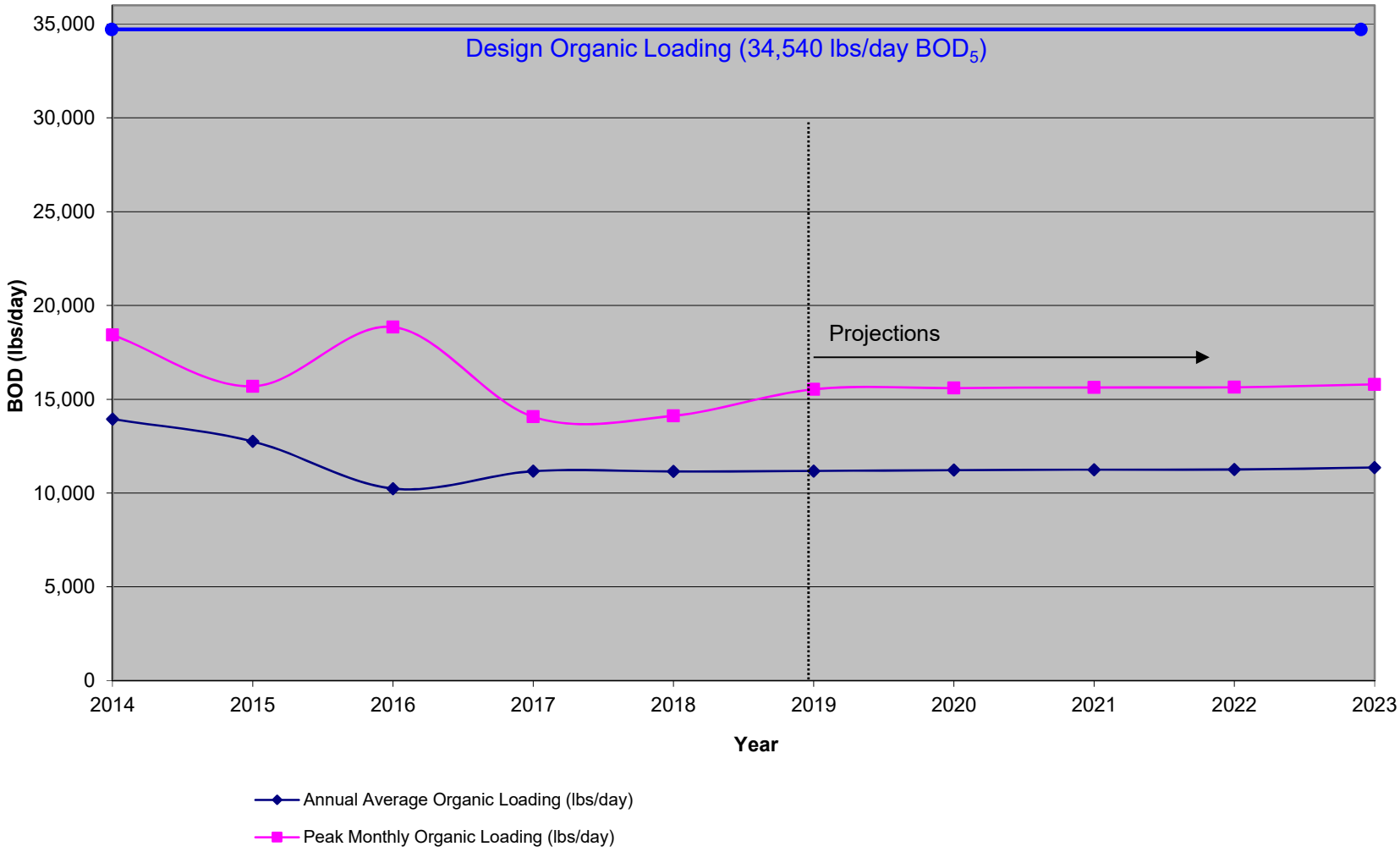


Table 9 - 5-Year Organic Loading Projections						
Year	**Previous Year's Annual Avg. Organic Load (lbs/day)**	**Projected New EDUs**	**Increased Flow (MGD)**	**Increased Organic Load (lbs/day)**	**Projected Annual Avg. BOD_5 Loading (lbs/day)**	**Projected Max. Monthly BOD_5 Loading (lbs/day)**
2019	11,148	55	0.015	25	11,173	15,530
2020	11,173	108	0.030	48	11,221	15,597
2021	11,221	52	0.014	23	11,244	15,629
2022	11,244	17	0.005	8	11,252	15,640
2023	11,252	242	0.067	108	11,360	15,790

Figure 4
Historical and Projected Organic Loading at the Sewage Treatment Plant
Norristown Municipal Waste Authority
2014-2023



4 SEWER EXTENSIONS

Within the NMWA sewer service area, the collection and conveyance piping is essentially "built-out." Consequently, extensions of the existing system are typically not required, except in rare occasions to accommodate land development projects. Normally, "extensions" are limited to new private lateral connections to existing mains. There were no extensions in 2018. There were 130 new sewer connections in 2018, 91 in Norristown and 39 in WNT: A portion of a residential development at Wood Street and Powell Street in Norristown with 50 EDU of flow, 800 Luxor Lane in Norristown with 38 EDU of flow, a portion of a residential development at Oakland Drive and Worthington Circle in WNT with 34 EDU of flow, residential properties at 27 West Fornance Street in Norristown with 2 EDU of flow, a commercial property at 2530 West Main Street in WNT with 2 EDU of flow, a commercial property at 412 West Spruce Street in Norristown with 1 EDU of flow and residential properties at 226 Joseph Street and 75 West Indian Lane in WNT with 1 EDU of flow each.

NMWA continues to monitor proposed land development projects in the Municipality and in the tributary portions of WNT that could potentially increase the sewage flows in the next five years. The estimated EDUs and flow for all of these proposed projects are listed in Table 10, along with the projected year(s) during which they are expected to begin contributing sewage flows. These are the same flows that were used in Section 3 of this report to generate the five-year hydraulic and organic loading projections. The projects within the Municipality, along with the planning approvals/exemptions and connections made in 2018, are identified on the NMWA Sewer Service Area Map provided as Appendix B to this report. Projects within WNT are identified within the WNT 2018 Chapter 94 Report, provided as Appendix F to this report.

5 PROGRAM FOR SANITARY SEWER MONITORING, MAINTENANCE, AND REPAIR

NMWA treatment plant and collection system operators are responsible for preventative maintenance at the STP and in the collection system. Collection system operators routinely inspect the collection system for any signs of damage or blockages and any identified problem areas within the system receive immediate corrective attention. In an effort to assess the overall condition of the collection system, the NMWA continues to monitor and evaluate problematic areas via closed circuit television (CCTV) inspections.

In 2016 Digester No. 1 was cleaned in order to enable the replacement of the mixing system as well as various repairs in the digester. The mixing system replacement and digester repairs were completed in 2018.

Repairs to the collection system over the past several years have included complete excavation and replacement of sewer mains and associated manholes, spot excavation and replacement of specific sections of sewer mains, installation of cured-in-place pipe (CIPP) liners, and lining of manholes to reduce inflow and infiltration into the collection system. All of this work has been the result of collection system monitoring including flow monitoring and CCTV inspections.

Table 10

5-Year Projected Connections

Development	No. of EDUs	Total Flow (GPD)	Connected in 2018 (GPD)	2019 Flow (GPD)	2020 Flow (GPD)	2021 Flow (GPD)	2022 Flow (GPD)	2023 Flow (GPD)
A. NORRISTOWN MUNICIPALITY								
Kennedy Kenrick	218	59,950		0	0	0	0	59,950
Elon at Montgomery Park	109	29,975	13,750	0	13,750	2,475	0	0
800 Luxor Lane	38	10,450	10,450	0	0	0	0	0
1529 DeKalb St.	34	9,350		9,350	0	0	0	0
Norristown Centre (Logan Square)	10	2,750		1,375	1,375	0	0	0
221 W. Main St.	11	3,025		0	3,025	0	0	0
1800 Chain St.	3	825		0	0	0	825	0
414 W. Johnson Highway	3	825		0	0	0	825	0
27 W. Fornance St.	2	550	550	0	0	0	0	0
220 W. Main St.	1	275		0	275	0	0	0
412 W. Spruce St.	1	275	275	0	0	0	0	0
Sub-Totals	**430**	**118,250**	**25,025**	**10,725**	**18,425**	**2,475**	**1,650**	**59,950**

B. WEST NORRITON TOWNSHIP

Development	No. of EDUs	Total Flow (MGD)	Connected in 2018 (GPD)	2019 Flow (GPD)	2020 Flow (GPD)	2021 Flow (GPD)	2022 Flow (GPD)	2023 Flow (GPD)
Markley Farms	79	22,515	9,690	1,425	5,700	5,700	0	0
The Reserve at Stoney Creek	43	12,255	285	2,850	2,850	2,850	2,850	570
Apartments at Schuylkill & Main Street	22	6,270		0	2,850	3,420	0	0
Office Building at 239 Egypt Rd	11	3,135		0	0	0	0	3,135
Norristown School District	10	2,850		0	0	0	0	2,850
Fill-In Lots	5	1,425		285	285	285	285	285
Steak 'n' Shake	2	570	570	0	0	0	0	0
226 Joseph Street	1	285	285	0	0	0	0	0
75 W. Indian Lane	1	285	285	0	0	0	0	0
Sub-Totals	**174**	**49,590**	**11,115**	**4,560**	**11,685**	**12,255**	**3,135**	**6,840**
TOTALS	**604**	**167,840**	**36,140**	**15,285**	**30,110**	**14,730**	**4,785**	**66,790**

Note: Information regarding WNT projected connections were provided by WNT Engineer.

Routine maintenance by the NMWA includes periodic inspection of sanitary collection lines throughout the Municipality. During these inspections any required maintenance is performed including line flushing, sewer jetting and debris removal. In 2018, NMWA collection system staff flushed and cleaned 476,229 linear feet of sanitary sewer mains, an average of 39,686 linear feet per month. Table 11 summarizes the routine maintenance performed by month in 2018.

In addition to the routine maintenance described above, the NMWA responds to all emergency calls associated with sewage backups. The NMWA collection system staff received an average of 6.1 sewer blockage reports per month in 2018, or 73 for the entire year. Most of these reported blockages turned out to be problems with privately-owned sewer service laterals. In 2018, eleven (11), or roughly 15%, of the reported blockages were actually in sewer mains owned by the NMWA. These blockages were primarily the result of debris, grease and roots. The 2018 blockage information by month is also provided in Table 11.

Table 11
2018 NMWA Collection System Maintenance Summary

Month	Pipe Cleaned (linear feet)	Root Cutting (linear feet)	Total Reported Blockages	NMWA Blockages Cleared	NMWA Blockages (%)
January	17,390	0	7	1	14.29
February	33,545	0	3	0	0.00
March	47,715	0	2	0	0.00
April	37,335	0	7	0	0.00
May	43,075	0	11	0	0.00
June	54,060	0	3	0	0.00
July	47,325	0	2	0	0.00
August	47,105	0	9	1	11.11
September	48,702	0	11	6	54.55
October	39,165	0	10	2	20.00
November	48,337	0	4	0	0.00
December	12,475	0	4	1	25.00
Total	**476,229**	**0**	**73**	**11**	**15.07%**
Average	**39,686**	**0**	**6.1**	**0.9**	

6 CONDITION OF THE SEWER SYSTEM

NMWA's collection system contains approximately 65 miles of sewer pipe that is primarily concrete or vitrified clay, with replacements occurring with PVC pipe. Some areas of the collection system may be in excess of 100 years old with specific sections dating back to the early 1900's. The NMWA sanitary collection system is in fair to poor condition depending on location within the Municipality. Previous metering within the collection system and flow data analyses indicate that the collection system experiences significant infiltration and inflow (I/I) during wet weather events. The I/I seems to be a considerable problem within Norristown and in the tributary portions of WNT.

The most vulnerable portion of the collection system has been the Jackson Street Interceptor in the vicinity of Crawford Park. Sanitary sewer overflows (SSOs) have occurred in Crawford Park during excessive rain events on numerous occasions in the past. The Jackson Street Interceptor is a 15-inch diameter pipe that conveys sanitary sewage collected in the southwest section of Norristown and all gravity flow from WNT. In order to alleviate potential overflow problems, the Department issued a moratorium on new connections within the Jackson Street "sewershed" in March 2007. This effectively prohibits any connections to public sewers in the Municipality of Norristown and West Norriton Township that are tributary to the Crawford Park/Jackson Street Interceptor. In November 2010, NMWA submitted a Corrective Action Plan and Connections Management Plan (CAP/CMP) to the Department to address the hydraulic overload in Crawford Park. This CAP/CMP is discussed further in Section 8 of this report. As a result of the CAP/CMP, SSOs that have occurred in the past in Crawford Park during excessive rains have virtually been eliminated.

In an effort to minimize the amount of inflow and infiltration entering the collection system, the NMWA executed a Consent Order and Agreement (CO&A) with the Department in March 2003. This CO&A established milestones designed to reduce or eliminate the amount of inflow and infiltration that enters the collection and conveyance system by implementing various action items such as metering, monitoring and analysis of the collection system to determine how the system is impacted by the effects of inflow and infiltration during rain events. In August of 2008, the NMWA executed an amendment to the CO&A which impacts the operations of the NMWA through February 2019. The amended CO&A acknowledges that NMWA completed most of the requirements of the original CO&A, and it refined the remaining action items and milestones. Specifically, the amended CO&A established the following key requirements:

- Inflow and Infiltration (I/I) Reduction – Requires NMWA to perform investigations (including televising, smoke testing, and public education), rehabilitation and post-rehabilitation flow metering in a phased and prioritized manner in four distinct geographic quadrants, or Quads, of the collection system.

- Reporting – Requires NMWA to submit periodic progress reports, biannual status reports, and a final comprehensive report in accordance with the schedule defined in the amended CO&A.

- CSO Long-Term Control Plan – Requires NMWA to continue implementing the Nine Minimum Controls (NMCs) to minimize the occurrence of combined sewer overflows

(CSOs) during wet weather, and to monitor and report CSOs in accordance with the amended CO&A

7 INDUSTRIAL WASTES

Industrial Waste in Norristown is addressed in Article I – *Industrial Harmful and Prohibited Wastes* in the Norristown Municipal Waste Authority's Rates, Rules & Regulations (August 1, 2012). A copy of this section is attached as Appendix C of this report. The NMWA implements a municipal industrial pretreatment program (IPP) to manage the industrial wastes generated within the sewer service area and discharged to the Norristown STP. During 2018 there were two industrial users (IU) permitted to discharge sanitary wastewater to the NMWA collection system. The following is a list of the IUs that were part of the 2018 IPP.

1. PA American Water Company (Significant Non-Categorical Industrial User)
   300 West Washington Street
   Norristown, PA 19401

2. Anderson Prints (Significant Non-Categorical Industrial User)
   601 General Washington Avenue
   Norristown, PA 19403

The above IUs were inspected during 2018 and effluent samples were collected for laboratory analyses and zero (0) notice-of-violations were issued. A copy of the 2018 IPP Annual Report which details this information is attached as Appendix D to this report.

8 CORRECTIVE ACTION PLAN/CONNECTIONS MANAGEMENT PLAN

In November 2010, NMWA submitted a Corrective Action Plan (CAP) and Connection Management Plan (CMP) to the Department that addressed the details of the overload condition in Crawford Park and identified action items to further reduce the risk of SSOs in this portion of the collection system. This CAP/CMP also included NMWA's prohibition on new sanitary sewer connections in the Rittenhouse Pumping Station sewer shed due to flow metering data that demonstrated that this pumping station frequently operates in excess of its permitted capacity. A copy of this CAP/CMP was included as an Appendix to NMWA's 2010 Chapter 94 Report. On April 18, 2011, the Department issued a letter to the NMWA with its comments on the CAP/CMP. A copy of the NMWA's response to these comments was included as an appendix to NMWA's 2011 Chapter 94 Report.

The CAP/CMP formalized a Standard Operating Procedure (SOP) to be implemented by WNT for diverting excessive wet weather flows from the Jackson Street Interceptor to the Rittenhouse Pumping Station. In 2012, WNT lowered the diversion gate to a fixed position that was deemed adequate by WNT's Engineer to prevent excessive flows to Norristown through the Jackson Street Interceptor. This repositioning of the diversion gate appears to have been effective in limiting the WNT flows in the interceptor. In 2012, WNT reported an average daily flow to Norristown through the Jackson Street Interceptor of 373,749 gpd, which was a 60% reduction from the 939,339 gpd average flow reported for 2011. In 2018, WNT's average discharges were 316,231 gpd, which is consistent with average discharges in prior years.

Based on the demonstrated reductions in the flow through the Jackson Street Interceptor resulting from WNT's implementation of the SOP for flow diversion, along with the support expressed by the DEP at a meeting held on June 25, 2013, the NMWA issued a letter to WNT on July 3, 2013 approving the connection of 120 EDUs over the next four years contingent on the following:

- WNT will continue to complete the planned projects to further reduce I/I in its collection system and provide NMWA with periodic updates of its Corrective Action Plan with a summary of the work completed.
- WNT will continue to provide NMWA with copies of its collection system and pumping station flow metering results.
- WNT will maintain the current level of the gate valve at the Jackson Street Diversion Chamber and will not reduce the amount of flow diverted to the Rittenhouse Pumping Station, without first consulting with the NMWA.
- WNT will inform the NMWA in advance of any approved EDU being connected to its sanitary sewer system.

Although the approval period ended in 2018, WNT still has approved connections remaining and will continue to utilize them going forward.

9 CALIBRATION REPORTS

The NMWA contracts annually with W.G. Malden to have all its permanent flow meters calibrated quarterly. The meters calibrated include the STP influent flowmeter, the meter measuring flow from Rittenhouse Pump Station, and meters measuring flow at each of the outfalls. Copies of the quarterly calibration reports are attached as Appendix E to this report.

10 TRIBUTARY MUNICIPALITY REPORTS

The only tributary municipality required to submit a Chapter 94 report to NMWA is West Norriton Township. WNT's 2018 Chapter 94 Report is included as Appendix F to this report.

APPENDIX A

2018 ESTIMATED RECYCLE FLOWS

2018 Recycle Flow Summary

Month	Average Daily Influent Flow (MGD)	Estimated Recycle Flows (MGD)	Adjusted Influent Flow (MGD)
January	5.14	0.14	5.00
February	7.69	0.10	7.60
March	8.34	0.12	8.22
April	6.31	0.15	6.16
May	7.01	0.16	6.85
June	6.89	0.13	6.76
July	6.31	0.18	6.13
August	7.14	0.12	7.03
September	7.98	0.16	7.82
October	6.14	0.17	5.97
November	8.78	0.08	8.70
December	7.63	0.07	7.57
Average	7.11	0.13	6.98

NWWTP Recycled Flow

Month: January Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0	14	38,878	2.50	18,000		0	3.50	26,600	83,478
2	168,300								0	15	41,655	2.00	14,400		0	2.50	19,000	243,355
3									0	18	49,986	2.75	19,800		0	3.00	22,800	92,586
4									0	17	47,209	2.50	18,000		0	2.75	20,900	86,109
5									0	18	49,986	1.75	12,600		0	2.50	19,000	81,586
6									0	16	44,432	1.50	10,800		0	2.50	19,000	74,232
7									0	17	47,209	1.50	10,800		0	2.25	17,100	75,109
8									0	14	38,878	1.75	12,600		0	3.00	22,800	74,278
9								7.50	15,000	13	36,101	2.50	18,000		0	2.75	20,900	90,001
10								8.00	16,000	17	47,209	2.75	19,800		0	3.50	26,600	109,609
11								5.00	10,000	16	44,432	2.50	18,000		0	2.50	19,000	91,432
12									0	17	47,209	2.50	18,000		0	3.00	22,800	88,009
13									0	15	41,655	2.00	14,400		0	3.75	28,500	84,555
14									0	14	38,878	2.50	18,000		0	2.75	20,900	77,778
15									0	10	27,770	1.75	12,600		0	2.25	17,100	57,470
16	168,300		79,169					8.00	16,000	12	33,324	1.50	10,800		0	2.50	19,000	326,593
17				79,169				7.00	14,000	16	44,432	1.50	10,800		0	2.00	15,200	163,601
18								7.00	14,000	14	38,878	2.00	14,400		0	2.75	20,900	88,178
19								8.50	17,000	13	36,101	2.50	18,000		0	2.50	19,000	90,101
20								6.00	12,000	15	41,655	2.00	14,400		0	2.50	19,000	87,055
21									0	18	49,986	2.25	16,200		0	3.00	22,800	88,986
22								8.50	17,000	17	47,209	2.25	16,200		0	2.50	19,000	99,409
23								8.00	16,000	19	52,763	2.50	18,000		0	2.25	17,100	103,863
24	168,300		39,584					8.00	16,000	18	49,986	2.75	19,800		0	2.25	17,100	310,770
25		168,300		79,169	64,780			8.00	16,000	17	47,209	1.50	10,800		0	2.50	19,000	405,258
26	168,300		39,584					7.00	14,000	16	44,432	2.00	14,400		0	2.25	17,100	297,816
27		168,300						6.00	12,000	16	44,432	1.75	12,600		0	3.00	22,800	260,132
28	168,300								0	15	41,655	1.50	10,800		0	2.25	17,100	237,855
29								7.50	15,000	16	44,432	2.00	14,400		0	2.50	19,000	92,832
30								8.50	17,000	15	41,655	2.25	16,200		0	2.50	19,000	93,855
31								9.00	18,000	16	44,432	2.50	18,000		0	3.00	22,800	103,232
																		4,259,123

Daily Avg. 0.137

Month: February Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								8.00	16,000	12	33,324	3.75	26,985		0	2.82	21,422	97,732
2								7.00	14,000	16	44,432	1.21	8,686		0	1.80	13,686	80,803
3									0	17	47,209	2.73	19,621		0	2.06	15,655	82,485
4									0	18	49,986	2.52	18,143		0	3.18	24,202	92,331
5								7.50	15,000	15	41,655	3.86	27,772		0	1.09	8,283	92,710
6								8.25	16,500	14	38,878	1.89	13,641		0	1.68	12,791	81,810
7								9.50	19,000	17	47,209	3.33	23,976		0	1.22	9,299	99,484
8								8.00	16,000	16	44,432	2.93	21,123		0	3.81	28,962	110,517
9									0	13	36,101	3.45	24,865		0	1.50	11,387	72,352
10								8.00	16,000	12	33,324	3.01	21,664		0	1.61	12,226	83,214
11								8.00	16,000	18	49,986	1.30	9,325		0	1.12	8,480	83,791
12								7.00	14,000	19	52,763	2.47	17,805		0	2.03	15,460	100,028
13								8.00	16,000	18	49,986	1.75	12,598		0	3.61	27,453	106,036
14								7.25	14,500	17	47,209	1.18	8,513		0	3.43	26,075	96,297
15									0	16	44,432	1.89	13,633		0	3.11	23,628	81,693
16								7.00	14,000	15	41,655	2.34	16,858		0	2.81	21,332	93,845
17								7.00	14,000	14	38,878	1.95	14,028		0	1.79	13,615	80,521
18									0	18	49,986	2.76	19,866		0	1.69	12,824	82,676
19			39,584						0	16	44,432	1.57	11,305		0	2.12	16,088	111,409
20				39,584				8.25	16,500	15	41,655	2.27	16,314		0	3.69	28,062	142,115
21			39,584					5.00	10,000	17	47,209	3.06	22,002		0	1.42	10,830	129,624
22								8.50	17,000	19	52,763	1.91	13,742		0	1.49	11,327	94,831
23								7.00	14,000	17	47,209	2.31	16,596		0	1.00	7,621	85,426
24								8.00	16,000	16	44,432	3.90	28,111		0	3.88	29,467	118,010
25									0	13	36,101	2.06	14,798		0	3.75	28,508	79,407
26								8.50	17,000	12	33,324	2.11	15,183		0	2.08	15,817	81,324
27								8.50	17,000	17	47,209	1.16	8,338		0	3.90	29,634	102,181
28								6.00	12,000	16	44,432	3.77	27,165		0	3.60	27,376	110,973
																		2,673,626

Daily Avg. **0.095**

Month: March Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0		0	1.55	11,158		0	2.22	16,859	28,016
2									0	10	27,770	2.37	17,074		0	2.10	15,987	60,832
3									0	12	33,324	2.86	20,574		0	1.01	7,712	61,610
4									0	15	41,655	3.65	26,266		0	2.63	20,003	87,924
5			79,169					3.50	7,000		0	3.05	21,985		0	2.91	22,083	130,237
6			79,169					3.00	6,000	14	38,878	2.65	19,108		0	1.51	11,464	154,619
7									0	12	33,324	3.26	23,446		0	2.03	15,425	72,194
8									0	13	36,101	3.98	28,642		0	1.19	9,077	73,820
9			79,169						0	12	33,324	2.04	14,652		0	3.64	27,661	154,807
10								6.00	12,000	12	33,324	2.89	20,822		0	3.30	25,089	91,235
11									0	10	27,770	1.07	7,714		0	1.16	8,792	44,276
12			79,169					8.50	17,000	12	33,324	3.63	26,167		0	2.39	18,166	173,826
13			79,169					8.50	17,000		0	2.99	21,555		0	1.97	14,983	132,707
14			79,169					8.00	16,000	11	30,547	2.97	21,357		0	3.50	26,609	173,682
15		168,300	158,337					5.75	11,500	15	41,655	3.00	21,598		0	2.44	18,573	419,963
16		168,300	79,169					8.50	17,000	13	36,101	1.83	13,199		0	2.14	16,267	330,037
17			79,169						0	12	33,324	1.99	14,319		0	2.20	16,729	143,541
18									0	10	27,770	3.74	26,939		0	1.85	14,032	68,741
19								8.50	17,000	12	33,324	2.64	18,995		0	3.97	30,199	99,518
20								8.50	17,000	13	36,101	2.92	21,056		0	2.08	15,802	89,959
21									0	10	27,770	3.02	21,779		0	3.72	28,265	77,814
22								5.50	11,000	12	33,324	1.82	13,123		0	1.77	13,454	70,901
23								5.50	11,000	13	36,101	1.85	13,354		0	1.16	8,791	69,246
24									0	11	30,547	1.90	13,677		0	1.12	8,530	52,755
25									0	14	38,878	3.35	24,140		0	1.55	11,767	74,785
26								8.00	16,000	11	30,547	1.98	14,289		0	2.82	21,398	82,234
27			79,169					8.50	17,000	10	27,770	3.54	25,495		0	3.44	26,134	175,568
28			79,169					8.00	16,000	13	36,101	3.06	22,064		0	2.27	17,223	170,557
29								8.50	17,000	12	33,324	1.39	9,972		0	1.17	8,878	69,174
30								7.00	14,000	10	27,770	3.31	23,804		0	1.42	10,808	76,382
31									0	12	33,324	2.69	19,397		0	1.09	8,272	60,993
																		3,571,949
																	Daily Avg.	**0.115**

Month: April Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0	14	38,878	3.76	27,074		0	3.76	28,578	94,529
2								7.50	15,000	11	30,547	1.48	10,633		0	1.48	11,224	67,404
3			79,169					7.50	15,000		0	3.51	25,236		0	3.51	26,638	146,044
4		336,600	79,169					7.25	14,500	13	36,101	3.71	26,680		0	3.71	28,162	521,213
5		336,600						7.00	14,000	12	33,324	3.87	27,838		0	3.87	29,385	441,147
6								7.50	15,000	12	33,324	1.96	14,144		0	1.96	14,930	77,398
7			39,584					6.00	12,000	10	27,770	2.63	18,931		0	2.63	19,983	118,268
8			118,752						0	11	30,547	2.55	18,386		0	2.55	19,408	187,093
9									0	13	36,101	3.81	27,420		0	3.81	28,943	92,465
10								3.25	6,500	10	27,770	2.26	16,304		0	2.26	17,210	67,784
11								3.00	6,000	12	33,324	1.04	7,457		0	1.04	7,871	54,652
12			158,337					5.00	10,000	10	27,770	1.85	13,350		0	1.85	14,092	223,549
13		336,600						5.50	11,000	11	30,547	3.68	26,504		0	3.68	27,977	432,628
14		336,600						4.00	8,000	14	38,878	3.98	28,691		0	3.98	30,285	442,454
15									0	12	33,324	1.67	12,042		0	1.67	12,711	58,078
16			39,584						0	13	36,101	1.69	12,171		0	1.69	12,847	100,704
17								4.50	9,000	12	33,324	2.18	15,713		0	2.18	16,586	74,624
18								7.00	14,000	11	30,547	2.54	18,295		0	2.54	19,312	82,154
19								7.00	14,000	12	33,324	2.76	19,895		0	2.76	21,000	88,219
20								5.00	10,000	13	36,101	3.99	28,709		0	3.99	30,304	105,113
21			79,169						0	11	30,547	3.53	25,402		0	3.53	26,814	161,932
22			79,169						0	12	33,324	3.48	25,092		0	3.48	26,486	164,071
23									0	13	36,101	1.48	10,685		0	1.48	11,278	58,064
24								6.25	12,500	12	33,324	2.96	21,348		0	2.96	22,534	89,706
25								6.00	12,000	11	30,547	1.82	13,073		0	1.82	13,799	69,420
26								7.25	14,500	10	27,770	2.89	20,804		0	2.89	21,960	85,034
27								7.25	14,500	12	33,324	3.80	27,340		0	3.80	28,859	104,023
28									0	14	38,878	3.15	22,675		0	3.15	23,934	85,487
29									0	11	30,547	2.07	14,937		0	2.07	15,767	61,251
30								7.50	15,000	12	33,324	2.14	15,431		0	2.14	16,288	80,043
																		4,434,549

Daily Avg. 0.148

Month: May Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								7.25	14,500	10	27,770	2.33	16,791		0	1.01	7,704	66,764
2								7.00	14,000	11	30,547	2.00	14,403		0	3.74	28,444	87,394
3								7.25	14,500	13	36,101	3.65	26,247		0	3.93	29,839	106,687
4								7.00	14,000	10	27,770	1.35	9,705		0	3.38	25,720	77,194
5									0	11	30,547	3.47	24,998		0	1.58	12,032	67,577
6									0	125	347,125	2.69	19,339		0	2.07	15,767	382,231
7								7.00	14,000	10	27,770	2.35	16,918		0	2.94	22,379	81,067
8								7.25	14,500	13	36,101	3.38	24,356		0	1.52	11,539	86,497
9								7.25	14,500	11	30,547	1.34	9,620		0	2.31	17,555	72,223
10								7.25	14,500	12	33,324	1.29	9,272		0	3.50	26,580	83,676
11		168,300						7.25	14,500		0	1.65	11,849		0	4.00	30,364	225,014
12		168,300							0	10	27,770	3.05	21,934		0	2.16	16,437	234,441
13		168,300							0	11	30,547	3.16	22,777		0	1.49	11,332	232,955
14		168,300						7.00	14,000	13	36,101	3.26	23,463		0	2.51	19,086	260,949
15								7.00	14,000	14	38,878	1.60	11,513		0	1.64	12,477	76,867
16								7.25	14,500	11	30,547	1.54	11,065		0	1.74	13,217	69,330
17								7.25	14,500	12	33,324	2.80	20,150		0	2.07	15,737	83,711
18			158,337					7.25	14,500	10	27,770	3.66	26,386		0	1.21	9,186	236,178
19									0	11	30,547	2.84	20,416		0	1.92	14,588	65,552
20									0	12	33,324	1.86	13,367		0	3.74	28,404	75,095
21								7.00	14,000	14	38,878	1.46	10,534		0	1.79	13,589	77,000
22		168,300	39,584					5.50	11,000	10	27,770	3.75	27,008		0	1.10	8,323	281,985
23		168,300	39,584					7.25	14,500	10	27,770	3.13	22,502		0	3.64	27,653	300,308
24								7.00	14,000	12	33,324	3.61	25,983		0	1.63	12,351	85,658
25								7.00	14,000	12	33,324	3.97	28,562		0	1.97	14,997	90,884
26			158,337						0	11	30,547	3.19	22,995		0	2.12	16,107	227,986
27									0	13	36,101	1.88	13,519		0	2.67	20,283	69,903
28								7.00	14,000	11	30,547	3.33	23,995		0	2.06	15,631	84,173
29		336,600	158,337						0	13	36,101	1.39	9,979		0	2.08	15,826	556,842
30			316,674					3.50	7,000	12	33,324	3.64	26,177		0	3.44	26,176	409,351
31								7.00	14,000	11	30,547	2.28	16,395		0	2.64	20,081	81,024
																		4,936,518

Daily Avg. 0.159

Month: June Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								0.75	1,500	11	30,547	2.52	18,172		0	1.51	11,465	61,684
2									0	12	33,324	3.73	26,882		0	2.64	20,067	80,273
3									0	10	27,770	2.25	16,230		0	2.90	22,067	66,067
4									0	12	33,324	2.91	20,987		0	2.19	16,622	70,933
5				158,337				6.00	12,000	10	27,770	2.21	15,879		0	3.29	25,003	238,989
6				79,169				7.25	14,500	11	30,547	2.68	19,276		0	3.34	25,364	168,856
7				79,169				7.25	14,500	12	33,324	3.19	22,939		0	3.70	28,088	178,019
8								7.25	14,500	13	36,101	3.66	26,338		0	2.36	17,901	94,841
9									0	14	38,878	2.34	16,852		0	1.26	9,572	65,302
10									0	12	33,324	2.57	18,538		0	1.96	14,895	66,757
11				79,169					0	11	30,547	2.71	19,547		0	3.35	25,432	154,695
12				79,169				7.25	14,500	13	36,101	1.14	8,227		0	3.83	29,119	167,117
13				79,169				7.25	14,500	14	38,878	3.23	23,280		0	1.31	9,969	165,796
14				79,169				7.25	14,500	11	30,547	3.77	27,149		0	1.06	8,082	159,447
15								7.25	14,500	13	36,101	1.80	12,954		0	3.94	29,953	93,509
16								7.25	14,500	14	38,878	2.43	17,531		0	3.01	22,872	93,781
17									0	11	30,547	3.82	27,487		0	1.00	7,622	65,655
18									0	12	33,324	1.86	13,395		0	2.56	19,467	66,186
19								7.25	14,500	14	38,878	1.36	9,827		0	1.31	9,993	73,198
20				39,584				7.25	14,500	11	30,547	2.49	17,926		0	2.12	16,083	118,640
21				79,169				7.25	14,500	13	36,101	1.73	12,491		0	1.67	12,655	154,916
22		336,600						7.25	14,500	12	33,324	2.04	14,694		0	3.46	26,289	425,407
23		336,600						7.00	14,000	14	38,878	2.77	19,912		0	2.17	16,468	425,857
24									0	11	30,547	2.17	15,613		0	1.74	13,191	59,352
25									0	13	36,101	3.98	28,635		0	3.62	27,507	92,243
26								7.25	14,500	11	30,547	3.32	23,913		0	3.73	28,359	97,320
27								7.25	14,500	12	33,324	1.38	9,943		0	1.86	14,127	71,894
28								7.25	14,500	11	30,547	3.01	21,658		0	2.61	19,823	86,528
29								7.00	14,000		0	2.21	15,891		0	3.58	27,172	57,063
30								6.25	12,500	11	30,547	3.83	27,567		0	2.90	22,015	92,630
																		3,812,953

Daily Avg. 0.127

Month: July Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0	10	27,770	2.26	16,303		0	3.12	23,729	67,803
2									0	11	30,547	1.51	10,860		0	3.52	26,774	68,181
3								7.25	14,500	10	27,770	3.30	23,755		0	1.46	11,079	77,104
4									0	0	0	2.93	21,093		0	3.48	26,460	47,553
5								7.25	14,500	10	27,770	2.48	17,890		0	1.80	13,666	73,826
6								7.25	14,500	12	33,324	1.52	10,959		0	2.76	20,947	79,730
7		336,600							0	13	36,101	2.95	21,232		0	2.02	15,336	409,268
8		336,600						6.50	13,000	12	33,324	1.62	11,666		0	2.87	21,825	416,415
9								7.25	14,500	11	30,547	2.03	14,651		0	2.16	16,394	76,092
10		336,600						7.50	15,000	12	33,324	1.17	8,413		0	2.93	22,231	415,568
11		336,600						7.25	14,500	11	30,547	1.64	11,784		0	2.35	17,890	411,321
12		504,900						7.25	14,500	10	27,770	3.02	21,763		0	1.25	9,466	578,399
13		168,300						6.00	12,000	12	33,324	2.14	15,400		0	2.20	16,714	245,738
14								7.50	15,000	13	36,101	3.54	25,511		0	2.56	19,444	96,057
15								5.00	10,000	10	27,770	3.44	24,760		0	1.70	12,943	75,472
16		168,300						7.50	15,000	13	36,101	1.50	10,776		0	3.37	25,621	255,798
17		504,900						5.00	10,000	11	30,547	3.05	21,951		0	1.21	9,192	576,591
18								7.25	14,500	12	33,324	1.98	14,263		0	2.14	16,254	78,341
19								7.25	14,500	14	38,878	2.92	21,058		0	3.28	24,902	99,338
20								7.25	14,500	11	30,547	1.34	9,661		0	3.44	26,116	80,825
21								7.25	14,500	13	36,101	1.41	10,159		0	1.87	14,227	74,987
22								7.00	14,000	12	33,324	2.22	15,973		0	1.21	9,230	72,527
23		168,300						7.00	14,000	11	30,547	3.38	24,342		0	3.23	24,533	261,722
24								7.25	14,500	10	27,770	1.48	10,664		0	3.19	24,220	77,155
25								7.25	14,500	12	33,324	2.72	19,595		0	1.62	12,345	79,764
26		336,600						7.25	14,500	13	36,101	3.31	23,819		0	1.24	9,405	420,425
27								7.25	14,500	13	36,101	1.20	8,626		0	1.28	9,737	68,963
28								7.25	14,500	11	30,547	2.20	15,805		0	1.33	10,138	70,991
29								5.00	10,000	12	33,324	3.80	27,357		0	1.41	10,751	81,432
30								5.75	11,500	10	27,770	3.55	25,589		0	2.56	19,461	84,321
31								7.25	14,500	10	27,770	2.73	19,680		0	2.24	17,040	78,989
																		5,600,696

Daily Avg. 0.181

Month: August Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								7.25	14,500	9	24,993	3.09	22,283		0	2.08	15,818	77,594
2								7.25	14,500	11	30,547	3.56	25,611		0	2.25	17,077	87,734
3								7.25	14,500	12	33,324	3.56	25,655		0	3.03	23,047	96,526
4		336,600						7.25	14,500	10	27,770	3.54	25,517		0	1.58	11,981	416,368
5		336,600							0	12	33,324	2.43	17,460		0	1.74	13,234	400,618
6									0	11	30,547	1.13	8,168		0	1.71	13,012	51,727
7								7.25	14,500	10	27,770	2.80	20,170		0	3.47	26,351	88,791
8								7.25	14,500	12	33,324	1.39	9,993		0	2.90	22,012	79,830
9									0	14	38,878	3.17	22,803		0	3.30	25,047	86,728
10								7.25	14,500	11	30,547	2.90	20,902		0	1.66	12,584	78,532
11									0		0	1.64	11,809		0	2.94	22,354	34,163
12									0		0	2.07	14,879		0	3.23	24,529	39,408
13									0	10	27,770	3.09	22,222		0	1.29	9,823	59,815
14								2.25	4,500	12	33,324	1.70	12,229		0	2.30	17,507	67,560
15								7.25	14,500	13	36,101	2.93	21,096		0	1.79	13,575	85,271
16								7.25	14,500	11	30,547	1.87	13,473		0	3.93	29,836	88,356
17								7.25	14,500	10	27,770	2.58	18,564		0	2.29	17,418	78,252
18								3.50	7,000	13	36,101	2.71	19,486		0	2.72	20,694	83,281
19									0	11	30,547	2.26	16,250		0	3.77	28,634	75,431
20								7.00	14,000	13	36,101	2.00	14,377		0	2.06	15,666	80,143
21								7.25	14,500	12	33,324	3.65	26,310		0	1.43	10,884	85,017
22								7.25	14,500	10	27,770	2.64	18,993		0	3.80	28,886	90,150
23								7.25	14,500	11	30,547	1.97	14,192		0	3.60	27,352	86,591
24								7.25	14,500	13	36,101	3.19	22,939		0	1.98	15,084	88,623
25								4.50	9,000	12	33,324	3.92	28,241		0	2.96	22,510	93,075
26									0	10	27,770	1.00	7,205		0	1.80	13,715	48,690
27		504,900						7.00	14,000	11	30,547	2.42	17,452		0	3.66	27,836	594,734
28		168,300						7.25	14,500		0	1.39	10,022		0	3.00	22,792	215,615
29								7.00	14,000	12	33,324	1.88	13,566		0	1.46	11,070	71,961
30								7.25	14,500	13	36,101	2.32	16,677		0	2.93	22,248	89,526
31								7.25	14,500	12	33,324	2.13	15,337		0	2.58	19,645	82,805
																		3,702,916

Daily Avg. 0.119

Month: September Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								6.50	13,000	10	27,770	1.52	10,936		0	2.81	21,365	73,070
2									0	11	30,547	2.84	20,480		0	3.95	30,011	81,038
3		168,300							0	12	33,324	3.30	23,756		0	2.61	19,873	245,253
4								7.25	14,500	10	27,770	3.55	25,545		0	3.44	26,161	93,977
5								7.00	14,000	13	36,101	3.67	26,457		0	2.94	22,363	98,921
6								7.00	14,000		0	3.77	27,132		0	1.43	10,868	52,000
7		336,600						6.00	12,000	12	33,324	3.80	27,362		0	1.02	7,716	417,002
8									0	10	27,770	2.99	21,563		0	1.55	11,777	61,110
9									0	12	33,324	3.05	21,968		0	1.95	14,839	70,132
10									0	10	27,770	3.31	23,796		0	3.89	29,532	81,098
11		504,900						7.00	14,000	11	30,547	1.30	9,370		0	2.98	22,633	581,451
12								6.00	12,000	13	36,101	1.15	8,283		0	2.48	18,832	75,215
13		168,300						7.25	14,500		0	3.85	27,721		0	1.41	10,720	221,240
14								7.25	14,500	12	33,324	1.77	12,713		0	2.46	18,727	79,264
15		168,300						4.50	9,000	11	30,547	1.89	13,595		0	2.27	17,274	238,716
16									0	14	38,878	2.47	17,787		0	3.77	28,678	85,343
17								7.00	14,000	12	33,324	1.74	12,507		0	1.40	10,635	70,465
18		336,600						6.00	12,000	11	30,547	3.81	27,461		0	2.94	22,346	428,954
19		336,600						7.00	14,000	12	33,324	1.54	11,102		0	2.47	18,740	413,767
20								7.50	15,000	10	27,770	3.44	24,779		0	2.39	18,143	85,692
21								6.25	12,500	12	33,324	1.68	12,061		0	2.71	20,614	78,499
22									0	11	30,547	1.67	12,018		0	3.51	26,690	69,255
23									0	10	27,770	1.05	7,548		0	2.35	17,861	53,179
24									0		0	1.31	9,449		0	2.09	15,853	25,302
25								7.25	14,500		0	2.76	19,893		0	3.15	23,933	58,326
26								7.25	14,500	14	38,878	2.28	16,406		0	2.22	16,851	86,635
27		504,900						7.25	14,500		0	2.72	19,592		0	3.26	24,755	563,747
28								7.25	14,500	13	36,101	3.19	22,950		0	3.36	25,564	99,116
29								6.25	12,500	11	30,547	1.02	7,358		0	1.70	12,923	63,329
30									0	10	27,770	1.09	7,874		0	1.90	14,449	50,093
																		4,701,190

Daily Avg. 0.157

Month: October Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0	10	27,770	3.65	26,264		0	2.69	20,433	74,467
2									0	11	30,547	3.50	25,204		0	2.83	21,508	77,259
3								7.50	15,000	12	33,324	3.72	26,787		0	1.91	14,537	89,648
4								7.50	15,000	10	27,770	2.75	19,829		0	1.68	12,769	75,368
5								6.00	12,000	11	30,547	2.41	17,378		0	1.23	9,366	69,291
6									0	13	36,101	2.23	16,036		0	1.43	10,894	63,030
7								7.00	14,000	11	30,547	1.26	9,043		0	3.92	29,771	83,361
8								7.00	14,000	13	36,101	1.88	13,552		0	3.33	25,307	88,960
9		336,600						7.00	14,000	10	27,770	1.22	8,782		0	3.86	29,339	416,491
10		336,600						7.00	14,000	11	30,547	3.26	23,483		0	3.96	30,125	434,755
11								7.00	14,000	11	30,547	2.66	19,120		0	3.15	23,919	87,585
12									0	12	33,324	2.53	18,190		0	2.60	19,749	71,263
13									0	11	30,547	3.31	23,827		0	2.98	22,618	76,992
14								7.00	14,000	13	36,101	3.37	24,270		0	1.60	12,182	86,553
15			79,169					7.00	14,000	12	33,324	1.16	8,382		0	3.59	27,248	162,123
16			79,169					7.00	14,000	10	27,770	2.96	21,322		0	3.18	24,187	166,449
17								7.00	14,000	14	38,878	1.29	9,294		0	2.48	18,840	81,012
18		336,600						7.25	14,500	10	27,770	1.75	12,601		0	1.10	8,351	399,822
19		336,600						7.25	14,500	11	30,547	2.31	16,628		0	2.97	22,552	420,827
20								6.25	12,500	12	33,324	2.09	15,022		0	3.66	27,838	88,684
21								6.00	12,000	11	30,547	2.57	18,487		0	1.30	9,860	70,893
22								7.00	14,000	13	36,101	3.96	28,508		0	2.40	18,214	96,822
23								7.25	14,500		0	1.23	8,892		0	2.58	19,640	43,032
24								7.25	14,500		0	2.33	16,802		0	3.58	27,213	58,515
25								6.75	13,500		0	2.09	15,022		0	3.60	27,380	55,901
26		336,600						6.00	12,000		0	2.77	19,934		0	1.87	14,192	382,726
27		336,600							0		0	1.96	14,114		0	1.42	10,818	361,532
28								7.00	14,000	14	38,878	2.62	18,829		0	2.19	16,652	88,360
29		336,600						7.00	14,000	10	27,770	2.55	18,347		0	1.66	12,596	409,313
30		336,600						7.25	14,500	13	36,101	1.97	14,168		0	1.58	11,992	413,361
31								7.25	14,500	11	30,547	2.78	20,034		0	2.37	18,037	83,119
																		5,177,516

Daily Avg. 0.167

Month: November Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1									0	2	5,554	2.17	15,589		0	2.90	22,012	43,155
2								7.25	14,500	9	24,993	3.09	22,219		0	1.97	14,967	76,679
3								1.75	3,500	21	58,317	3.44	24,736		0	2.23	16,963	103,516
4									0	16	44,432	3.66	26,379		0	2.91	22,143	92,953
5									0	15	41,655	1.73	12,465		0	3.58	27,215	81,335
6									0	17	47,209	1.87	13,444		0	1.17	8,914	69,567
7									0	12	33,324	1.73	12,445		0	2.39	18,132	63,901
8								6.25	12,500	15	41,655	2.34	16,877		0	1.12	8,515	79,546
9								7.00	14,000	8	22,216	1.14	8,223		0	2.27	17,286	61,725
10									0	11	30,547	2.21	15,905		0	1.09	8,248	54,699
11								8.75	17,500	16	44,432	3.87	27,868		0	3.19	24,220	114,020
12									0	13	36,101	3.45	24,836		0	3.25	24,705	85,642
13								7.25	14,500	12	33,324	2.44	17,549		0	2.79	21,193	86,565
14								7.25	14,500	13	36,101	1.41	10,178		0	1.18	8,949	69,729
15								6.25	12,500	14	38,878	3.40	24,473		0	3.81	28,969	104,820
16								6.00	12,000	13	36,101	2.39	17,216		0	2.24	16,990	82,307
17								5.25	10,500	14	38,878	2.55	18,353		0	3.62	27,503	95,234
18									0	14	38,878	1.56	11,208		0	1.57	11,942	62,027
19								6.00	12,000	12	33,324	1.94	14,001		0	2.21	16,798	76,123
20			79,169					5.75	11,500	14	38,878	2.14	15,437		0	1.55	11,818	156,801
21			79,169					7.00	14,000	17	47,209	3.29	23,689		0	1.13	8,562	172,629
22									0	11	30,547	1.02	7,377		0	1.76	13,350	51,275
23									0	11	30,547	3.20	23,010		0	3.49	26,515	80,072
24									0	18	49,986	3.20	23,048		0	3.41	25,881	98,916
25								6.26	12,514		0	2.39	17,215		0	2.19	16,658	46,387
26								7.00	14,000		0	1.27	9,141		0	1.48	11,215	34,356
27								7.00	14,000		0	3.86	27,786		0	3.18	24,172	65,958
28								7.25	14,500		0	1.11	8,019		0	2.36	17,959	40,478
29								7.25	14,500		0	3.61	25,966		0	2.92	22,163	62,629
30								7.25	14,500		0	2.02	14,563		0	2.83	21,483	50,545
																		2,363,591

Daily Avg. 0.079

Month: December Year: 2018

	Aeration Tank 673,200 Gallons	Aeration Tank 673,200 Gallons	Final Clarifier 158,337 Gallons	Final Clarifier 158,337 Gallons	Chlorine Contact Tk 64,780 Gallons	Primary Clarifier 5 345,262 Gallons	Primary Tank 145,916 Gallons	Belt Filter Press Hrs	Belt Filter Press 2000/hr Gallons	Digester Decant Inches	Digester Decant 2,777/in Gallons	Final Clarifier Skimming Hrs	Final Clarifier Skimming Gallons	CL2 Tanks Skimming Hrs	CL2 Tanks Skimming Gallons	Primary Clarifier Skimming Hrs	Primary Clarifier Skimming Gallons	Total Recycle Flow Gallons
1								5.75	11,500	10	27,770	1.26	9,102		0	3.11	23,661	72,033
2								3.00	6,000	15	41,655	1.97	14,175		0	3.72	28,239	90,068
3			158,337					6.25	12,500	15	41,655	2.65	19,068		0	1.56	11,857	243,417
4								7.00	14,000	11	30,547	1.26	9,063		0	2.55	19,401	73,011
5								8.25	16,500	13	36,101	3.73	26,877		0	1.13	8,609	88,087
6			158,337					6.75	13,500	13	36,101	1.56	11,264		0	2.20	16,688	235,890
7								7.25	14,500		0	2.31	16,630		0	1.94	14,738	45,868
8								5.00	10,000		0	2.55	18,351		0	2.68	20,376	48,727
9								5.00	10,000		0	3.11	22,398		0	2.17	16,492	48,889
10								6.00	12,000		0	2.59	18,625		0	3.19	24,248	54,873
11								7.00	14,000		0	3.83	27,593		0	2.31	17,545	59,137
12								7.25	14,500		0	2.03	14,632		0	2.11	16,008	45,140
13								7.25	14,500	12	33,324	3.79	27,256		0	3.64	27,634	102,714
14								7.25	14,500		0	3.85	27,728		0	2.15	16,346	58,574
15									0		0	1.42	10,247		0	3.39	25,734	35,982
16									0		0	2.82	20,282		0	1.87	14,189	34,472
17								6.00	12,000		0	2.14	15,405		0	2.13	16,174	43,579
18								7.00	14,000		0	1.66	11,975		0	2.65	20,149	46,124
19								7.25	14,500		0	1.74	12,528		0	1.04	7,920	34,948
20								7.25	14,500		0	1.23	8,857		0	1.75	13,321	36,678
21								6.50	13,000		0	1.10	7,919		0	1.82	13,824	34,743
22								3.25	6,500		0	2.20	15,875		0	3.41	25,946	48,320
23								3.00	6,000		0	1.08	7,766		0	2.09	15,886	29,652
24								6.50	13,000		0	1.60	11,487		0	1.01	7,673	32,160
25								6.00	12,000		0	1.82	13,125		0	1.82	13,800	38,925
26								7.00	14,000		0	2.74	19,715		0	2.35	17,842	51,557
27								6.50	13,000		0	3.54	25,506		0	2.23	16,958	55,464
28									0		0	3.33	23,950		0	2.74	20,813	44,763
29								6.25	12,500	22	61,094	1.98	14,281		0	3.88	29,494	117,369
30									0		0	1.72	12,403		0	2.77	21,083	33,485
31								6.00	12,000	12	33,324	3.90	28,067		0	2.69	20,478	93,868
																		2,078,520

Daily Avg. 0.067

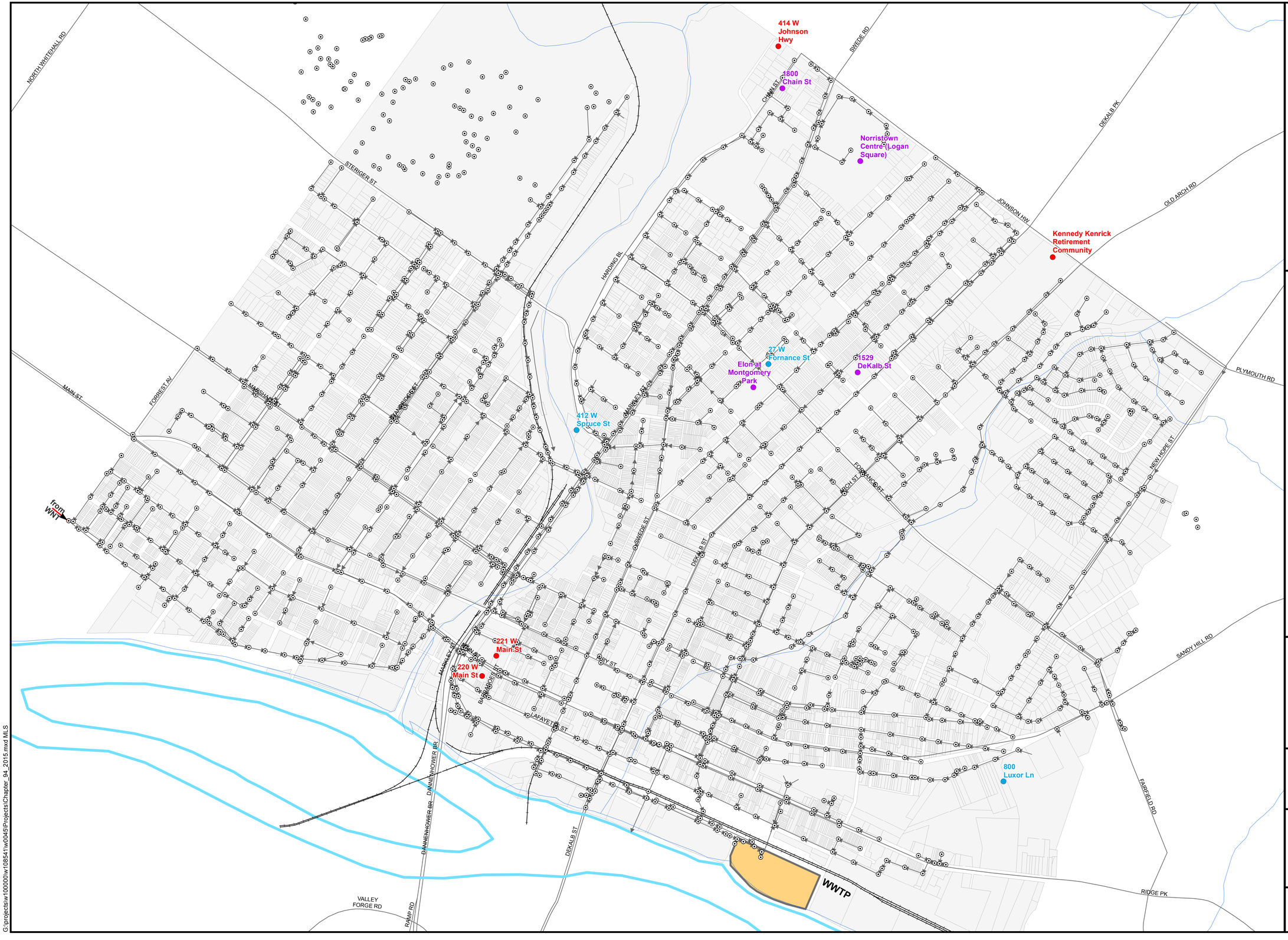
APPENDIX B

NMWA SEWER SERVICE AREA MAP

Chapter 94

Norristown Municipal Waste Authority Sewer Service Area

Norristown Borough
Montgomery County, PA



- 2018 Connection
- Connection Approved/Exempted (but not yet constructed)
- Projected Connection
- Manholes
- Sewerlines
- Railroad
- Stream
- River
- WWTP
- Parcel

N

0 500 1,000 Feet

Data Sources:
Sewer Data, SSM
Roads, PennDOT
Municipal Boundary, Penndot
Parcels, Montgomery County

SSM GROUP, INC.
Engineering and Environmental Services
Reading | Lehigh Valley | Central Pennsylvania
P: 610.621.2000 F: 610.621.2001
ssmgroup.com

02/27/19

Revised:
03/24/11 03/28/16
01/20/12 03/06/17
03/22/12 03/01/18
03/07/13
03/11/15

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APPENDIX C

INDUSTRIAL HARMFUL AND PROHIBITED WASTES

ARTICLE I – INDUSTRIAL HARMFUL AND PROHIBITED WASTES

SECTION 1 – GENERAL PROVISIONS

1.1 Purpose and Policy

1. The objectives of this Article I of the Rates, Rules and Regulations ("Rules") are:

A. To prevent the introduction of pollutants into the wastewater collection and treatment system owned and operated by the Norristown Municipal Waste Authority ("Authority") which will interfere with its operation, contaminate the biosolids generated at STP, or otherwise be incompatible with the system;

B. To prevent the introduction of pollutants into the wastewater collection and treatment system of the Authority that will be inadequately treated and thus will pass-through the STP into the receiving waters or the atmosphere;

C. To protect the environment, the general public and Authority personnel against the hazards associated with discharges of toxic or otherwise incompatible pollutants into the Sewer System;

D. To improve the opportunity to recycle and reclaim the wastewater and biosolids from the STP;

E. To provide for the equitable distribution of costs associated with the development and implementation of the Authority's industrial pretreatment program, and other improvements to the wastewater collection and treatment system; and

F. To help assure compliance with the National Pollution Discharge Elimination System ("NPDES") permit, biosolids use and disposal requirements, the Clean Water Act, the General Pretreatment Regulations, and any other federal or state laws which with the applicable municipalities and Authority must comply.

The Rules will be implemented by the Authority through issuance of permits to those industrial users deemed a significant industrial user or industrial user, through monitoring, reporting and enforcement of the Rules with the permitted users, and through enforcement of general requirements for all other users. The Rules also assume that the capacity of the sewer system allocated to existing users shall not be

preempted, and provides for the setting of fees for the equitable distribution of costs resulting from the program established herein.

The Rules shall apply to all persons who are users or significant industrial users of the collection systems serviced by the Authority. Except as otherwise provided herein, the provisions of the Rules shall be administered and implemented by the Authority.

Nothing contained in the Rules shall be construed as preventing any special agreement or arrangement between the Authority and any significant industrial users allowing a waste of unusual strength or character to be accepted by the Authority through special agreements in writing, executed prior to such acceptance, containing safeguards, limitations, and conditions acceptable to the Authority. Any such agreement or arrangement shall not allow a discharge that exceeds Categorical Standards.

1.2 Abbreviations

The following abbreviations, when used in the Rules, shall have the designated meanings:

BOD – Biochemical Oxygen Demand
BMP – Best Management Practices
BMR – Baseline Monitoring Report
CFR – Code of Federal Regulations
CIU – Categorical Industrial User
COD – Chemical Oxygen Demand
EPA – U.S. Environmental Protection Agency
gpd – gallons per day
IU – Industrial User
mg/l – milligrams per liter
NPDES – National Pollutant Discharge Elimination System
NSCIU – Non-Significant Categorical Industrial User
POTW – Publicly Owned Treatment Works
RCRA – Resource Conservation and Recovery Act
SIU – Significant Industrial User
SNC – Significant Noncompliance
STP – Norristown Sewage Treatment Plan
TSS – Total Suspended Solids
U.S.C. – United States Code

1.3 Definitions

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this Article I only, shall have the meanings hereinafter designated. Words in the present tense include the future.

The singular numbers includes the plural number. The plural number includes the singular number. The word "shall" is mandatory, while the word "may" is permissive.

1. Act: The Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. section 1251 et seq.

2. Administrative Order: A document prepared by the Authority which directs an industrial user to undertake or to cease specific activities and which carries specific assessments to be enforced when addressing continued noncompliance. The Administrative Order may contain a Compliance Schedule specifying the time frame by which the industrial user must perform certain activities which will ultimately result in compliance with all requirements contained in the Order.

3. Approval Authority: The Administrator or the Regional Administrator of EPA.

4. Authorized or Duly Authorized Representative of the User:

    a. If the user is a corporation:

        i. The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

        ii. The manager of one or more manufacturing, production or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information to meet Industrial Waste Discharge Permit requirements; and where Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b. If the user is a partnership, limited liability or sole proprietorship: a general partner, manager or proprietor, respectively.

c. If the user is a Federal, State or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

d. The individuals described in paragraphs 1 through 3, above, may designate a Duly Authorized Representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from which the discharge originates or having overall responsibility for environmental matters for the company and the written authorization is submitted to the Authority.

5. Average Daily Flow: The wastewater discharge volume from the most recent calendar quarter divided by the number of calendar days in that quarter.

6. Biochemical Oxygen Demand: The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures for five (5) days at 20 degrees centigrade, usually expressed as a concentration (e.g., mg/l).

7. Best Management Practices: means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to implement the prohibitions listed in §403.5(a)(1) and (b) of the Act. BMPs include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

8. Bypass: The intentional diversion of waste streams from any portion of an industrial user's facility for pretreatment.

9. Categorical Industrial User: Any industry subject to Pretreatment Standards as specified in 40 CFR, Chapter 1, Subchapter N, as may hereafter be amended or modified, establishing quantities or concentrations of pollutants or pollutant properties which may be discharged or introduced to a treatment plan by existing or new industrial users in specific industrial subcategories.

10. Categories: The five (5) separate group of violations:

- Sampling, Monitoring and Reporting Violations
- Effluent Limits Violations
- Compliance Schedule Violations
- Unauthorized Discharges
- Noncompliance Violations Detected Through Field Inspections

11. Chemical Oxygen Demand: The quantity of oxygen, expressed in mg/L, required to chemically oxidize the organic and inorganic matter in a water or wastewater sample under the standard laboratory procedure. The standard laboratory procedure shall be that in the latest edition of "Standard Methods for the Examination of Water and Sewage" published by the American Public Health Association.

12. Compatible Pollutant: Shall mean BOD, COD, Total Suspended Solids, Total Kjeldahl Nitrogen, phosphate, and fecal coliform bacteria.

13. Daily Maximum: The arithmetic average of all effluent samples for a pollutant collected during a calendar day.

14. Daily Maximum Limit: The maximum allowable discharge limit of a pollutant during a calendar day. Where daily maximum limits are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limits are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day.

15. Discharge Permit: A permit issued by Authority authorizing the discharge of tank truck or hauled waste at the STP.

16. Enforcement Response Plan ("ERP"): A plan developed by the Authority that details the response that will be taken for various violations of the Rules, a Categorical Pretreatment Standard, or any other applicable law. The ERP is a supplement to and made a part of the Rules.

17. Engineer: The Authority's consulting engineer.

18. EPA: The United States Environmental Protection Agency, including, where appropriate, the Administrator or other duly authorized official of said agency.

19. Equivalent Dwelling Unit: Any source of wastewater into the Authority sewer system that has the following Monthly Average wastewater characteristics.

Flow	275 gallons per day
Ammonia-Nitrogen	25 mg/L
BOD	250 mg/L
Phosphate	10 mg/L as P
Total Suspended Solids	250 mg/L
Total Kjeldahl Nitrogen	40 mg/L as N

20. Event: Any violation of the Rules which occurs within any one (1) of the categories.

21. Existing Source: Any course of discharge that is not a "New Source".

22. Garbage: Solid wastes from the domestic and commercial preparation, cooking and dispensing of foods, and from the commercial handling, storage and sale of produce.

23. Grab sample: A sample that is taken from a waste stream on a one-time basis is over a period of time not to exceed fifteen minutes, with no regard to the flow in the waste stream.

24. Holding Tank Waste: Any waste from holding tanks, such as vessels, chemical toilets, campers, trailers, septic tanks, and vacuum-pump tank trucks.

25. Indirect Discharge: The discharge or introduction of pollutants into the sewer system, including holding tank waste discharged into the system as outlined in 40 CFR Part 403.3(i) and Sections 307(b), (c) and (d) of the Act.

26. Industrial User: Any person discharging Industrial wastewater to the sewer system.

27. Industrial wastewater: Any water which, during a manufacturing, or processing operation, including those regulated under Sections 307(b), (c) or (d) of the Act, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product, or waste product, or any other water contaminated by an industrial process, and distinct from Sanitary Sewage.

28. Industrial Waste Discharge Permit: A permit authorizing a person to deposit or discharge Industrial wastewater into the sewer system.

29. Instantaneous Limit: The maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

30. Interference: A discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts, the STP processes or operations which contributes to a violation of any requirement of the Authority's NPDES Permit of a decrease in treatment efficiency. The term includes inhibition or disruption of sewage sludge use or disposal from the STP in accordance with Section 405 of the Act or any criteria, guidelines, or regulations developed pursuant to the Solid Waste Disposal Act ("SWDA"), the Clean Air Act, the Toxic Substances Control Act, or more stringent State criteria (including those contained in any State sludge management plan prepared pursuant to Title IV of SWDA) applicable to the method of disposal or use employed by the STP.

31. Isolated Violation: A violation which would otherwise give rise to civil penalty assessment hereunder for an Event which has not occurred for a term of three (3) years or greater.

32. Legal Action: Depending on the circumstances of the violation may refer to any civil penalty assessment of any other appropriate lawful remedy provided or permitted by the Rules.

33. Local Discharge Limits or Local Limits: Numerical limitations on the concentration, mass or other characteristics of wastes or pollutants, discharged to the sewer system by industrial users, and which are developed by the Authority to implement the general and specific discharge prohibitions listed in 40 CFR 403.5(a)(1) and (b), as set forth on Exhibit "A" and incorporated in the Rules.

34. Manager: The person designated by the Authority to supervise the operation of the STP and collection system and who is charged with certain duties and responsibilities by the Rules, or his duly authorized representative.

35. Medical Waste: Isolation wastes, infectious agents, human blood and blood products, pathological wastes, sharps, body parts, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

36. Monthly Average: The sum of all daily discharges measures during a calendar month divided by the number of daily discharges measured during that month.

37. Monthly Average Limit: The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during that month.

38. National Pollutant Discharge Elimination System Permit: A permit issued pursuant to Section 402 of the Act.

39. National Pretreatment Standards, Pretreatment Standards or Standards: Any regulation or requirement containing specific or general pollutant discharge limitations established in accordance with Sections 307 (b) and (c) of the Act which applies to all industrial users in the sewer system.

40. National Prohibited Discharge Standard or Prohibited Discharge: Any regulation developed under the Authority of 40 CFR, Section 403.5.

41. New Source:

a. Any building, structure, facility, or installation from which there is (or may be) a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act that will be applicable to such source if such Standards are thereafter promulgated in accordance with that section, provided that:

i. The building, structure, facility, or installation is constructed at a site at which no other source is located; of

ii. The building, structure, facility, or installation totally replaces the process of production equipment that causes the discharge of pollutants at an Existing Source; or

iii. The production or wastewater generating process of the building, structure, facility or installation are substantially independent of an Existing Source at the same site. In determining whether these are substantially independent, factors such as the extent to

which the new facility is engaged in the same general type of activity as the Existing Source, should be considered.

b. Construction on a site at which an Existing Source is located results in a modification rather than a New Source if the construction does not create a new building, structure, facility, or installation meeting the criteria above but otherwise alters, replaces, or adds to existing process or production equipment.

c. Construction of a New Source as defined under this Paragraph has commenced if the owner of operator has:

i. Begun, or caused to begin, as part of a continuous onsite construction program any placement, assembly, or installation of facilities or equipment; of

ii. Begun, or caused to begin any significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation or new source facilities or equipment; or

iii. Entered into a binding contractual obligation for the purchase of facilities or equipment which is intended to e used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under this paragraph.

42. Non-contact Cooling Water: Water used for cooling that does not come into direct contact with any raw material, intermediate product, waste product or finished product.

43. Notice of Violation (NOV): An official communication from the Authority to the industrial user documenting that a pretreatment violation has occurred.

44. Qualified Professional: Registered professional engineer skilled in the field of wastewater treatment.

45. Pass Through: Discharge through the STP that exists in quantities or concentrations, alone or with discharges from other sources, will cause a violation of any condition of the Authority's NPDES Permit, including an increase in the magnitude or duration of a violation.

46. Pennsylvania Department of Environmental Protection ("PaDEP"): The Department of Environmental Protection of the Commonwealth of Pennsylvania, or any department or agency of the Commonwealth succeeding to the existing jurisdictions or responsibility of the Department of Environmental Protection.

47. pH: The logarithm of the reciprocal of the hydrogen ion concentration expressed as moles per liter.

48. Pollutant: Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, Medical Wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rocks, sand, cellar dirt, municipal, agricultural and industrial wastes, and certain characteristics or wastewater (e.g., pH, temperature, TSS, turbidity, color, BOD, COD, toxicity, or odor).

49. Pretreatment: The reduction in the amount of Pollutants, the elimination of Pollutants, or the alteration of the nature of Pollutant properties in wastewater to a less harmful state prior to in lieu of discharging or otherwise introducing such Pollutants into the sewer system. The reduction or altercation may be obtained by physical, chemical or biological processes, process changes or by other means, except as prohibited by 40 CFR 403.6(d).

50. Pretreatment Requirement: Any substantive or procedural requirement related to Pretreatment, other than a National Categorical Pretreatment Standard, imposed on an industrial user.

51. Pretreatment Standard: Any regulation containing Pollutant discharge limits promulgated by the EPA in accordance with Sections 307 (b) and (c) of the Act, which applies to industrial users. This term includes National Categorical Pretreatment Standards, Prohibited Discharges, and Local Discharge Limits.

52. Prohibited Discharge Standards or Prohibited Discharges: Absolute prohibitions against the discharge of certain substances; these prohibitions appearing Section 2.1 of this Article.

53. Septic Tank Waste: Any sewage from holding tanks such as vessels, chemical toilets, campers, trailers and septic tanks.

54. Sewage Treatment Plant or STP: The Authority owned treatment works, as defined by section 212 of the Act (33 U.S.C section 1292). This definition includes any devices or systems used in the storage, treatment, recycling, and reclamation of sewage or industrial waste of a liquid nature.

55. Show-Cause Hearing: An official meeting between the authorized representative of the Authority and the industrial user to seek the resolution of conditions and violations. The Show-Cause Hearing may also result in the Authority issuing an Administrative Order to the industrial user.

56. Significant Industrial User: Any industrial user that (1) is subject to the National Categorical Pretreatment Standards; or (2) discharges twenty-five thousand (25,000) or more per day or Industrial wastewater, or (3) contributes a waste stream which makes up five percent or more of the dry weather compatible pollutant capacity of the STP; or (4) has a reasonable potential, as determined by the Authority, or EPA, to adversely affect the STP by Interference, Pass Through Pollutants, sludge contaminations, to endanger collection system and STP personnel, or to violate any applicable Pretreatment Standard.

57. Significant Noncompliance ("SNC"): An industrial user is in significant noncompliance if its violations meet one or more of the following criteria.

a. Chronic violations of wastewater discharge limits, defined as those in which 66 percent or more of all the measurements taken during a six-month period exceed (by any magnitude) a numeric Pretreatment Standard or Requirement, including instantaneous limits;

b. Technical Review Criteria ("TRC") violations, defined as those violations in which 33 percent or more of all of the measurements for each parameter measured taken during a six-month period equal or exceed the product of a numeric Pretreatment Standard or Requirement, including instantaneous limits times the applicable TRC multiplier (TRC multiplier equals 1.4 for BOD, TSS, fats, oil and grease and 1.2 for all other pollutants with numerical limits, except pH);

c. Any other violation of a Pretreatment Standard or Requirement (daily maximum, longer-term average or instantaneous) that the Authority determines has caused, alone or in a combination with other discharges, an Interference or Pass-Through at the STP (including endangering the health of a POTW personnel or the general public);

d. Any discharge of a pollutant that has caused imminent endangerment to the health of STP personnel, the environment or the general public; or has resulted in the Authority exercising any emergency Authority to halt or prevent such a discharge;

e. Failure to meet, within ninety (90) days after the scheduled date, a compliance schedule date, or a compliance schedule milestone contained in the user's Industrial Waste Discharge Permit or enforcement action for starting construction, completing construction, or attaining final compliance;

f. Failure to provide, within forty-five (45) day after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with a compliance schedules;

g. Failure to accurately report incidents of noncompliance; or

h. Any other violation or group of violations, which may include a violation of Best Management Practices, that the Authority determines will adversely affect the overall implementation of its Industrial Pretreatment Program.

58. Significant Violation: Any incident that results in a violation of the Authority's NPDES Permit or biosolids disposal requirements, or has a toxic effect on the receiving waters.

59. Slug Load: Any discharge at a flow rate of concentration, which could cause a violation of the prohibited discharge standards in Section 2.1 of this Article. A Slug Discharge is any Discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the Authority's regulations, Local Limits or Permit conditions.

60. Slug Control Plan: A report prepared by an industrial user and provided to the Authority in accordance with the Rules which details the existing and proposed facility plans and operating procedures to be followed by that user in the event of a Slug Load.

61. Standard Industrial Classification ("SIC": A classification pursuant to the latest Standard Industrial Classification Manual issued by the Executive Office of the President, Office of Management and Budget.

62. Standard Methods: The latest edition of "Standard Methods for the Examination of Water and Wastewater", a manual published by the American Public Health Association specifying analytical procedures for testing and analysis of wastewater.

63. State: Commonwealth of Pennsylvania.

64. Stormwater: Any flow occurring during or following any form of natural precipitation, and resulting from such precipitation, including snowmelt.

65. Surcharge: An additional charge for the treatment of extra-strength wastewater in excess of the basic charge for treatment of wastewater.

66. Termination of Services: The issuance of a formal notice of termination by the Authority to an industrial user for continued or severe violations of Significant Noncompliance (SNC).

67. Total Suspension of Solids ("TSS"): The total suspended matter that either floats on the surface of, or is in suspension in, water or wastewater, as measured by laboratory filtration as prescribed in "Standard Methods"..

68. Total Kjeldahl Nitrogen ("TKN"): The sum of the organic nitrogen and ammonia nitrogen present in wastewater, as measured by standard laboratory procedure as described in Standard Methods.

69. Twenty-four Hour Composite Sample: A sample that is collected over time, formed either by continuous sampling or by mixing discrete samples collected at regular intervals, not exceeding one (1) hour, during a twenty-four hour time span. The sample may be collected either as a time composite sample (composed of discrete sample aliquots collected in one container at constant time intervals providing representative samples irrespective of discharge flow) or as a flow proportional composite sample

(collected as either a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increases while maintaining a constant time interval between aliquots).

70. Upset: A condition in which the stability of the biological mass of organism used to treat the wastewater or wastewater solids is disrupted or negatively affected in any way.

71. User or Industrial User: A source of Indirect Discharge or customer.

72. Wastewater: Liquid and water-carried industrial wastes and sewage from structures including residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, which are contributed to the sewer system.

SECTION 2 – PROHIBITIONS AND RESTRICTIONS ON ALL USERS

2.1 General Discharge Restrictions

Except as otherwise provided in the Rules, no user shall discharge or cause to be discharged to the sewer system any sewage, industrial wastewater, or other matter or substance.

A. Having a temperature which will inhibit biological activity at the STP resulting in Interference, but in no case with a temperature at the introduction into the sewer system which exceeds d120 degrees F or is less than 40 degrees F, and in no case heat in such quantities that the temperature of the influent to the STP exceeds 104 degrees F.

B. Containing petroleum oils, non-biodegradable cutting oils, or other products of mineral oil origin, animal fats, oil wax, or grease or other similar substances, (collectively called “oil and grease”) in amounts that will cause Pass Through or Interference.

C. Containing any liquids, solids, or gases at concentrations, which are, or may be sufficient, either alone or by interaction with other substances, to cause fire or explosion or be injurious in any other way to the sewer system or to the operation of the STP. Prohibited materials include, but are not limited to, gasoline, fuel oil, kerosene, naphtha, paint products, sulfides, and any substance having a closed cup flashpoint of less than one hundred and forty (140) degrees Fahrenheit using the test methods specified in 40 CFR 261.21.

D. Containing oxygen-demanding pollutants (BOD, etc .) released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause Interference with the STP.

E. Containing solid or viscous substances at concentrations which will cause obstruction to the flow in a sewer or other Interference such as but not limited to: ashes, cinders, spent lime, stone dust, sand, mud, straw, shavings, metals, glass, rags, grass clippings, feathers, tar, plastics, wood, whole blood, paunch manure, bentonite, lye, building materials, rubber, asphalt residues, hairs, bones, leather, porcelain, china, ceramic wastes, polishing wastes, or glass grindings.

F. Having a pH, stabilized, lower than 5.0 or higher than 10.0 or having any other corrosive or scale performing property capable of causing damage or hazard to structures, equipment, bacterial action, or personnel of the sewer system.

G. Containing pollutants in sufficient quantity, either singly or by interaction with other pollutants, to injure, cause a Pass Through or Interference in the sewer system, constitute a hazard to humans, animals or plans, create a toxic effect in the receiving waters of the STP, or to exceed any limitation set forth in a National Categorical Pretreatment Standard.

H. Containing any noxious or malodorous liquids, gases, or solids which, either singly or by interaction with other wastes are sufficient to create a public nuisance or result in toxic gases, vapors or fumes in the sewer system in a quantity that will cause worker health and safety problems.

I. Containing objectionable color not removed in the treatment process, such as, but not limited to, dye wastes and vegetable tanning solutions.

J. Containing radioactive substances of such half-life or concentration as may exceed limits which are prohibited by applicable State or Federal regulations.

K. Prohibited by any permit, statute, rule, regulation, and ordinance issued or promulgated by any public agency, including the State or Federal regulations.

L. Containing any substance which shall cause the STP to be in non-compliance with sludge use or disposal criteria, guidelines or regulations developed under Section 405 of the Act or be in

noncompliance with any criteria, guidelines, or regulations affecting sludge use or disposal promulgated pursuant to the Solid Waste Control Act, or State Clean Air Act, the Toxic Substances Control Act, or State criteria applicable to the sludge management method being used.

M. Containing Medical Wastes, except as specifically approved by the Authority.

N. Containing non-biodegradable complex carbon compounds.

O. Constituting a Slug Load.

P. Containing Stormwater from pavements, area ways, roofs, foundation drains or other sources.

Q. Containing any Garbage with particles greater than one-half (1/2) inch in size.

R. Containing pesticides, unless upon written request, special permission is obtained from the Authority.

2.2 Compatible Pollutant Limitations

All wastewater entering the sewer system shall comply with the following typical Average Monthly domestic wastewater levels unless otherwise stated in writing by the Authority by way of an Industrial Waste Discharge Permit, and at no time shall exceed the Local Limits (see Exhibit "A"). Wastewater with concentrations greater than the domestic concentrations is considered Extra strength wastewater and may be subject to a surcharge.

Parameter	**Domestic Concentration (mg/L)**
Ammonia Nitrogen	25
Carbonaceous Biochemical Oxygen Demand	250
Oil and Grease	100
Total Suspended Solids	250

2.3 Trucked or Hauled Wastewater

A. Tank truck or hauled waste discharges to the sewer system are prohibited, except as authorized hereinafter.

B. Tank truck or hauled wastes may only be discharged at the STP upon the issuance of a Discharge Permit by the Authority.

C. Tank truck or hauled wastes authorized for discharge shall be discharged only at the location, time and at a rate fixed by the Discharge Permit.

D. Tank truck or hauled waste discharges shall not include any Industrial wastewater.

E. Prior to discharge, the tank truck or hauled waste shall be subject to inspection and sampling by the Authority.

F. Tank truck or hauled waste discharged shall be subject to rate and charges in accordance with a schedule established by the Authority, as amended from time to time.

SECTION 3 - PROHIBITIONS AND RESTRICTIONS ON INDUSTRIAL USERS

3.1 General

No person shall discharge Industrial wastewater into the sewer system in violation of Section 2 hereof and unless the person discharging the same has submitted a complete and accurate Industrial Waste Discharge Questionnaire to the Authority in the form prescribed by the Manager, and has been issued an Industrial Waste Discharge Permit or has been issued a written determination by the Manager that a Permit is unnecessary for the discharge described in the questionnaire.

Where a proposed discharge is believed by the Authority to have a reasonable potential for adversely impacting the sewer system, the Authority may require treatability studies to be performed by the industrial user on the proposed wastewater in order to demonstrate its compatibility with the sewer system. When such studies are required by the Authority, they shall be preceded by the submittal of a sewer treatability study plan by the industrial user to the Authority for review and approval. All costs associated with preparing the treatability study plan and performing the treatability study shall be borne by the industrial user. The Authority reserves the right to reject any treatability plan it feels is inadequate to show the treatability of a given wastewater.

3.2 Qualitative Limits

A. The Authority shall establish Local Discharge Limits regulating the discharge of specific Pollutants to the sewer system by industrial users. Local Discharge Limits may be established for any substance which is discharged, or likely to be discharged, to the sewer system.

B. Local Discharge Limits may limit concentration, mass, or a combination of the two, where a local limit or conventional pollutant standard is expressed only in terms of concentration of a pollutant in wastewater, the Manager may impose equivalent mass limits, expressed as mass of pollutant discharged per day, based on the applicable concentration limit and permitted effluent flow from the User.

C. The procedure for the calculation of Local Discharge Limits shall be as recommended by the Approval Authority.

D. Local Discharge Limits shall be calculated to prevent Interference; Pass Through; the discharge of toxic materials in toxic amounts; threats to worker health and safety; and physical, chemical, or biological damage to the sewer system.

E. Local Discharge Limits applicable to industrial users shall be adopted by separate resolution of the Authority and included in all Industrial Waste Discharge Permits.

F. Discharging any Pollutant in excess of a Local Discharge Limit established for that Pollutant shall be a violation of the Rules.

3.3 Spills or Slug Loads

A. All industrial users shall provide and maintain at their own expense facilities adequate to prevent an accidental discharger or Slug Load of any substance stored or used at the industrial user's facilities that, if discharged into the sewer system, will violate any of the provisions of Sections 2.1 or 3.2 of this Article. Slug Control Plans shall be submitted, as requested, to the Authority, detailing the facility plans and operating procedures to be utilized by the industrial user for this protection. Slug Control Plans shall contain, at a minimum, the following information:

1. A description of discharge practices, including non-routine discharges; description of stored chemicals;
2. Procedures for immediately notifying the Authority of accidental discharges and Slug Loads into the sewer system;
3. Procedures to prevent adverse impacts from such discharges and procedures to prevent recurrence of all such discharges.

All existing industrial users shall also provide the Authority with a copy of its Slug Control Plan, or demonstrate to the satisfaction of the Authority that such a plan is not needed, within 180 days of the adoption of the Rules. Any industrial user proposing to connect to the sewer system shall submit a copy of its Slug Control Plan to the Authority for approval, or demonstrate to the satisfaction of the Authority they are not needed, before connection to the sewer system. Review of such plans and operating procedures shall not relieve the user from the responsibility to modify the user's facility as necessary to meet the requirements of the Rules.

B. In the case of a Slug Load to the sewer system of any Pollutant, the industrial user shall immediately notify by telephone the Manger of the incident. The notification shall include information regarding the location of the discharge, the kind of pollutants involved, the concentration and volume of the discharge and corrective actions planned or taken.

C. Within five (5) days following a Slug Load, the industrial user shall submit to the Manager a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Such notification shall not relieve the users of any liability on account thereof.

D. A notice shall be permanently posted by each industrial user on a bulletin board or other prominent place advising employees whom to call in the event of an accidental discharge or Slug Load. Employers shall inform all employees, who may cause or allow a Slug Load to occur, of the emergency notification procedure.

3.4 National Categorical Pretreatment Standards

Users must comply with the categorical Pretreatment Standards found at 40 CFR Chapter 1, Subchapter N, Parts 405-471. If the National Categorical Pretreatment Standards for any industrial user are more stringent than limitations imposed under the Rules for industrial users in that subcategory, then the Pretreatment Standards shall apply and are hereby incorporated in the Rules. The Authority shall notify all affected industrial users of the applicable reporting requirements under 40 CFR, Section 403.12. If an industrial user, subject to a National Categorical Pretreatment Standard, has not previously submitted an

Application for an Industrial Waste Discharge Permit, the user shall apply for a Permit within 90 days of promulgation of the National Categorical Pretreatment Standard.

3.5 Dilution Prohibition

Except where expressly authorized to do so by an applicable Pretreatment Standard or Pretreatment Requirement, no industrial user shall increase the use of process water, or in any other way attempt to dilute a discharge as partial or complete substitute for adequate treatment to achieve compliance with a Pretreatment Standard or Requirement. The Authority may impose mass limitations (in addition to those imposed under Section 3.3) on users in cases where the imposition of mass limitations is appropriate.

3.6 State Requirements

State requirements and limitations on Industrial wastewater discharges shall apply in any case where they are more stringent than Federal requirements and limitations or those in the Rules.

3.7 Authority's Right of Revision

The Authority reserves the right to establish more stringent limitations or requirements on discharges to the sewer system.

3.8 Industrial Waste Discharge Permits

A. General

1. No significant industrial user shall connect to or discharge wastewater to the sewer system without an Industrial Waste Discharge Permit. Non-significant industrial users may also be required to have an Industrial Waste Discharge Permit depending on the nature and quantity of their discharge, subject to the Authority's discretion.
2. Industrial users that are not required by the Authority to have an Industrial Waste Discharge Permit may `discharge Industrial wastewater to the sewer system, but are required to comply with all other provisions of the Rules. If an industrial user makes changes to the processes, flow, wastewater concentration, wastewater characteristics, or other operations reported in the most recent Industrial Waste Discharge Questionnaire filed by the user with the Authority, user shall immediately upon becoming aware such a

change has occurred, or ninety (90) days prior to such a change if it is planned, notify the Authority of the change and a determination will be made by the Authority whether the change(s) necessitate the issuance of an Industrial Waste Discharge Permit to the user.

3. Where an industrial user, subject to a newly promulgated National Categorical Pretreatment Standard, has not previously submitted an application for an Industrial Waste Discharge Permit, the user shall, within 90 days after the promulgation of the application National Categorical Pretreatment Standard:
    a. Obtain an Industrial Waste Discharge Permit; and
    b. Provide the baseline monitoring information required by 40 CFR 403.12 (b). This information shall be incorporated into the application for an Industrial Waste Discharge Permit.

B. Permit Application

1. All industrial users shall file with the Authority a complete and accurate Industrial Waste Discharge Permit application in the form prescribed by the Authority.
2. The application for an Industrial Waste Discharge Permit shall be fully completed and verified in writing by the industrial user, or a duly authorized and knowledgeable officer, agent or representative thereof. The application shall contain in units and terms appropriate for evaluation, such scientific or testing data, or other information, as may be required by the Authority and shall pay an application fee and shall reimburse the Authority for all expenses incurred as a result of the processing of the signed application. The Authority shall have, at its discretion, the right to inspect the premises, equipment and material, and laboratory testing facilities of the applicant.
3. Notwithstanding the above, the applicant shall provide the following minimum information to the Authority.

a. Name and address of the user; name, title, and telephone number of responsible official; name, title, and phone number of person to contact for information about the Industrial Waste discharge;

b. Description of the industry and the manufacturing process or operations that occur there and the types of products that are produced;

c. Applicable Standard Industrial Classification Codes for activities conducted at the facility;

d. Statement on whether the industry is subject to compliance with National Categorical Pretreatment Standards and which ones apply;

e. Indication and description of the sources of or the processes that produce Industrial wastewater;

f. Wastewater constituents and characteristics as required by the Authority and as determined by a reliable analytical laboratory; sampling and analysis shall be performed in accordance with procedures established by the EPA pursuant to Section 304(g) of the Act and contained on 40 CFR, Part 136, as amended. If the discharge is from a proposed new discharge, wastewater characteristics shall be estimated;

g. Volume of Industrial wastewater to be discharged to the sewer system and the methods of measuring same. Flow volume information shall include the time and duration of the discharge and the average daily and thirty (30) minute peak wastewater Flow rates including monthly, and seasonal variations, if any;

h. Description of any wastewater treatment facilities or processes used or proposed to be used to treat the Industrial wastewater flow rates including monthly, and seasonal variations, if any;

i. Schematic flow diagram showing the existing and proposed sources of Industrial wastewater and the on-site treatment processes.

j. The quantity of sludge removed from the system and their method and location of

disposal.

k. Description of any other wastes that are removed from the system, their quantities, and methods and locations of disposal.

l. List of raw materials used or stored on the premises, their material safety date sheets or other appropriate document, their approximate quantity of usage on a monthly basis, and its use by the user.

m. Plans and specifications for a sampling manhole.

n. A list of any additional environmental control permits held by or for the facility, such as air quality permits, RCRA permits, stormwater management permits, etc.

o. Such additional information as the Authority shall request.

4. The Industrial Waste Discharge Permit application shall be reviewed by the Authority Manager who will determine whether a Permit will be required for the discharge.

No Industrial Waste Discharge Permit shall be issued to an industrial user whose discharge of materials to sewers, whether shown upon the application or determined after inspection and testing conducted by the Authority, is not in conformance with Federal, State, or the Authority statutes, or resolutions. If an application is denied, the Manager shall state in writing the reason or reasons for denial, and said written communication shall be delivered to the relevant Municipality and the applicant.

5. If the Manager denies an application for an Industrial Waste Discharge Permit, the Authority Board shall review the denial, provided the industrial user gives written notice requesting the review, with appropriate support information within thirty (30) days after receipt of the denial. The Authority Board shall review the Industrial Waste Discharge Permit application, the written denial, and such other evidence and matters as the applicant shall present at its next regular meeting following receipt of the user's request for the review. The Board's decision shall be provided to the user within ten (10) days of the meeting and shall be final.

6. If, based on the characteristics of the industrial user's waste discharge, additional pretreatment and/or operation and maintenance procedures are required to meet any Authority, municipal, State or Federal Pretreatment Standards, the user shall submit to the Authority, prior to issuance of the Industrial Waste Discharge Permit the shortest reasonable schedule, as determined by the Authority, by which the user will provide such additional pretreatment. The Authority shall in include an acceptable compliance schedule in the user's Industrial Waste Discharge Permit. The completion date in this schedule shall be no later than the compliance date established by EPA for the applicable National Categorical Pretreatment Standards. The following conditions apply to this schedule:
    a. The schedule shall contain increments of progress in the forms of dates for the commencement and completion of major events leading to the construction and operation of additional Pretreatment required for the significant industrial user to meet the applicable Pretreatment Standards (e.g. hiring an engineer, completing preliminary plans, completing final plans, executing contracts for major components, commencing construction, completing construction, etc.).
    b. No increment shall exceed nine months.
    c. Not later than fourteen (14) days following each date in the schedule and the final date for compliance, the industrial user shall submit to the Authority a report including, as a minimum whether or not it complied with the increment of progress to be met on such date and, if not, the date on which it expects to comply with this increment of progress, the reason for delay, and the steps being taken by the user to return the construction to the schedule established. In no event shall more than nine (9) months elapse between such progress reports to the Authority.

C. Permit Modifications

Industrial Waste Discharge Permits may be modified by the Authority at any time when conditions warrant. As soon as possible following the promulgation of a National Categorical Pretreatment Standard, the Industrial Waste Discharge Permit of users subject to such standards shall be revised, if necessary, to require compliance with such standard within the time prescribed by such standard.

D. Permit Conditions

1. Industrial Waste Discharge Permits shall be expressly subject to all provisions of the Rules and all other applicable regulations, resolutions, user charges and fees established by the Authority. Permits shall contain the following:
    a. Effluent Limits, including best management practices, based on applicable general pretreatment standards 40 CFR, Part 403, categorical standards, local limits, and state and local law;
    b. Requirements for submission of technical reports or discharge reports, including the information to be contained and the signatory requirements of these reports;
    c. Requirements for maintaining and retaining plant records relating to wastewater discharge as specified by the Authority, including compliance records with regard to effluent limits and any best management practices, and affording the Authority access thereto.
    d. Requirements for notification of the Authority in advance of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the sewer system;
    e. Requirements for notification of slug discharges;
    f. List of prohibited charges;
    g. Statement of duration of the permit;
    h. Notification of the Rules regarding transferability;
    i. Notification of penalties provided for noncompliance;

j. Specifications for monitoring programs which may include sampling locations, frequency of sampling, number, types and standards for tests and reporting schedule;

k. Right of entry requirements for authorized representatives of the Authority; and

l. Indemnification of the Authority on account of the discharge.

Permits may also contain other requirements, including but not limited to:

a. Limits on the average and maximum rate and time of discharge or requirements for flow regulation and equalization;

b. Requirements for installation and maintenance of inspection and sampling facilities and pretreatment facilities;

c. Compliance schedules; and

d. Other conditions as deemed appropriate by the Authority to ensure compliance with the Rules, municipal ordinances or other requirements.

2. Issuance of an Industrial Waste Discharge Permit in no way relieves the industrial user from any liability on account of its discharge into the sewer system, whether discharge is permitted thereby or not.

E. Permit Duration

Industrial Waste Discharge Permits shall be issued for a three-year period. If the Authority elects not to cancel the permit on before its anniversary, the permit will automatically renew itself for another period of one (1) year upon payment by the user of the applicable permit renewal fee, however in no case shall the permit duration exceed five years before it is reissued . The terms and conditions of the permit shall be subject to modifications by the Authority during the term of the permit. The user shall be informed of any proposed changes in its permit at least thirty (30) days prior to the effective date of change. The Authority shall use its best efforts to inform the user at least sixty (60) days prior to the effective date. In the event that such changes require major changes in Pretreatment by the user, and the user's failure to comply with the major changes in Pretreatment by the user, and the user's failure to comply with the amended discharge requirements does not itself or with other failures to comply put the Authority in

substantial danger of violating any agreement, permit, regulation or law, then the user shall be allowed a reasonable period of time, as determined by the Authority, to comply with the changes provided the user requests a time extension and submits to the Authority an implementation schedule acceptable to the Authority within the sixty (60) days period.

F. Permit Transfer

Industrial Waste Discharge Permits are issued to a specific industrial user for a specific operation. An Industrial Waste Discharge Permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation within the approval of the Authority. The succeeding owner of user shall also comply with the terms and conditions of the existing Industrial Waste Discharge Permit.

G. Waste Characteristic Change:

Any industrial user who plans or becomes aware of a change in the method of operation or in he Pretreatment facilities which will increase the concentration of Pollutants which are regulated by the Rules or the volume of wastewater discharged to the sewer system, shall notify the Authority of the change at least ninety (90) days prior to such change. If required by the Authority, the industrial user shall apply for an Industrial Waste Discharge Permit that reflects the proposed changes. The new Industrial Waste Discharge Permit will be subject to a fee to reimburse the Authority for all expenses incurred as a result of the processing of the permit. Approval or denial of a new Industrial Waste Discharge Permit shall be regulated by the procedures established hereunder for the issuance of an original permit.

H. Files

The Authority shall maintain files in which copies of all Industrial Waste Discharge Permits, revisions thereto, and supporting data will be filed for reference. Files shall be maintained for a period of at least five (5) years. This period of retention shall be extended during the course of any unresolved litigation regarding the user or the STP or when requested by the Authority, the Director of EPA or the Regional Administrator of EPA.

3.9 Reporting Requirements for Industrial Users

A. Baseline Monitoring Report

1. Where a significant industrial user, subject to the National Categorical Pretreatment Standard, has not previously submitted the baseline monitoring information required by 40 CFR 403.12 (b), the user shall, within 180 days after the promulgation of the applicable National Categorical Pretreatment Standard, provide this information to the Authority. The report shall include all items required by 40 CFR 403.12 (b).
2. A New Source, or a user proposing to discharge wastes into the sewer system that is subject to a National Categorical Pretreatment Standard, shall submit to the Authority the baseline monitoring report required by 40 CFR 403.12 (b) at least 90 days prior to commencement of discharge from the regulated process or facility.

B. Compliance Date Report

Within ninety (90) days following the date for final compliance with applicable National Categorical Pretreatment Standards or, in the case of a New Source, following commencement of the introduction of wastewater into the sewer system, any industrial user subject to National Categorical Pretreatment Standards shall submit to the Authority a report indicating the nature and concentration of all Pollutants in the discharge from the regulated process which are limited by Categorical Standards, and the average and maximum daily flow from these process units in the user's facility which are limited by such Categorical Standards. The report shall state whether the applicable Categorical Standards are being met on a consistent basis and, if not, which additional operations and maintenance and/or Pretreatment are scheduled to bring the user into compliance with the applicable Categorical Standards. This statement shall be signed by an Authorized Representative of the user and certified by a Qualified Professional.

C. Periodic Compliance Reports

1. Each permitted industrial user shall submit to the Authority, during the months of April, July, October and January, or as specified in the user's Industrial Waste Discharge Permit or by the Authority, a complete and accurate report indicating the nature and

concentration of Pollutants in the discharge during the reporting period which are regulated by the Industrial Waste Discharge Permit. All monitoring data obtained for purposes of determining compliance with the Industrial Waste Discharge Permit by certified analytical techniques must be reported by the user. In addition, this report, where applicable, shall include a record of all daily flows which during the reporting period, exceed the maximum daily flow listed in the Industrial Waste Discharge Permit. At the discretion of the Authority and in consideration of such factors as high or low flow rates, holidays, budget cycles, etc., the Authority upon written request from the user, may agree to alter the months during which the above reports are to be submitted. The report shall also contain the following certification statement signed by the Authorized Representative of the user:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

2. The Industrial wastewater discharged into the sewer system shall be sampled and analyzed by and at the expense of the industrial user, and copies of the original laboratory reports listing the results of the analyses and the analytical methods used shall be submitted to the Authority, with the user's periodic compliance report required in Section 3.10.B.1 of this Article. In cases where the Standard requires compliance with a Best Management Practice or pollution prevention alternative, the user shall submit documentation as required by the Control Authority or the applicable Standards to

determine compliance with the Standard. Frequency of sampling and analyses shall be quarterly, or as specified by the Industrial Waste Discharge Permit or the Authority.

Unless otherwise stated in the Industrial Waste Discharge permit, all samples are to be time composite samples for the period of discharge or for twenty-four (24) hours, whichever is less, with sampling intervals of not more than one (1) hour. The samples shall be analyzed for the substances and characteristics required by the user's Industrial Waste Discharge Permit and shall be representative of the conditions occurring during the reporting period. The user shall follow the proper sample preservation and analysis techniques detailed in 40 CFR 136 or other approved techniques approved by the Authority.

3. All records and information resulting from the monitoring activities required by the Industrial Waste Discharge Permit, including documentation associated with Best Management Practices shall be retained by the industrial user for at least five years. This period of retention shall be extended during the course of any unresolved litigation regarding the user or the STP or when requested by the Authority or the Director of EPA or the Regional Administrator of EPA.

D. Non-complying Discharge Report

If sampling performed by an industrial user indicates a violation of the Rules, an applicable Pretreatment Standard, or the user's Industrial Waste Discharge Permit, the user shall notify the Authority within 24 hours of becoming aware of the violation. The user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Authority within 30 days after becoming aware of the violation.

3.10 Monitoring Facilities

A. If required by the Authority, Permitted industrial users shall provide, operate and maintain, at their own expense, any facilities necessary for monitoring, compliance, inspection, sampling and flow measurement of its Industrial Waste discharge. The monitoring facility should normally be situated on the

user's premises, but when such a location would be impractical or cause undue hardship on the user, the Authority may allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles, subject to applicable municipal laws of the Municipality.

B. The monitoring facility shall be constructed in accordance with plans and specifications approved by the Authority. There shall be ample room in or near such facility to allow accurate sampling and preparation samples for analysis. The facility, sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition at the expense of the user. The facility shall be located as to be accessible at all times to persons authorized by the Authority. By obtaining an Industrial Waste Discharge Permit, the user consents to the entry upon its land, and agrees to facilitate such entry, by representatives of the Authority, and consents to the use of the monitoring facility for observation, sampling and measuring of the wastewater discharge at all times.

3.11 Inspection and Sampling

The Authority may inspect the facilities of the user. Persons or occupants of premises where wastewater is created or discharged shall allow the Authority or its representative ready access at all reasonable times to all parts of the premises for the purpose of inspection, sampling, records examination and copying or in the performance of any of their duties. The Authority, the relevant Municipality, and EPA shall have the right to set up on the industrial user's property such devices as are necessary to conduct sampling inspection, compliance monitoring and/or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with its security guards so that upon presentation of suitable identification, personnel from the Authority or EPA will be permitted to enter, without delay.

3.12 Pretreatment

A. Users shall provide wastewater treatment and flow-equalizing facilities as necessary to comply with the Rules and shall achieve compliance with all categorical Pretreatment Standards, Local Limits, and the prohibitions set out in Section 2.1 or the Rules within the time limitations specified by EPA, the State or

Manager, whichever is more stringent. Any facilities required to pre-treat or flow-equalize wastewater to a level in compliance with the provisions of the Rules shall be provided, operated, and maintained at the user's sole expense. Detailed plans showing the Pretreatment facilities and operating procedures shall be submitted to the Authority for review before construction of the facility. The review of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent in compliance with the provisions of the Rules. Any subsequent changes in the Pretreatment facilities, flow-equalizing facilities, or method of operation shall be reported to and approved by the Authority prior to the user's initiation of the changes.

B. An industrial user may allow a bypass which does not cause Pretreatment Standards to be violated, but only for essential maintenance to assure efficient operation. If the user knows in advance of the need for a bypass, it shall submit prior notice to the Authority if possible, at least ten (10) days before the date of the bypass. A user shall give oral notice of an unanticipated bypass that exceeds applicable Pretreatment Standards to the Authority within twenty-four (24) hours from the time the user becomes aware of the bypass.

A written report shall also be provided within five (5) days of the time the user becomes aware of the bypass. The written report shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

C. All records relating to compliance with Pretreatment Standards and Pretreatment Requirements shall be made available to officials of the EPA upon request.

D. The Authority shall have access to all such Pretreatments facilities and flow-equalizing facilities are required by the Rules at all reasonable times for purposes of inspection and testing.

E. Either Municipality or other governmental entity to whose sewer system an industrial user is connected shall reimburse the Authority for all of its expenses incurred as a result of review, monitoring,

application processing, sampling, or any other activities conducted by the Authority and directly related to ensuring the industrial user's compliance with the provisions of the Rules.

3.13 Hazardous Waste Discharge Notification

A. An industrial user discharging any quantity of waste to the sewer system, which, if otherwise disposed of, would be an acute hazardous waste under 40 CFR 261, shall provide a one-time notification to the Authority, the EPA Region III Waste Management Division Director, and the State hazardous waste authorities.

B. The notification required by Section 3.14.A of this Article shall include the name of the hazardous waste as set forth in 40 CRF 261, the EPA hazardous waste number, the type of discharge (continuous, batch or other), and a certification that the industrial user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical. If the user discharges more than 100 kilograms of such waste in a month to the sewer system, the notification shall also include an identification of the hazardous constituents contained in the waste, an estimation of the mass and concentration of such constituents discharged during the month, and an estimation of the mass of constituents expended to be discharged by the user to the sewer system during the following 12 month period.

C. If an industrial user discharges a non-acute hazardous waste under 40 CFR 261 to the sewer system, the user shall provide the one-time notification described in Section 3.14.B of this Article, if the total mass of hazardous waste discharged to the sewer system during any month exceeds fifteen kilograms.

3.14 Confidential Information

A. Information and data on an industrial user obtained from reports, questionnaires, permit applications, permits, notifications, and monitoring programs and from inspections shall be available to the public or other governmental agency without restriction unless the user specifically requests in writing and is able to demonstrate to the Authority's satisfaction that the release of such information would divulge information, processes or methods of production entitled to protection as trade secrets of the user.

B. When requested by the person furnishing a report, those portions of a report that have been accepted by the Authority as confidential, shall not be made available for inspection by the public but shall be made available upon written request to governmental agencies for uses related to the Rules, the NPDES Permit, State Disposal System permit and/or the State or Federal Pretreatment Programs; provided, however, that such portions of any report shall be available for use by the State or any state agency in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information.

C. When information accepted by the Authority as confidential is transmitted to any governmental agency by the Authority, a notification to the industrial user shall be provided by the Authority listing the confidential information transmitted, and the governmental entity requesting the information.

3.15 <u>Measuring Volumes of Wastewater</u>

A. The flow volume used to determine wastewater flows and Surcharges shall be specified in the Industrial Waste Discharge Permit and be based on:

1. Direct wastewater metering, or
2. Metered water use, or
3. Such other method acceptable to the Authority.

B. If required by an Industrial Waste Discharge Permit, industrial users shall install and use any meter or measuring device specified therein at the user's own expense. Unless specified otherwise, the Authority shall be responsible for the reading of all meters or measuring devices. The Authority may read the meters from time to time at its discretion. The meters and devices shall be made available for meter reading at any reasonable time. Required meters shall be calibrated annually by a factory certified meter representative.

3.16 Charges and Fees

The Authority may adopt Charges and other fees for implementing and enforcing the pretreatment program. These charges and fees relate solely to the matters covered by the Rules and are separate from any and all other Charges and other fees chargeable by the Authority to which the user is connected.
Such Charges and fees shall include the following:

A. Fees for reimbursement of the costs of setting up and implementing the Industrial Pretreatment Program.

B. Fees for monitoring, inspections, and sampling associated with the Industrial Pretreatment Program;

C. Fees for reviewing accidental discharge procedures and construction plans;

D. Fees for review of permit applications;

E. Fees associated with the review of permit appeals;

F. Fees for consistent removal by the Authority of pollutants otherwise subject to federal pretreatment regulations;

G. Other fees the Authority may deem necessary to carry out the requirements contained herein.

SECTION 4 - ENFORCEMENT

Included in the Rules are the steps and procedures to be taken by the Authority for violation of the Rules, also known as the Authority's Enforcement Response Plan ("ERP"). The ERP is set forth in this Section 4 and the provisions set forth on Exhibit "B" which is incorporated in the Rules.

4.1 Notification of Violation

Wherever the Authority or a Municipality wherein a user is located finds that the user has violated or is violating the Rules, an Industrial Waste Discharge Permit, or any prohibition, limitation or requirements contained herein, or has failed to provide the Manager with the information needed to accurately determine compliance with any Pretreatment Standard or Requirement, or the Authority may, and the Municipality at the direction of the Authority shall, serve upon such a person a written notice of violation. The notice may require a response in the form of a plan, explanation , compliance schedule, or

other appropriate response within a specified time period. Compliance with any such requirement is mandatory.

4.2 Significant Non-compliance

The Authority will publish on an annual basis in a newspaper of general circulation that provides meaningful public notice within the jurisdiction served by the STP a list of those industrial users which, at any time during the previous twelve (12) months, were in Significant Noncompliance as defined in this Article.

4.3 Immediate Suspension by Municipality of Discharge Presenting Imminent Danger by Any User

The Municipality may order the suspension of discharge of wastewater by any user when so directed by the Authority. The Authority may direct such a suspension when such suspension is necessary, in the opinion of the Authority, in order to stop an actual or threatened discharge which presents an imminent danger or harm to people or to the environment or of Interference ("Dangerous Discharge").

Any user notified of an order to suspend shall comply therewith immediately. In the event of a failure of the users to comply voluntarily with the suspension order, the Authority shall taken such steps as it deems necessary, including immediate severance of the sewer connection, to affect the suspension of discharge of the user's wastewater into the sewer system. The Authority shall permit reinstatement of the discharge upon proof satisfactory to itself of the elimination of the imminent and substantial danger referred to above. The user shall submit a detailed written statement to the Authority describing the causes of the actual or threatened discharge and the measures taken to prevent any future occurrence within 15 days of the date of the first such discharge or threat of discharge.

Nothing herein shall be construed to prohibit the Authority from seeking injunctive relief hereunder or at common law or taking other enforcement action in connection with a Dangerous Discharge.

4.4 Termination of Service of Any User

Any user who violates any condition of the Rules, applicable State and Federal regulations or an Industrial Waste Discharge Permit if applicable, is subject, in addition to any civil or criminal penalties which may be imposed, to having its service terminated and/or Industrial Waste Discharge Permit revoked.

4.5 Legal Action by Municipalities

If any user violates the provisions of the Rules, Federal or State, Pretreatment Requirements, or any order related to sewer service of the Municipality wherein the industrial user is located, the Municipality may and, at the direction of the Authority shall, commence an action for appropriate legal and/or equitable relief in the Court of Common Pleas, Montgomery County.

4.6 Civil Penalty Assessment Policy for Industrial Users

The Authority has adopted within its ERP a formal, written civil penalty assessment policy as indicated within Exhibit "B" hereof and which my be modified from time to time and make the same available to the public. Industrial users participating in the pretreatment program established herein shall be given notice of the policy.

4.7 Uses of Civil Penalties Collected by the Authority

Civil penalties collected pursuant hereto shall be placed in a restricted account and shall only be used for the repair of damage and any additional maintenance needed or any additional costs imposed as a result of a violation for which the penalty was imposed, to pay any penalties imposed upon Authority by the federal or state government for violation of Pretreatment Standards, for the costs incurred by the Authority to investigate and take enforcement action that resulted in a penalty being imposed, for the monitoring of discharges in a Pretreatment Program. Funds remaining in the restricted account after the foregoing uses have been met may be used for capital improvements to the STP.

4.8 Procedure for Assessment of Civil Penalties Against Industrial Users

The Authority has adopted civil penalties assessments against any industrial user who violates a provision of the Rules or its Industrial Waste Discharge Permit, that is in Significant Non-compliance, or which fails to respond adequately to any Notice of Violation issued by the Manager, in accordance with the Authority penalty assessment. In assessing such penalties, the Authority shall provide the non-complying user with the opportunity to show cause why a civil penalty pursuant to relevant provisions within Exhibit "B" hereto should not be assessed. Notice shall be served upon the industrial user specifying the time and place of a hearing to be held by the Authority for that purpose.

If the hearing is held, the Authority Board or its designated "hearing officer" (which may be a Board member, its solicitor, consulting engineer or an Authority employee other than the Manager) will conduct the hearing and take evidence thereat, and shall proceed to:

1. Issue in the name of the Authority notices of hearings requesting the attendance and testimony of witnesses and the production of evidence relevant to any matter involved in such hearings;
2. Take the evidence; and
3. Transmit a report of the evidence and hearing including transcripts and other evidence, together with recommendations to the Authority for action thereon.

Testimony at the hearing shall be under oath and recorded. A transcript shall be made available to anyone upon payment of the charges therefore.

After the hearing, if the hearing was before the Board of Authority or, after receipt of the report of evidence and hearing together with the recommendation of the hearing officer, the Authority may assess a civil penalty as set forth in the ERP.

Notice of such assessment shall be sent to the industrial user against whom the assessment has been made together with a description of the applicable appeals process, including the name, address and telephone number of the person responsible for accepting an appeal.

4.9 Injunctions Against Violations of Pretreatment Standards

The Authority may seek injunctive relief against the violation of any Pretreatment Standard in any of the following circumstances:

1. A discharge from an industrial user presents an imminent danger of substantial harm to the STP or the public;
2. A discharge from an industrial user presents an imminent or substantial endangerment to the environment.
3. A discharge from an industrial user causes the Authority to violate any condition of its NPDES permit.

4. An industrial user has shown a lack of ability or intention to comply with a Pretreatment Standard.

The Authority may also seek injunctive relief against any violation of Section 3 hereof or otherwise to the extent permitted by law.

4.10 Right to Appeal

The industrial user may pay either the amount of any assessment, fine, penalty or injunctive relief as provided in the ERP as set forth in the Rules, including Exhibit "B" hereof.

SECTION 5 -VALIDITY

All provisions of the EPA and all other resolutions, rules, and all procedures of the Authority which are inconsistent with this Article of the Rules are hereby invalid to the extent of the inconsistency or conflict.

EXHIBIT B

NORRISTOWN MUNICIPAL WASTE AUTHORITY
PRETREATMENT RULES AND REGULATIONS
ENFORCEMENT RESPONSE PLAN
CIVIL PENALTY ASSESSMENT POLICY

Violation	Circumstance	Penalty Assessment (per day per violation)
Sampling, Monitoring, And Reporting Violations		
Failure to sample, monitor or report information	Continued violation or failure to respond to previous NOV	Up to $1,000;
Failure to notify Authority of Slug Discharge	Isolated or continued violation with no known effects on the public Sewer System	Up to $1000;
Failure to notify Authority of Slug Discharge	Significant violation with known upset or damages to the public Sewer System and/or the environment	Up to $25,000;
Deficiencies in reporting, sampling, or monitoring	Continued violation or failure to respond to previous NOV	Up to $1,000;
Falsification of information in sampling, monitoring or reporting submittals	Evidence of intent or negligence	Up to $25,000;
Inadequate record keeping, files missing or incomplete	Continued violation; or delayed or inadequate response to previous NOV	Up to $1,000;
Effluent Limits Violations		
Violation of local or categorical pretreatment limits, or violation of best management practices requirement	Inadequate response to previous NOV, or continued violation not considered a Significant Violation and/or does not result in the user being considered in Significant Noncompliance ("SNC")	Up to $1,000;
Violation of local or categorical pretreatment limits, or violation of best management practices requirement	Violation(s) classified as Significant Violation or which results in the user being considered in SNC;	Up to $25,000;
Compliance Schedule Violations		
Missed interim or major milestone date;	Reporting violation, or delayed or inadequate response to previous NOV, or delays which will cause lateness in other interim dates;	Up to $1,000;

Violation	Circumstance	Penalty Assessment (per day per violation)
Unauthorized Discharge		
Discharge without a permit or Authority approval	Continued violations with no known upset or damages to the Authority's wastewater treatment facilities and/or environment or inadequate response to previous NOV	Up to $25,000;
Discharge without a permit or Authority approval	Isolated or continued discharge resulting in a Significant Violation	Up to $25,000;
Failure to Submit a sewer discharge permit application	Reporting violation; industrial user has failed to submit a sewer discharge permit application within the allotted thirty (30) calendar days. There is no known interference or damage to the Authority's wastewater treatment facilities and/or the environment	Up to $1,000;
Noncompliance Violations Detected Through Field Inspections		
Entry denial, coping or records denied	Any instance	Up to $1,000;
Unintentional violation of sampling procedures, including failure to follow proper sampling location, type or collection techniques	Any instance	Up to $1,000;
Proven intentional violation of procedures, including failure to follow proper sampling location, type or collection techniques	Any instance	Up to $25,000;

EXHIBIT B

NORRISTOWN MUNICIPAL WASTE AUTHORITY
PRETREATMENT RULES AND REGULATIONS
ENFORCMENT RESPONSE PLAN
ENFORCEMENT ACTION

1.0 SAMPLING, MONITORING AND REPORTING VIOLATIONS

1.1 **Noncompliance** – Failure to sample, monitor, or report required information during specified time frames;

Circumstances – Isolated violation; or delayed response which is received after notification of the industrial user by the Authority;

Response – A Notice of Violation ("NOV") is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring a written explanation for the violation along with the missing report within thirty (30) calendar days of the certified receipt of the NOV.

1.2 **Noncompliance** – Failure to sample, monitor, or report required information during specified time frames;

Circumstances – Continued violation; and/or failure to respond to a previous NOV that may also result in user being in SNC;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring attendance at a Show-Cause Hearing.

If no response is received within fifteen (15) calendar days of the certified receipt of the NOV, an Administrative Order is issued to the industrial user by the Authority's Solicitor ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) calendar days of the certified receipt of the Order.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

For users in SNC at any time during the year the following will also apply: The Authority will publish on an annual basis in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the WWTP a list of those industrial users which, at any time during the previous 12 months, were in SNC.

1.3 **Noncompliance** – Failure to notify the Authority of a slug discharge or significant change in operating and/or discharge conditions;

Circumstances – Isolated violation with no known effects on the Authority's wastewater treatment facilities;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring a written explanation for the violation within five (5) calendar days of the certified receipt of the NOV.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

1.4 **Noncompliance –** Failure to notify the Authority of a slug discharge or significant change in operating and/or discharge conditions;

Circumstances – Continued violation with no known effects on the Authority's wastewater treatment facilities; and/or delayed or inadequate response to previous NOV that may also result in user being in SNC;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring attendance at a Show-Cause Hearing.

If no response is received within fifteen (15) calendar days of the certified receipt of the NOV, an Administrative Order is issued to the industrial user by the Authority's Solicitor ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) calendar days of the certified receipt of the Order.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

For user in SNC at any time during the year the following will also apply: The Authority will publish on an annual basis in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the WWTP a list of those industrial users which, at any time during the previous 12 months, were in SNC.

1.5 **Noncompliance –** Failure to notify the Authority of a slug discharge or significant change in operating and/or discharge conditions;

Circumstances – Significant Violation with known upset or damages to the Authority's wastewater treatment facilities and/or the environment;

Response – An Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected, within five (5) calendar days of the certified receipt of the Order.

Depending on the circumstances of the violation, proceedings to initiate a civil legal action, including penalties of up to $25,000 per day per violation, or monetary costs equal to those needed for repairing any damage incurred to the Authority's wastewater treatment facilities as a result of the violation will also be commenced by the Solicitor.

1.6 **Noncompliance –** Deficiencies in reporting, sampling, or monitoring such as missing information, incomplete reports, uncertified data, etc.;

Circumstances – Isolated violations;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring a written explanation for the delinquency along with corrective actions to be taken within thirty (30) calendar days of the certified receipt of the NOV.

1.7 **Noncompliance –** Deficiencies in reporting, sampling, or monitoring, such as missing information, incomplete reports, uncertified data, etc.;

Circumstances – Continued violation; or delayed or inadequate response to previous NOV that may also result in user being in SNC;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring attendance at a Show-Cause Hearing.

If no response is received within thirty (30) calendar days of the certified receipt of the NOV, an Administrative Order is mailed via certified mail by the Authority's Solicitor ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) calendar days of the certified receipt of the Order.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

For users in SNC at any time during the year the following will also apply: The Authority will publish on an annual basis in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the WWTP a list of those industrial users which, at any time during the previous 12 months, were in SNC.

1.8 **Noncompliance –** Falsification of information in sampling, monitoring, or reporting submittals;

Circumstances – Evidence of intent or negligence;

Response – An Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected, within five (5) calendar days of the certified receipt of the Order.

If no response is received within five (5) calendar days of the certified receipt of the Order proceedings to initiate a civil or criminal legal action, including penalties up to $25,000 per day per violation, or calculated using EPA's Guidance for Calculating Economic Benefit of Noncompliance, and possible suspension/termination of services will be commenced by the Authority's Solicitor.

1.9 **Noncompliance –** Inadequate record keeping, files missing or incomplete;

Circumstances – Isolated violation;

Response – An NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring an immediate written explanation for the violation(s) and how it will be corrected within thirty (30) calendar days of the certified receipt of the NOV.

1.10 **Noncompliance –** Inadequate record keeping, files missing or incomplete;

Circumstances – Continued violation; or delayed or inadequate response to previous NOV;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring attendance at a Show-Cause Hearing.

If no response is received within fifteen (15) calendar days of the certified receipt of the NOV, an Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) days calendar days of the certified receipt of the Order. Proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

2.0 EFFLUENT LIMITS VIOLATIONS

2.1 **Noncompliance –** Violation of local or categorical pretreatment limits, or violation of best management practices requirement;

Circumstances – Isolated violation;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring an immediate written explanation for the violation. The user is also required to re-sample the discharge and submit these results within thirty (30) days of becoming aware of the violation.

2.1 **Noncompliance –** Violation of local or categorical pretreatment limits, or violation of best management practices requirements;

Circumstances – Inadequate response to previous NOV, or continued violation not considered a Significant Violation and/or does not result in the user being considered in Significant Noncompliance ("SNC");

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring attendance at a Show-Cause Hearing.

If no response is received within thirty (30) calendar days of the certified receipt of the NOV, proceedings to initiate a civil legal action, including penalties of up to $1,000 per day per violation, and possible termination of services will be commenced by the Authority's Solicitor.

2.2 **Noncompliance –** Violation of local or categorical limits, or violation of best management practices requirement;

Circumstances – Violation(s) classified as Significant Violation or which results in the user being considered in SNC;

Response – An Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user requiring the user to provide a written explanation for the violation(s) and how it will be corrected within fifteen (15) calendar days of the certified receipt of the NOV. The order may contain a time schedule by which the user must achieve compliance.

If no response is received within fifteen (15) calendar days of the certified receipt of the Order proceedings to initiate a civil or criminal legal action, including penalties up to $25,000 per day per violation, or calculated using EPA's Guidance for Calculating the Economic Benefit of Noncompliance, and possible suspension/termination of services will be commenced by the Authority's Solicitor.

For users in SNC at any time during the year the following will also apply: The Authority will publish on an annual basis in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by the WWTP a list of those industrial users which, at any time during the previous 12 months, were in SNC.

3.0 COMPLIANCE SCHEDULE VIOLATIONS

3.1 **Noncompliance –** Missed interim or major milestone date;

Circumstance – Reporting violation which will not cause lateness in other interim dates;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring an immediate written explanation for the delinquency along with the items required.

If no response is received within thirty (30) calendar days of the certified receipt of the NOV, an Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) calendar days of the certified receipt of the Order.

3.2 **Noncompliance –** Missed interim or major milestone date;

Circumstances – Reporting violation, or delayed or inadequate response to previous NOV, or delays which will cause lateness in other interim dates;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring an immediate written explanation for the delinquency along with the required items within fifteen (15) calendar days of the certified receipt of the NOV. In this response, the user must also provide a specific date when the elapsed date will be met and the probability of meeting the next scheduled requirement.

If no response is received within fifteen (15) calendar days of the certified receipt of the NOV proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, or calculated using EPA's Guidance for Calculating the Economic Benefit of Noncompliance, and possible suspension/termination of services will be commenced by the Authority's Solicitor.

4.0 UNAUTHORIZED DISCHARGE

4.1 **Noncompliance –** Discharge without a permit or Authority approval;

Circumstances – Isolated violation with no known upset or damages to the Authority wastewater treatment facilities or the environment;

Response – A sewer discharge permit application is issued to the industrial user by the Authority's Industrial Pretreatment Program Coordinator that is to be completed and submitted to the Authority for approval within thirty (30) calendar days of discovery of the unauthorized discharge.

4.2 **Noncompliance –** Discharge without a permit or Authority approval;

Circumstances – Continued violations with no known upset or damages to the Authority's wastewater treatment facilities and/or environment; or inadequate response to previous NOV;

Response – A NOV along with a sewer discharge permit application is mailed via certified mail to the industrial user by the Authority's Industrial Pretreatment Program Coordinator that is to be completed and submitted to the Authority for approval within fifteen (15) calendar days of the certified receipt of the NOV. Proceedings to initiate a civil or criminal legal action, including penalties up to $25,000 per day per violation, may also be commenced.

4.3 **Noncompliance –** Discharge without a permit or Authority approval;

Circumstances – Isolated or continued discharge resulting in a Significant Violation;

Response – An Administrative order is mailed via certified mail by the Authority's Solicitor to the industrial user within five (5) calendar days of the incident requiring an immediate halt to the discharge and a written explanation for the unauthorized discharge.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties of $25,000 per day per violation or monetary costs equal to the damages incurred at the Authority's wastewater treatment facilities, will also be commenced by the Authority's Solicitor. Sewer discharge privileges in the form of a sewer discharge permit are also delayed until proper application forms are submitted and approved by the Authority and all fines are paid in full by the violator. The Authority's Solicitor will also discuss the violation with the Attorney's Office to determine if criminal charges are warranted.

4.4 **Noncompliance –** Failure to submit a sewer discharge permit application;

Circumstances – Reporting violation; industrial user has failed to submit a sewer discharge permit application within the allotted thirty (30) calendar days. There is no known interference or damage to the Authority's wastewater treatment facilities and/or the environment;

Response – An Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user. If no application is received within fifteen (15) calendar days of the certified receipt of the Order, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, will commence.

5.0 NONCOMPLIANCE VIOLATIONS DETECTED THROUGH FIELD INSPECTIONS

5.1 **Noncompliance –** Entry denial, coping of records, denied;

Circumstances – Any instance;

Response – Proceedings to initiate immediate judicial action in the form of a warrant will be taken against the industrial user by the Authority's Solicitor and Attorney's Office;

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

5.2 **Noncompliance –** Unintentional violation of sampling procedures, including failure to follow proper sampling location, type or collection techniques;

Circumstances – Any instance;

Response – A NOV is mailed via certified mail by the Authority's Industrial Pretreatment Program Coordinator to the industrial user requiring an immediate written explanation for the violation and a plan of action to amend the violation within thirty (30) calendar days of the certified receipt of the NOV.

Depending on the circumstances of the violation, proceedings to initiate a civil or criminal legal action, including penalties up to $1,000 per day per violation, may also be commenced.

5.3 **Noncompliance –** Proven intentional violation of procedures, including failure to follow proper sampling locations, type or collection techniques;

Circumstance – Any instance;

Response – An Administrative Order is mailed via certified mail by the Authority's Solicitor to the industrial user ordering an immediate halt to such violation(s) along with the requirement that the user provide a written explanation for the violation and how it will be corrected within fifteen (15) calendar days of the certified receipt of the Order. If conditions are not adhered to, proceedings to initiate civil or criminal legal action, including penalties of $25,000 per day per violation or equal to the cost of repairing any damages to the treatment facilities as a result of the violation(s), will be commenced.

APPENDIX D

2018 INDUSTRIAL PRETREATMENT PROGRAM ANNUAL REPORT

2018 Annual Pretreatment Report

Norristown Municipal Waste Authority

Submitted To:
Environmental Protection Agency Region III

March 2019

REMINGTON & VERNICK ENGINEERS

922 Fayette Street
Conshohocken, PA 19428
Our File #PMNAM032

Christopher J. Fazio, P.E. — Date: 3-28-19

Barry Thompson — Date: 3/28/2019

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Pretreatment Performance Summary Checklist

I. General Information

Control Authority Name: Norristown Municipal Waste Authority

Address: 235 East Airy Street

City: Norristown State: PA Zip+4: 19401-5003

Contact Person: Robert Praga

Contact Title: Authority IPP Manager

Contact Telephone Number: 610-940-1050

E-mail Address: Robert.Praga@rve.com

NPDES Nos: PA0027421

Permit Issuance Date: 11/1/2018 Expiration Date: 10/31/2023

Reporting Period: 1/1/2018 – 12/31/2018

Total Categorical IUs (CIUs): 0

Total "Middle Tier" CIUs (MTCIUs): 0

Total Nonsignificant CIUs (NSCIUs): 0

Total Significant Noncategorical IUs (SNIUs): 2

II. Compliance Monitoring Program

1.	No. of SIUs with current Control Documents.....	**2**
2.	No. of SIU Facilities Inspected.....	**2**
3.	No. of SIU Facilities Sampled.....	**2**
4.	No. of SIUs Submitting Self-Monitoring Reports.....	**2**

III. Significant Industrial User Compliance

1.	No. of SIUs Violating a Compliance Schedule/No. On a Schedule.....	**0/0**
2.	No. of SIUs in SNC for the January to June Period.....	**0**
3.	No. of SIUs in SNC At Any Time During Calendar Year.....	**0**
4.	No. of SIUs in SNC That Were Also in SNC During the Previous Calendar Year…	**0**

5.	No. of NSCIUs that Violated any Standards or Requirements.....	**0**

IV. Enforcement Actions

1.	Notices/Letters of Violation Issued to SIUs.....	**0**
2.	Enforceable Compliance Schedules Issued to SIUs.....	**0**
3.	Civil/Criminal Suits Filed.....	**0**
4.	No. of SIUs from which Penalties have been Collected in 2018.....	**0**
5.	Other Actions (sewer bans, etc.).....	**0**

I certify that the information contained in this report and attachments is complete and accurate to the best of my knowledge.

Barry Thompson
Name of Authorized Representative (Print)

Executive Director
Title (Print)

Barry Thompson
Signature

3/28/2019
Date

Part A: Pretreatment Performance Summary

Remington & Vernick Engineers (RVE) has prepared this 2018 Annual Report on Industrial Users in significant noncompliance in Norristown, PA. This report covers the sampling conducted from January 1, 2018 through December 31, 2018. The industrial users are outlined in the following section.

I. General Information

The Norristown STP operates under the NPDES Permit PA0027421. Treatment plant information is provided below.

Norristown Sewage Treatment Plant
368 East Washington Street
Norristown, Montgomery County, PA 19401

Licensed Operator: John Larson Phone: (610) 272-5362
Executive Director: Barry Thompson Phone: (610) 270-3190

There are two (2) Significant Noncategorical Industrial Users (SNIU) that discharge to the treatment plant. Information for these SNIUs is detailed below:

Pennsylvania American Water Company
300 West Washington Street
Norristown, PA 19401
Phone: 610-334-2822

Contact: Maile Fordham, Water Quality Supervisor

Anderson Prints, LLC
601 General Washington Avenue
Norristown, PA 19403
Phone: 484-354-3083

Contact: Jay von Czoernig, Facility Manager

II. Compliance Monitoring Program

Each SNIU has individual Industrial Wastewater Discharge (IWD) Permits. Each SNIU is inspected once per year by the control authority's Pretreatment Coordinator and sampled by the control authority each year. Both SNIU's self-monitor by using an independent laboratory service for sampling. The sample parameters are described in the following sections.

The treatment plant is also sampled by an outside private laboratory service on a quarterly basis.

III. Significant Industrial User Compliance

All violations are listed below.

1. **Pennsylvania American Water Company Violations**
   - Pennsylvania American Water Company did not have any violations.

2. **Anderson Prints Violations**
   - Anderson Prints did not have any violations.

1.0 Industrial Wastewater Discharge Permit Requirements

1.1 Pennsylvania American Water Company Permit Requirements

The following parameters are monitored as required by the Norristown Municipal Waste Authority Industrial Wastewater Discharge Permit:

Table 1- Pennsylvania American Water Company Monitoring Requirements

Parameter	Frequency	Sample Type
Daily Flow	Quarterly	Meter
Aluminum	Semi-Annually	Composite
Arsenic	Semi-Annually	Composite
Cadmium	Semi-Annually	Composite
Chromium	Semi-Annually	Composite
Copper	Semi-Annually	Composite
Lead	Semi-Annually	Composite
Mercury	Semi-Annually	Composite
Nickel	Semi-Annually	Composite
Selenium	Semi-Annually	Composite
Silver	Semi-Annually	Composite
Zinc	Semi-Annually	Composite
Total Suspended Solids	Semi-Annually	Composite
pH	Semi-Annually	Grab

The facility has one (1) outfall which discharges sanitary wastewater as well as treated process water into the Norristown Municipal Waste Authority's Sanitary Sewer System. The outfall data shall not exceed the effluent limitations as stated in the permit. The limitations for 2018 stated in the permit are provided in Table 2 below.

Table 2- Pennsylvania American Water Company Effluent Limitations

Parameter	Monthly Average Concentration (mg/L)
Flow	Report
Aluminum	11.22
Arsenic	0.01
Cadmium	0.02
Chromium	0.04
Copper	0.60
Lead	0.15
Mercury	0.01
Nickel	0.43
Selenium	0.05
Silver	0.26
Zinc	5.81
Total Suspended Solids	800*
pH	Between 5 and 10 S.U.

* - Adherence to Spill/Slug Discharge Control Plan dated June 30, 2009, including notification of NMWA if sludge centrifuge centrate turbidity exceeds 350 NTU or if TSS results are >250 mg/L.

1.2 Anderson Prints Permit Requirements

The following parameters are monitored as required by the Norristown Municipal Waste Authority Industrial Wastewater Discharge Permit:

Table 3- Anderson Prints Monitoring Requirements

Parameter	Frequency	Sample Type
Daily Flow	Quarterly	Meter
Aluminum	Semi-Annually	Composite
Arsenic	Semi-Annually	Composite
Cadmium	Semi-Annually	Composite
Chromium	Semi-Annually	Composite
Copper	Semi-Annually	Composite
Lead	Semi-Annually	Composite
Mercury	Semi-Annually	Composite
Nickel	Semi-Annually	Composite
Selenium	Semi-Annually	Composite
Silver	Semi-Annually	Composite
Zinc	Semi-Annually	Composite
Total Suspended Solids	Semi-Annually	Composite
pH	Semi-Annually	Grab

The facility has one (1) outfall which discharges sanitary wastewater as well as process water into the Norristown Municipal Waste Authority's Sanitary Sewer System. The outfall data shall not exceed the effluent limitations as stated in the permit. The limitations for 2018 stated in the permit are provided in Table 4 below.

Table 4- Anderson Prints Effluent Limitations

Parameter	Monthly Average Concentration (mg/L)
Flow	Report
Aluminum	11.22
Arsenic	0.01
Cadmium	0.02
Chromium	0.04
Copper	0.60
Lead	0.15
Mercury	0.01
Nickel	0.43
Selenium	0.05
Silver	0.26
Zinc	5.81
Total Suspended Solids	800*
pH	Between 5 and 10 S.U.

* - Adherence to Spill/Slug Discharge Control Plan to be submitted.

2.0 2018 Monitoring Results

Below are tables of the 2018 monitoring results for each industrial user. Each user is sampled semi-annually by the Township. Any parameter which exceeds the requirements determined by the industrial wastewater discharge permit is highlighted.

2.1 Pennsylvania American Water Company Sampling Data

The 2018 monitoring results for the Pennsylvania American Water Company are provided in Table 5 below. In adherence with the Spill/Slug Discharge Plan, the NMWA was notified of the 3rd quarter Total Suspended Solids result as it exceeded 250 mg/L.

Table 5 – Pennsylvania American Water Company Monitoring Results

	Limit	1st Quarter 2018	3rd Quarter 2018
Flow	Report	---	---
Aluminum	11.22	< 0.050	2.97
Arsenic	0.01	< 0.010	< 0.020
Cadmium	0.02	< 0.001	< 0.002
Chromium	0.04	< 0.010	0.022
Copper	0.60	0.015	0.061
Lead	0.15	< 0.010	0.020
Mercury	0.01	< 0.0002	< 0.0005
Nickel	0.43	< 0.010	0.027
Selenium	0.05	< 0.050	< 0.100*
Silver	0.26	< 0.010	<0.020
Zinc	5.81	0.478	0.346
Total Suspended Solids	800	16	580
pH	5.0 to 10.0	7.01	7.79

*Re-evaluation of this result indicated that the sample showed no evidence of selenium above the instrument method detection limit of 0.02 mg/L. See Appendix 5.

2.2 Anderson Prints Sampling Data

The 2018 monitoring results for Anderson Prints are provided in Table 6 below. There were no instances where permit limits were exceeded.

Table 6 – Anderson Prints Monitoring Results

	Limit	1st Quarter 2018	3rd Quarter 2018
Flow	Report	---	---
Aluminum	11.22	1.79	5.08
Arsenic	0.01	< 0.002	< 0.005
Cadmium	0.02	< 0.0008	< 0.002
Chromium	0.04	< 0.002	< 0.005
Copper	0.60	0.032	0.055
Lead	0.15	< 0.002	< 0.005
Mercury	0.01	< 0.0002	< 0.0005
Nickel	0.43	0.007	0.011
Selenium	0.05	< 0.004	< 0.010
Silver	0.26	< 0.002	< 0.005
Zinc	5.81	0.105	0.090
Total Suspended Solids	800	168	176
pH	5.0 to 10.0	7.02	7.43

IV. Enforcement Actions

No enforcement actions were taken during 2018.

Part B: Pretreatment Developments

I. POTW Operations Summary

The Norristown Municipal Waste Authority (NMWA) Sewage Treatment Plant (STP) is located at 368 East Washington Street, Norristown, Montgomery County, Pennsylvania. The facility, which is owned and operated by the NMWA, treats wastewater from both the Municipality of Norristown and West Norriton Township (WNT). In accordance with a 1985 Intermunicipal Agreement and amendments since between the Municipality of Norristown/NMWA and the WNT Municipal Authority/West Norriton Township, 6.5 MGD of capacity is allocated to Norristown and 3.25 MGD is allocated to WNT. The majority of the flow from WNT is conveyed to the STP via an 18-inch force main from the Rittenhouse Pump Station. A small percentage of flow from WNT is combined with flow from Norristown and conveyed to the STP via gravity sewer through a 24-inch interceptor. The STP provides primary and advanced secondary wastewater treatment for a design capacity of 9.75 million gallons per day (MGD) and an average organic loading of 34,540 pounds per day of BOD_5. Treatment is accomplished through physical and biological processes and treated effluent is discharged to the Schuylkill River. The facility operates under NPDES Permit No. PA0027421, issued November 1, 2018 and expiring October 31, 2023.

The plant currently operates under the following permit requirements:

Flow Limits = 9.75 MGD
Organic Loading Limits = 34,540 lbs/day BOD_5
Effluent $cBOD_5$ = 25 mg/L
Effluent Total Suspended Solids (TSS) = 30 mg/L
Effluent Ammonia as Nitrogen (NH_3N) = 20 mg/L

A. Interferences, Upsets, Permit Violations

The NMWA STP did not experience any interferences, upsets, or permit violations attributable to the IUs discharging to the sanitary collection system in 2018.

B. All Data for Sampling and Analysis

The results of the 2018 quarterly influent, effluent and sludge sampling results do not show any permit violations. The monthly average goals were consistently met in 2018 with the exception of the biosolids zinc goal (2,800 mg/kg) on January 16 (2,970 mg/kg) and October 9 (2,860 mg/kg). Investigation does not show industrial users causing the goal exceedances.

None of the local limit pollutants are present in significant quantities in the influent, effluent, or sludge. All PADEP Chapter 16 Water Quality standards and USEPA Act 503 Biosolids Regulations were consistently met. Copies of the 2018 biosolids Form 43 and priority pollutant monitoring results and the 2018 influent priority pollutant sampling results are attached to this report. Also attached are the EPA issued spreadsheets with the entered results for quarterly influent, effluent and sludge results.

C. Trucked or Hauled Waste

NMWA STP does not accept wastewater from any outside sources.

II. Pretreatment Program Changes

The NMWA appointed Remington & Vernick Engineers as the Industrial Pretreatment Program (IPP) Manager in March 2018.

During the 2018 calendar year, no SIUs were identified as being in significant non-compliance (SNC).

Crazy Aaron Enterprises, Inc. was inspected and sampled for a permit determination. It was determined that a IWD permit was not necessary for this user.

III. Miscellaneous Developments

The Authority is currently evaluating the local limits of its NPDES permit which may prompt future changes in the Industrial Pretreatment Program.

IV. Signatures

Barry Thompson

Barry Thompson
Executive Director

3/28/2019
Date

APPENDIX 1 – NMWA INFLUENT LOADINGS

Organic Loading 2018						
Month	**Flow (MGD)**	**Organic Loading Influent (lbs/day)**	**Organic Loading Effluent (lbs/day)**	**Influent BOD_5 (mg/L)**	**Effluent BOD_5 (mg/L)**	**% Removal**
January	5.00	12,637	1,209	303	29	90%
February	7.60	10,184	611	161	10	94%
March	8.22	10,013	892	146	13	91%
April	6.16	10,533	1,184	205	23	89%
May	6.85	9,031	816	158	14	91%
June	6.76	7,388	730	131	13	90%
July	6.13	10,781	818	211	16	92%
August	7.03	11,015	293	188	5	97%
September	7.82	12,657	391	194	6	97%
October	5.97	11,310	299	227	6	97%
November	8.70	12,994	944	179	13	93%
December	7.57	14,072	694	223	11	95%
Sum	83.82	132,614	8,882	2,326	159	
Annual Average	6.98	11,051	740	194	13	
3 Month Max Average	7.50	12,792	964	210	17	
Max Month	8.70	14,072	1,209	303	29	

APPENDIX 2 – NMWA EPA INFLUENT, EFFLUENT, AND SLUDGE SPREADSHEETS

Facility Name:	NORRISTOWN BOROUGH WASTEWATER						
Facility ID:	PA0027421	**UNITS:**	MG/L				
Location:	**INFLUENT 2018**			Date		Date	Date
	Pollutant	Goals	Frequency	1/16/2018	4/3/2018	7/17/2018	10/9/2018
01105	ALUMINUM- TOTAL	16.1147	4	0.340	< 0.200	0.443	< 0.200
01002	ARSENIC- TOTAL	0.1002	4	< 0.002	< 0.002	< 0.002	< 0.002
80082	BOD- CARBONACEOUS 5-DAY	833.333	4	139	246	204	274
01027	CADMIUM- TOTAL	0.0182	4	< 0.0008	< 0.0008	< 0.0008	< 0.0008
01034	CHROMIUM- TOTAL	0.9496	4	0.004	< 0.002	0.004	0.002
01042	COPPER- TOTAL	0.2483	4	0.080	0.046	0.079	0.033
00720	CYANIDE- TOTAL	0.137	4	0.016	0.005	0.011	0.017
01051	LEAD- TOTAL	0.1775	4	0.007	0.004	0.018	0.002
71900	MERCURY- TOTAL	0.0049	4	< 0.0002	< 0.0002	< 0.0002	< 0.0002
01062	MOLYBDENUM- TOTAL	0.1543	4	< 0.002	0.002	< 0.002	< 0.002
01067	NICKEL- TOTAL	0.13	4	0.006	0.003	0.006	0.003
00610	NITROGEN- AMMONIA	32	4	21.7	23.1	21.9	16.8
00182	OIL & GREASE- TOTAL	250	4	22.2	32.3	9.7	12.6
01147	SELENIUM- TOTAL	0.0783	4	< 0.004	< 0.004	< 0.004	< 0.004
01077	SILVER- TOTAL	0.0878	4	< 0.002	< 0.002	< 0.002	< 0.002
00530	SOLIDS- TOTAL SUSPENDED	600	4	204	246	314	380
01092	ZINC- TOTAL	0.486	4	0.288	0.206	0.430	0.153

Facility Name:	NORRISTOWN BOROUGH WASTEWATER						
Facility ID:	PA0027421	**UNITS:**	MG/L				
Location:	**EFFLUENT 2018**			Date	Date	Date	Date
	Pollutant	Goals	Frequency	1/16/2018	4/3/2018	7/17/2018	10/9/2018
01105	ALUMINUM- TOTAL	16.1147	4	< 0.100	< 0.100	< 0.100	< 0.100
01002	ARSENIC- TOTAL	0.9812	4	< 0.001	< 0.001	< 0.001	< 0.001
80082	BOD- CARBONACEOUS 5-DAY	No Goal	0	3.8	3.7	3.0	4.8
01027	CADMIUM- TOTAL	0.0167	4	< 0.0004	< 0.0004	< 0.0004	< 0.0004
01034	CHROMIUM- TOTAL	1.4739	4	< 0.001	< 0.001	< 0.001	< 0.001
01042	COPPER- TOTAL	0.1034	4	0.010	0.011	0.007	0.012
00720	CYANIDE- TOTAL	0.0693	4	0.006	0.010	< 0.005	< 0.005
01051	LEAD- TOTAL	0.0206	4	< 0.001	< 0.001	< 0.001	< 0.001
71900	MERCURY- TOTAL	0.0049	4	< 0.0002	< 0.0002	< 0.0002	< 0.0002
01062	MOLYBDENUM- TOTAL	Monitor	4	0.001	< 0.001	0.002	< 0.001
01067	NICKEL- TOTAL	0.5126	4	0.002	0.003	0.004	0.003
00610	NITROGEN- AMMONIA	20	0	6.31	6.17	3.55	6.49
00182	OIL & GREASE- TOTAL	20	0	< 5.0	< 5.0	< 5.0	5.6
01147	SELENIUM- TOTAL	0.066	4	< 0.002	< 0.002	< 0.002	< 0.002
01077	SILVER- TOTAL	0.9047	4	< 0.001	< 0.001	< 0.001	< 0.001
00530	SOLIDS- TOTAL SUSPENDED	No Goal	0	6.4	< 4.0	6.4	6.0
01092	ZINC- TOTAL	1.3751	4	0.111	0.114	0.077	0.062

Facility Name:	NORRISTOWN BOROUGH WASTEWATER						
Facility ID:	PA0027421	**UNITS:**	MG/KG				
Location:	**SLUDGE 2018**		DRY WT	Date	Date	Date	Date
	Pollutant	Goals	Frequency	1/16/2018	4/3/2018	7/17/2018	10/9/2018
01105	ALUMINUM- TOTAL	Monitor	4	6100	6880	4910	9470
01002	ARSENIC- TOTAL	41	4	4.29	< 2.95	3.73	5.86
80082	BOD- CARBONACEOUS 5-DAY	No Goal	0				
01027	CADMIUM- TOTAL	39	4	1.31	1.00	1.32	2.06
01034	CHROMIUM- TOTAL	Monitor	4	39.1	45.7	53.0	69.7
01042	COPPER- TOTAL	1500	4	1010	872	958	1100
00720	CYANIDE- TOTAL	Monitor	4	5.56	2.92	7.83	3.30
01051	LEAD- TOTAL	300	4	112	77.5	107	133
71900	MERCURY- TOTAL	17	4	1.37	0.871	0.801	1.40
01062	MOLYBDENUM- TOTAL	75	4	< 10.3	< 11.8	< 10.3	< 11.3
01067	NICKEL- TOTAL	420	4	24.9	31.3	33.5	35.9
00610	NITROGEN- AMMONIA	No Goal	0				
00182	OIL & GREASE- TOTAL	No Goal	0				
01147	SELENIUM- TOTAL	100	4	6.08	4.98	< 2.57	7.28
01077	SILVER- TOTAL	Monitor	4	< 2.58	< 2.95	4.07	5.78
00530	SOLIDS- TOTAL SUSPENDED	No Goal	0				
01092	ZINC- TOTAL	2800	4	**2970**	2590	2660	**2860**

APPENDIX 3 – INFLUENT PRIORITY POLLUTANTS

SUBURBAN TESTING LABS

Results Report

Order ID: 8023977

Norristown Municipal Waste Authority
315 East Washington Street
Norristown, PA 19401

Project: Annual Priority Pollutant - Influent, Biosolids

Attn: John Larson

Regulatory ID:

Sample Number: 8023977-01 | Site: Influent #1 - grab | Sample ID:
Collector: KNR | Collect Date: 02/28/2018 7:15 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics										
Cyanide, Total	0.021		mg/L	ASTM D 7511-09	0.005	1	03/06/18	TML	03/06/18 13:16	TML
Phenolics	0.05		mg/L	EPA 420.1	0.05	1	03/01/18	TML	03/02/18 12:43	TML
Volatiles										
VOA, 624, PPL										
Acrolein	< 1.0	C4, L4	µg/L	EPA 624	1.0	1	03/01/18	KED	03/01/18 22:10	KED
Acrylonitrile	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Benzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Bromodichloromethane	1.8		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Bromoform	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Bromomethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Carbon Tetrachloride	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Chlorobenzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Chloroethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
2-Chloroethyl vinyl ether	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Chloroform	7.7		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Chloromethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Dibromochloromethane	0.7		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,4-Dichlorobenzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,3-Dichlorobenzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,2-Dichlorobenzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,1-Dichloroethane	< 0.5	C4	µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,2-Dichloroethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,1-Dichloroethene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
trans-1,2-Dichloroethene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,2-Dichloropropane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
trans-1,3-Dichloropropene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
cis-1,3-Dichloropropene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Ethyl Benzene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Methylene Chloride	1.0		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,1,2,2-Tetrachloroethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Tetrachloroethene	0.6		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Toluene	< 0.5	C4	µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,1,1-Trichloroethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
1,1,2-Trichloroethane	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Trichloroethene	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED
Vinyl Chloride	< 0.5		µg/L	EPA 624	0.5	1	03/01/18	KED	03/01/18 22:10	KED

Report Generated On: 03/16/2018 12:28 pm 8023977
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-01	Site: Influent #1 - grab	Sample ID:
Collector: KNR	Collect Date: 02/28/2018 7:15 am	Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By

Volatiles (Continued)

VOA, 624, PPL (Continued)

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Dibromofluoromethane	24.6	µg/L	EPA 624	123%	1	72-136	03/01/18 22:10
Surrogate: 1,2-Dichloroethane-d4	22.7	µg/L	EPA 624	114%	1	79-135	03/01/18 22:10
Surrogate: Toluene-d8	21.4	µg/L	EPA 624	107%	1	88-112	03/01/18 22:10
Surrogate: Bromofluorobenzene	18.6	µg/L	EPA 624	93%	1	75-117	03/01/18 22:10

VOA, 624, TIC

Ethanol	6.02	N, J	µg/L	EPA 624		1	03/01/18	KED	03/01/18 22:10	KED

Surrogate Recoveries	*Results*		*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Dibromofluoromethane	24.6	N	µg/L	EPA 624	123%	1	72-136	03/01/18 22:10
Surrogate: 1,2-Dichloroethane-d4	22.7	N	µg/L	EPA 624	114%	1	79-135	03/01/18 22:10
Surrogate: Toluene-d8	21.4	N	µg/L	EPA 624	107%	1	88-112	03/01/18 22:10
Surrogate: Bromofluorobenzene	18.6	N	µg/L	EPA 624	93%	1	75-117	03/01/18 22:10

SUBURBAN TESTING LABS
1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595 Fax: 610-375-4090 suburbantestinglabs.com
PADEP 06-00208

SUBURBAN TESTING LABS

Sample Number: 8023977-02	Site: Influent #1	Sample ID:
Collector: KNR	Collect Date: 02/28/2018 7:00 am	Sample Type: 24 HC

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals										
Antimony	< 0.0020	B3, L4	mg/L	EPA 200.8	0.0020	1	03/07/18	RPV	03/08/18 16:32	AER
Arsenic	< 0.005		mg/L	EPA 200.8	0.005	1	03/07/18	RPV	03/08/18 16:32	AER
Beryllium	< 0.002		mg/L	EPA 200.8	0.002	1	03/07/18	RPV	03/08/18 16:32	AER
Cadmium	< 0.002		mg/L	EPA 200.8	0.002	1	03/07/18	RPV	03/08/18 16:32	AER
Chromium	< 0.005		mg/L	EPA 200.8	0.005	1	03/07/18	RPV	03/08/18 16:32	AER
Copper	0.064		mg/L	EPA 200.8	0.010	1	03/07/18	RPV	03/08/18 16:32	AER
Lead	0.012		mg/L	EPA 200.8	0.005	1	03/07/18	RPV	03/08/18 16:32	AER
Mercury	< 0.0002		mg/L	SM 3112-B	0.0002	1	03/02/18	AER	03/05/18 11:27	AER
Nickel	0.005		mg/L	EPA 200.8	0.005	1	03/07/18	RPV	03/08/18 16:32	AER
Selenium	< 0.010		mg/L	EPA 200.8	0.010	1	03/07/18	RPV	03/08/18 16:32	AER
Silver	< 0.005		mg/L	EPA 200.8	0.005	1	03/07/18	RPV	03/08/18 16:32	AER
Thallium	< 0.0020		mg/L	EPA 200.8	0.0020	1	03/07/18	RPV	03/08/18 16:32	AER
Zinc	0.302		mg/L	EPA 200.8	0.050	1	03/07/18	RPV	03/08/18 16:32	AER
Pesticide/PCB										
PCBs, 608										
Aroclor 1016	< 0.50	C4	µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1221	< 0.50		µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1232	< 0.50		µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1242	< 0.50		µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1248	< 0.50		µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1254	< 0.50		µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH
Aroclor 1260	< 0.50	C4	µg/L	EPA 608	0.50	1	03/08/18	MAG	03/10/18 0:36	DMH

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	0.303	µg/L	EPA 608	61%	1	40-104	03/10/18 0:36
Surrogate: Decachlorobiphenyl	0.155	µg/L	EPA 608	31%	1	28-130	03/10/18 0:36

Pesticides, 608, PPL										
Aldrin	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
alpha-BHC	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
beta-BHC	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
delta-BHC	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
gamma-BHC (Lindane)	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Chlordane	< 0.50		µg/L	EPA 608	0.50	1	03/05/18	MEB	03/07/18 6:56	DMH
Alpha Chlordane	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Gamma Chlordane	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
4,4'-DDD	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
4,4'-DDE	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
4,4'-DDT	< 0.02		µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Dieldrin	0.03	C3	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Endosulfan I	< 0.02		µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Endosulfan II	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Endosulfan sulfate	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Endrin	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Endrin aldehyde	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH

Report Generated On: 03/16/2018 12:28 pm 8023977

STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-02	Site: Influent #1	Sample ID:
Collector: KNR	Collect Date: 02/28/2018 7:00 am	Sample Type: 24 HC

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Pesticide/PCB (Continued)										
Pesticides, 608, PPL (Continued)										
Endrin ketone	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Heptachlor	0.22	C3	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Heptachlor epoxide	< 0.02	C4	µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Methoxychlor	< 0.02		µg/L	EPA 608	0.02	1	03/05/18	MEB	03/07/18 6:56	DMH
Toxaphene	< 0.50	C4	µg/L	EPA 608	0.50	1	03/05/18	MEB	03/07/18 6:56	DMH

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	0.302	µg/L	EPA 608	60%	1	40-104	03/07/18 6:56
Surrogate: Decachlorobiphenyl	0.164	µg/L	EPA 608	33%	1	28-130	03/07/18 6:56

Semivolatiles										
SVOA, 625, PPL										
Acenaphthene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Acenaphthylene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Anthracene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzidine	< 5.00		µg/L	EPA 625	5.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzo(a)anthracene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzo(a)pyrene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzo(b)fluoranthene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzo(g,h,i)perylene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Benzo(k)fluoranthene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
4-Bromophenyl phenyl ether	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Butyl benzyl phthalate	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
4-Chloro-3-methylphenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
bis(2-Chloroethoxy) methane	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
bis(2-Chloroethyl) ether	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
bis(2-Chloroisopropyl) ether	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2-Chloronaphthalene	< 1.00	L1	µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2-Chlorophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
4-Chlorophenyl phenyl ether	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Chrysene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Dibenz(a,h)anthracene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Di-n-butyl phthalate	< 3.00		µg/L	EPA 625	3.00	1	03/02/18	MEB	03/03/18 1:46	TRP
3,3'-Dichlorobenzidine	< 10.0		µg/L	EPA 625	10.0	1	03/02/18	MEB	03/03/18 1:46	TRP
2,4-Dichlorophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Diethyl phthalate	1.65		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2,4-Dimethylphenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Dimethyl phthalate	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
4,6-Dinitro-2-methylphenol	< 1.00	C4	µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2,4-Dinitrophenol	< 3.00	C4	µg/L	EPA 625	3.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2,6-Dinitrotoluene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2,4-Dinitrotoluene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Di-n-octyl phthalate	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
1,2-Diphenylhydrazine	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP

Report Generated On: 03/16/2018 12:28 pm 8023977
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-02	Site: Influent #1	Sample ID:
Collector: KNR	Collect Date: 02/28/2018 7:00 am	Sample Type: 24 HC

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Semivolatiles (Continued)										
SVOA, 625, PPL (Continued)										
bis(2-Ethylhexyl) phthalate	6.50		µg/L	EPA 625	3.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Fluoranthene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Fluorene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Hexachlorobenzene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Hexachlorobutadiene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Hexachlorocyclopentadiene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Hexachloroethane	< 10.0		µg/L	EPA 625	10.0	1	03/02/18	MEB	03/03/18 1:46	TRP
Indeno(1,2,3-cd)pyrene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Isophorone	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Naphthalene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Nitrobenzene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
4-Nitrophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2-Nitrophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
N-Nitrosodimethylamine	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
n-Nitrosodiphenylamine	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
N-Nitrosodi-n-propylamine	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Pentachlorophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Phenanthrene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Phenol	< 5.00		µg/L	EPA 625	5.00	1	03/02/18	MEB	03/03/18 1:46	TRP
Pyrene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
1,2,4-Trichlorobenzene	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP
2,4,6-Trichlorophenol	< 1.00		µg/L	EPA 625	1.00	1	03/02/18	MEB	03/03/18 1:46	TRP

Surrogate Recoveries	*Results*		*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: 2-Fluorophenol	29.8		µg/L	EPA 625	15%	1	10-79	03/03/18 1:46
Surrogate: Phenol-d6	30.2		µg/L	EPA 625	15%	1	10-57	03/03/18 1:46
Surrogate: Nitrobenzene-d5	52.7		µg/L	EPA 625	53%	1	24-119	03/03/18 1:46
Surrogate: 2-Fluorobiphenyl	48.2		µg/L	EPA 625	48%	1	29-115	03/03/18 1:46
Surrogate: 2,4,6-Tribromophenol	57.8		µg/L	EPA 625	29%	1	10-141	03/03/18 1:46
Surrogate: p-Terphenyl-d14	37.8	V2	µg/L	EPA 625	38%	1	44-124	03/03/18 1:46

SVOA, 625, TIC										
1,4-Benzenedicarboxylic acid, bis((1)	25.7	J, N	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
1-Hexacosanol (1) (01)	26.0	J, N	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
1-Hexacosanol (1) (02)	52.7	J, N	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
1-Octadecanol (1)	43.4	J, N	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
1-Triacontanol (1)	58.2	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
9-Octadecenoic acid, (E)- (1)	428	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Cholestan-3-ol, (3.beta.,5.beta.)- (1)	129	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Cholesterol (1)	178	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Cyclododecane (1)	30.3	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Cyclotetradecane (1)	39.0	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Dichloroacetic acid, tridecyl este (1)	21.7	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Ethanol, 2-(2-butoxyethoxy)- (1)	20.4	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
n-Hexadecanoic acid (1)	219	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP

Report Generated On: 03/16/2018 12:28 pm 8023977

STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-02	Site: Influent #1	Sample ID:
Collector: KNR	Collect Date: 02/28/2018 7:00 am	Sample Type: 24 HC

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Semivolatiles (Continued)										
SVOA, 625, TIC (Continued)										
Octadecanoic acid (1)	156	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Squalene (1)	73.6	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
Tetradecanoic acid (1)	39.1	N, J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
unknown (1) (01)	31.0	J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
unknown (1) (02)	41.8	J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
unknown (1) (03)	20.3	J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP
unknown alkane (1)	18.8	J	µg/L	EPA 625		1	03/02/18	MEB	03/03/18 1:46	TRP

SUBURBAN TESTING LABS
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PADEP 06-00208

APPENDIX 4 – FORM 43 RESULTS AND BIOSOLIDS PRIORITY POLLUTANTS

SUBURBAN TESTING LABS

Results Report

Order ID: 8021227

Norristown Municipal Waste Authority
315 East Washington Street
Norristown, PA 19401

Project: Annual Form 43

Attn: John Larson

Regulatory ID:

Sample Number: 8021227-01 | Site: Biosolids #3 | Sample ID:
Collector: KNB | Collect Date: 02/20/2018 9:00 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics										
Corrosivity (pH)	8.16	Y	pH Units	SW 846 9045C		1	02/22/18	TMF	02/22/18 21:16	TMF
Cyanide, Reactive	< 0.025		mg/kg	SW 7.3.3.2/9014	0.025	1	02/22/18	TML	02/23/18 13:09	TML
Free Liquids	Pass		P/F	SW 846 9095A		1	02/26/18	TML	02/26/18 14:31	TML
Ignitability	< 2.20		mm/sec	SW 846 1030	2.20	1	02/26/18	MEB	02/26/18 13:30	MEB
Sulfide, Reactive	< 80		mg/kg	SW 846 9034	80	1	02/22/18	TML	02/26/18 15:00	TML
Total Solids	13.7		%	SM 2540-G		1	02/21/18	CEK	02/21/18 17:19	MMR
Volatile Solids	71.7		%	SM 2540-G		1	02/21/18	CEK	02/22/18 10:49	MMR
Inorganics, ASTM Leachate										
Ammonia as N	34.3		mg/L as N	ASTM D6919-03	0.10	1	03/01/18	DSM	03/01/18 13:32	DSM
pH, Final	7.29		pH Units	ASTM 3987-85		1	02/21/18	MAG	02/22/18 10:12	MAG
Chemical Oxygen Demand	264		mg/L	SM 5220-D	25.0	5	03/05/18	DSM	03/05/18 11:50	DSM
Oil and Grease, as HEM	< 20.4		mg/L	EPA 1664A	20.4	2	03/01/18	DSM	03/06/18 14:40	DSM
Total Solids	70.0	H	mg/L	SM 2540-B	10.0	1	03/06/18	CEK	03/06/18 22:45	MMR
Inorganics, TCLP NVE										
TCLP NVE Extraction										
pH, Initial	7.64		pH Units	SW 846 1311		1	02/21/18	MAG	02/22/18 10:12	MAG
pH, Final	5.14		pH Units	SW 846 1311		1	02/21/18	MAG	02/22/18 10:12	MAG
Inorganics, TCLP ZHE										
TCLP ZHE Extraction										
pH, Initial	7.64		pH Units	SW 846 1311		1	02/27/18	LAS	02/28/18 11:05	LAS
pH, Final	5.30		pH Units	SW 846 1311		1	02/27/18	LAS	02/28/18 11:05	LAS
Metals, TCLP										
Arsenic	< 0.020		mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Barium	0.208		mg/L	SW 846 6010C	0.200	1	02/26/18	RJS	02/27/18 16:46	RJS
Cadmium	< 0.0020		mg/L	SW 846 6010C	0.0020	1	02/26/18	RJS	02/27/18 16:46	RJS
Chromium	< 0.020		mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Copper	< 0.020		mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Lead	< 0.020	B3	mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Mercury	0.0005		mg/L	SW 846 7470A	0.0002	1	02/28/18	AER	02/28/18 12:10	RJS
Nickel	0.023		mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Selenium	< 0.100		mg/L	SW 846 6010C	0.100	1	02/26/18	RJS	02/27/18 16:46	RJS

Report Generated On: 03/08/2018 1:41 pm 8021227
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8021227-01 | Site: Biosolids #3 | Sample ID:
Collector: KNB | Collect Date: 02/20/2018 9:00 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Metals, TCLP (Continued)										
Silver	< 0.020		mg/L	SW 846 6010C	0.020	1	02/26/18	RJS	02/27/18 16:46	RJS
Zinc	2.16		mg/L	SW 846 6010C	0.200	1	02/26/18	RJS	02/27/18 16:46	RJS
Pesticide/PCB										
PCBs, 8082										
Aroclor 1016	< 122	C4	µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1221	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1232	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1242	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1248	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1254	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1260	< 122	C4	µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1262	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
Aroclor 1268	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS
PCBS, Total	< 122		µg/Kg dry	SW 846 8082A	122	1	02/21/18	MAG	02/24/18 1:43	MWS

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	83.9	µg/Kg dry	SW 846 8082A	69%	1	35-135	02/24/18 1:43
Surrogate: Decachlorobiphenyl	49.4	µg/Kg dry	SW 846 8082A	41%	1	10-153	02/24/18 1:43

Pesticides, 8081, TCLP										
Gamma-BHC (Lindane)	< 0.2		µg/L	SW 846 8081B	0.2	1	02/23/18	MEB	02/23/18 19:39	MWS
Chlordane	< 5.0		µg/L	SW 846 8081B	5.0	1	02/23/18	MEB	02/23/18 19:39	MWS
Endrin	< 0.2	C4	µg/L	SW 846 8081B	0.2	1	02/23/18	MEB	02/23/18 19:39	MWS
Heptachlor	< 0.2		µg/L	SW 846 8081B	0.2	1	02/23/18	MEB	02/23/18 19:39	MWS
Heptachlor epoxide	< 0.2		µg/L	SW 846 8081B	0.2	1	02/23/18	MEB	02/23/18 19:39	MWS
Methoxychlor	< 0.2		µg/L	SW 846 8081B	0.2	1	02/23/18	MEB	02/23/18 19:39	MWS
Toxaphene	< 5.0		µg/L	SW 846 8081B	5.0	1	02/23/18	MEB	02/23/18 19:39	MWS

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	4.73	µg/L	SW 846 8081B	95%	1	35-135	02/23/18 19:39
Surrogate: Decachlorobiphenyl	3.33	µg/L	SW 846 8081B	67%	1	10-153	02/23/18 19:39

Semivolatiles										
Herbicides, TCLP										
2,4-D	< 5.00		µg/L	SW 846 8151	5.00	1	02/22/18	MAG	02/23/18 5:02	DMH
2,4,5-TP (Silvex)	< 2.50		µg/L	SW 846 8151	2.50	1	02/22/18	MAG	02/23/18 5:02	DMH

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: 2,4-Dichlorophenylacetic Acid (DCAA)	85.8	µg/L	SW 846 8151	86%	1	40-120	02/23/18 5:02

SVOA, 8270, TCLP										
o-cresol (2-Methylphenol)	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
m,p-cresol (3,4-Methylphenol)	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP

Report Generated On: 03/08/2018 1:41 pm 8021227
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8021227-01 | Site: Biosolids #3 | Sample ID:
Collector: KNB | Collect Date: 02/20/2018 9:00 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Semivolatiles (Continued)										
SVOA, 8270, TCLP (Continued)										
1,4-Dichlorobenzene	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
2,4-Dinitrotoluene	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
Hexachlorobenzene	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
Hexachlorobutadiene	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
Hexachloroethane	< 100		µg/L	SW 846 8270D	100	1	02/22/18	MAG	03/01/18 1:24	TRP
Nitrobenzene	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
Pentachlorophenol	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
Pyridine	< 30.0		µg/L	SW 846 8270D	30.0	1	02/22/18	MAG	03/01/18 1:24	TRP
2,4,5-Trichlorophenol	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP
2,4,6-Trichlorophenol	< 10.0		µg/L	SW 846 8270D	10.0	1	02/22/18	MAG	03/01/18 1:24	TRP

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: 2-Fluorophenol	708	µg/L	SW 846 8270D	35%	1	10-79	03/01/18 1:24
Surrogate: Phenol-d6	472	µg/L	SW 846 8270D	24%	1	10-57	03/01/18 1:24
Surrogate: Nitrobenzene-d5	642	µg/L	SW 846 8270D	64%	1	24-119	03/01/18 1:24
Surrogate: 2-Fluorobiphenyl	580	µg/L	SW 846 8270D	58%	1	29-115	03/01/18 1:24
Surrogate: 2,4,6-Tribromophenol	1230	µg/L	SW 846 8270D	61%	1	10-141	03/01/18 1:24
Surrogate: p-Terphenyl-d14	560	µg/L	SW 846 8270D	56%	1	44-124	03/01/18 1:24

SW846 9071B										
Oil & Grease	< 3630		mg/kg dry	W-O&G	3630	1	02/26/18		02/26/18 15:53	SUB
Volatiles										
VOA, 8260, TCLP										
Benzene	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
2-butanone (MEK)	< 25.0	C3	µg/L	SW 846 8260B	25.0	10	02/28/18	LAS	02/28/18 18:30	KED
Carbon Tetrachloride	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
Chlorobenzene	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
Chloroform	10.2		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
1,2-Dichloroethane	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
1,1-Dichloroethene	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
Tetrachloroethene	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
Trichloroethene	< 5.0		µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED
Vinyl Chloride	< 5.0	C4	µg/L	SW 846 8260B	5.0	10	02/28/18	LAS	02/28/18 18:30	KED

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Dibromofluoromethane	22.3	µg/L	SW 846 8260B	112%	10	72-136	02/28/18 18:30
Surrogate: 1,2-Dichloroethane-d4	20.9	µg/L	SW 846 8260B	105%	10	79-135	02/28/18 18:30
Surrogate: Toluene-d8	21.6	µg/L	SW 846 8260B	108%	10	88-112	02/28/18 18:30
Surrogate: Bromofluorobenzene	19.0	µg/L	SW 846 8260B	95%	10	75-117	02/28/18 18:30

SUBURBAN TESTING LABS
1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595 Fax: 610-375-4090 suburbantestinglabs.com
PADEP 06-00208

Sample Number: 8023977-03 | Site: Biosolids #3 | Sample ID:
Collector: SW | Collect Date: 02/28/2018 7:43 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics										
Total Solids	15.3		%	SM 2540-G		1	03/07/18	MMR	03/07/18 9:13	MMR
Metals										
Antimony	17.4	B	mg/kg dry	SW 846 6010C	1.50	1	03/01/18	RJS	03/02/18 11:17	RJS
Arsenic	4.65	J	mg/kg dry	SW 846 6010C	2.92	1	03/01/18	RJS	03/02/18 11:17	RJS
Beryllium	< 0.584		mg/kg dry	SW 846 6010C	0.584	1	03/01/18	RJS	03/02/18 11:17	RJS
Cadmium	1.51		mg/kg dry	SW 846 6010C	0.058	1	03/01/18	RJS	03/02/18 11:17	RJS
Chromium	38.5		mg/kg dry	SW 846 6010C	11.7	1	03/01/18	RJS	03/02/18 11:17	RJS
Copper	998		mg/kg dry	SW 846 6010C	0.584	1	03/01/18	RJS	03/02/18 11:17	RJS
Lead	72.4		mg/kg dry	SW 846 6010C	2.92	1	03/01/18	RJS	03/02/18 11:17	RJS
Mercury	0.840		mg/kg dry	SW 846 7471A	0.117	1	03/06/18	AER	03/08/18 13:56	AER
Nickel	28.3		mg/kg dry	SW 846 6010C	11.7	1	03/01/18	RJS	03/02/18 11:17	RJS
Selenium	6.26	J	mg/kg dry	SW 846 6010C	2.92	1	03/01/18	RJS	03/02/18 11:17	RJS
Silver	4.06	J	mg/kg dry	SW 846 6010C	2.92	1	03/01/18	RJS	03/02/18 11:17	RJS
Thallium	< 2.92		mg/kg dry	SW 846 6010C	2.92	1	03/01/18	RJS	03/02/18 11:17	RJS
Zinc	2930		mg/kg dry	SW 846 6010C	117	1	03/01/18	RJS	03/02/18 11:17	RJS
Pesticide/PCB										
PCBs, 8082										
Aroclor 1016	< 109	D1	µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1221	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1232	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1242	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1248	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1254	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1260	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1262	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
Aroclor 1268	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH
PCBS, Total	< 109		µg/Kg dry	SW 846 8082A	109	1	03/05/18	MEB	03/07/18 16:46	DMH

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	94.0	µg/Kg dry	SW 846 8082A	86%	1	35-135	03/07/18 16:46
Surrogate: Decachlorobiphenyl	99.5	µg/Kg dry	SW 846 8082A	91%	1	10-153	03/07/18 16:46

Pesticides, 8081										
Dieldrin	8.9	C1	µg/Kg dry	SW 846 8081B	8.7	2	03/05/18	MEB	03/09/18 10:11	DMH
Aldrin	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
alpha-BHC	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
beta-BHC	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
delta-BHC	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
gamma-BHC (Lindane)	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Chlordane	< 546		µg/Kg dry	SW 846 8081B	546	5	03/05/18	MEB	03/14/18 17:19	DMH
Alpha Chlordane	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Gamma Chlordane	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
4,4'-DDD	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
4,4'-DDE	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH

Report Generated On: 03/16/2018 12:28 pm 8023977
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-03 | Site: Biosolids #3 | Sample ID:
Collector: SW | Collect Date: 02/28/2018 7:43 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Pesticide/PCB (Continued)										
Pesticides, 8081 (Continued)										
4,4'-DDT	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endosulfan I	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endosulfan II	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endosulfan sulfate	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endrin	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endrin aldehyde	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Endrin ketone	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Heptachlor	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Heptachlor epoxide	< 21.8	C4	µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Methoxychlor	< 21.8		µg/Kg dry	SW 846 8081B	21.8	5	03/05/18	MEB	03/14/18 17:19	DMH
Toxaphene	< 546		µg/Kg dry	SW 846 8081B	546	5	03/05/18	MEB	03/14/18 17:19	DMH

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Tetrachloro-m-xylene	114	µg/Kg dry	SW 846 8081B	105%	2	35-135	03/09/18 10:11
Surrogate: Decachlorobiphenyl	75.1	µg/Kg dry	SW 846 8081B	69%	2	10-153	03/09/18 10:11
Surrogate: Tetrachloro-m-xylene	114	µg/Kg dry	SW 846 8081B	104%	5	35-135	03/14/18 17:19
Surrogate: Decachlorobiphenyl	84.2	µg/Kg dry	SW 846 8081B	77%	5	10-153	03/14/18 17:19

Phenolics, Total Recoverable										
Phenols, Total	< 33		mg/L dry	EPA 420.1	33	1	03/13/18		03/13/18 13:06	SUB
Semivolatiles										
Dioxin	Absent	A	N/A	SW 846 8270C		1	03/05/18	MAG	03/07/18 0:30	TRP
SVOA, 8270, PPL										
Acenaphthene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Acenaphthylene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Anthracene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzidine	< 7630		µg/Kg dry	SW 846 8270D	7630	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzo(a)anthracene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzo(a)pyrene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzo(b)fluoranthene	322		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzo(g,h,i)perylene	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
Benzo(k)fluoranthene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
4-Bromophenyl phenyl ether	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Butyl benzyl phthalate	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
4-Chloro-3-methylphenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
bis(2-Chloroethoxy) methane	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
bis(2-Chloroethyl) ether	< 542	C5	µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
bis(2-Chloroisopropyl) ether	< 1090	C5	µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
2-Chloronaphthalene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
2-Chlorophenol	< 1090	L1, Xa	µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
4-Chlorophenyl phenyl ether	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Chrysene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Dibenz(a,h)anthracene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP

Report Generated On: 03/16/2018 12:28 pm 8023977
STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-03	Site: Biosolids #3	Sample ID:
Collector: SW	Collect Date: 02/28/2018 7:43 am	Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Semivolatiles (Continued)										
SVOA, 8270, PPL (Continued)										
Di-n-butyl phthalate	< 1090	C5	µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
3,3'-Dichlorobenzidine	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
2,4-Dichlorophenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Diethyl phthalate	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
2,4-Dimethylphenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Dimethyl phthalate	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
4,6-Dinitro-2-methylphenol	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
2,4-Dinitrophenol	< 542	C4	µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
2,6-Dinitrotoluene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
2,4-Dinitrotoluene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Di-n-octyl phthalate	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
1,2-Diphenylhydrazine	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
Fluoranthene	632		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Fluorene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Hexachlorobenzene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Hexachlorobutadiene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Hexachlorocyclopentadiene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Hexachloroethane	< 1090	L1, X	µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Indeno(1,2,3-cd)pyrene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
Isophorone	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
Naphthalene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Nitrobenzene	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
4-Nitrophenol	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
2-Nitrophenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
N-Nitrosodimethylamine	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
n-Nitrosodiphenylamine	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
N-Nitrosodi-n-propylamine	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Pentachlorophenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Phenanthrene	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Phenol	< 1090		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/06/18 20:12	TRP
Pyrene	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
1,2,4-Trichlorobenzene	< 216		µg/Kg dry	SW 846 8270D	216	1	03/05/18	MAG	03/06/18 20:12	TRP
2,4,6-Trichlorophenol	< 542		µg/Kg dry	SW 846 8270D	542	1	03/05/18	MAG	03/06/18 20:12	TRP
bis(2-Ethylhexyl) phthalate	6190		µg/Kg dry	SW 846 8270D	1090	1	03/05/18	MAG	03/09/18 11:00	TRP

Surrogate Recoveries	*Results*		*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: 2-Fluorophenol	16500		µg/Kg dry	SW 846 8270D	38%	1	14-110	03/06/18 20:12
Surrogate: Phenol-d6	20100		µg/Kg dry	SW 846 8270D	46%	1	24-116	03/06/18 20:12
Surrogate: Nitrobenzene-d5	10700		µg/Kg dry	SW 846 8270D	49%	1	28-111	03/06/18 20:12
Surrogate: 2-Fluorobiphenyl	9340		µg/Kg dry	SW 846 8270D	43%	1	30-111	03/06/18 20:12
Surrogate: 2,4,6-Tribromophenol	22400		µg/Kg dry	SW 846 8270D	51%	1	25-117	03/06/18 20:12
Surrogate: p-Terphenyl-d14	9150	V2	µg/Kg dry	SW 846 8270D	42%	1	44-116	03/06/18 20:12
Surrogate: 2-Fluorophenol	33000		µg/Kg dry	SW 846 8270D	76%	1	14-110	03/09/18 11:00
Surrogate: Phenol-d6	41800		µg/Kg dry	SW 846 8270D	96%	1	24-116	03/09/18 11:00
Surrogate: Nitrobenzene-d5	15800		µg/Kg dry	SW 846 8270D	72%	1	28-111	03/09/18 11:00

Report Generated On: 03/16/2018 12:28 pm 8023977

STL_Results Revision #1.6 Effective: 07/09/2014

Sample Number: 8023977-03	Site: Biosolids #3	Sample ID:
Collector: SW	Collect Date: 02/28/2018 7:43 am	Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By

Semivolatiles (Continued)

SVOA, 8270, PPL (Continued)

Surrogate Recoveries (Continued)	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: 2-Fluorobiphenyl	15400	µg/Kg dry	SW 846 8270D	71%	1	30-111	03/09/18 11:00
Surrogate: 2,4,6-Tribromophenol	34800	µg/Kg dry	SW 846 8270D	80%	1	25-117	03/09/18 11:00
Surrogate: p-Terphenyl-d14	13300	µg/Kg dry	SW 846 8270D	61%	1	44-116	03/09/18 11:00

SVOA, 8270, TIC

7-Acetyl-6-ethyl-1,1,4,4-tetrameth (1)	8370	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Cholest-4-en-3-one (1)	61300	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Cholest-5-ene, 3-(1-oxobuthoxy)- (1)	18500	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Cholestan-3-ol, (3.beta.,5.beta.)- (1)	251000	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Cholestan-3-one (1)	245000	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Heneicosane (1)	7650	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
n-Hexadecanoic acid (1)	7760	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
Squalene (1)	12900	N, J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (01)	2910	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (02)	3540	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (03)	3690	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (04)	2560	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (05)	4390	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP
unknown (1) (06)	147000	J	µg/Kg dry	SW 846 8270D		1	03/05/18	MAG	03/06/18 20:12	TRP

Volatiles

VOA, 8260, PPL

Acrolein	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
Benzene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Bromodichloromethane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Bromoform	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Bromomethane	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
Carbon Tetrachloride	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Chlorobenzene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Chloroethane	< 156	C4	µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
2-Chloroethyl vinyl ether	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Chloroform	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Chloromethane	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
Dibromochloromethane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,4-Dichlorobenzene	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
1,3-Dichlorobenzene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,2-Dichlorobenzene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,1-Dichloroethane	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
1,2-Dichloroethane	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
1,1-Dichloroethene	< 156	C4	µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
trans-1,2-Dichloroethene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,2-Dichloropropane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED

SUBURBAN TESTING LABS
1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595 Fax: 610-375-4090 suburbantestinglabs.com
PADEP 06-00208

Sample Number: 8023977-03 | Site: Biosolids #3 | Sample ID:
Collector: SW | Collect Date: 02/28/2018 7:43 am | Sample Type: Grab

Department / Test / Parameter	Result		Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Volatiles (Continued)										
VOA, 8260, PPL (Continued)										
trans-1,3-Dichloropropene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
cis-1,3-Dichloropropene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Ethyl Benzene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Methylene Chloride	< 1560	C4	µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
1,1,2,2-Tetrachloroethane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Tetrachloroethene	< 1560		µg/Kg dry	SW 846 8260B	1560	50	03/03/18	KED	03/03/18 16:48	KED
Toluene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,1,1-Trichloroethane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
1,1,2-Trichloroethane	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Trichloroethene	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Vinyl Chloride	< 156		µg/Kg dry	SW 846 8260B	156	50	03/03/18	KED	03/03/18 16:48	KED
Acrylonitrile	< 156	C4	µg/Kg dry	SW 846 8260B	156	50	03/09/18	KED	03/09/18 16:27	KED

Surrogate Recoveries	*Results*	*Units*	*Method*	*%Recovery*	*DF*	*Limits (%Recovery)*	*Analysis Date*
Surrogate: Dibromofluoromethane	20.8	µg/L	SW 846 8260B	104%	50	75-139	03/03/18 16:48
Surrogate: 1,2-Dichloroethane-d4	19.8	µg/L	SW 846 8260B	99%	50	81-125	03/03/18 16:48
Surrogate: Toluene-d8	19.4	µg/L	SW 846 8260B	97%	50	84-121	03/03/18 16:48
Surrogate: Bromofluorobenzene	19.6	µg/L	SW 846 8260B	98%	50	72-136	03/03/18 16:48
Surrogate: Dibromofluoromethane	23.7	µg/L	SW 846 8260B	118%	50	75-139	03/09/18 16:27
Surrogate: 1,2-Dichloroethane-d4	22.1	µg/L	SW 846 8260B	111%	50	81-125	03/09/18 16:27
Surrogate: Toluene-d8	22.2	µg/L	SW 846 8260B	111%	50	84-121	03/09/18 16:27
Surrogate: Bromofluorobenzene	20.3	µg/L	SW 846 8260B	101%	50	72-136	03/09/18 16:27

Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylen	700	N, J	µg/Kg dry	SW 846 8260B		50	03/03/18	KED	03/03/18 16:48	KED
W-Cyanide Total										
Cyanide (total)	< 3.00		mg/kg dry	EPA 9014	3.00	1	03/12/18		03/13/18 13:06	SUB

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1037F MacArthur Road, Reading, PA 19605 Phone: 800-433-6595 Fax: 610-375-4090 suburbantestinglabs.com
PADEP 06-00208

APPENDIX 5 – PENNSYLVANIA AMERICAN WATER COMPANY 3Q SELENIUM LABORATORY RESULTS AND CORRESPONDENCE

SUBURBAN TESTING LABS

Results Report

Order ID: 8082764

PA American Water - Norristown
PO Box 5606
Cherry Hill, NJ 08034

Project: Quarterly IPP Analysis

Attn: Maile Fordham

Regulatory ID:

Sample Number: 8082764-01 | Site: Sewer Manhole - Composite | Sample ID: Manhole
Collector: MF | Collect Date: 09/25/2018 8:30 am | Sample Type: 24 HC

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics									
Ammonia as N	3.34	mg/L	ASTM D6919-09	0.10	1	09/26/18	DSM	09/26/18 17:22	DAM
Biochemical Oxygen Demand (5 day BOD)	84.5	mg/L	SM 5210-B	2.0	1	09/26/18	KTL	09/26/18 17:12	KLS
Total Suspended Solids (TSS)	580	mg/L	SM 2540-D	4.0	1	09/27/18	CEK	09/27/18 18:10	AJH
Metals									
Aluminum	2.97	mg/L	EPA 200.7	0.100	1	09/27/18	RPV	10/01/18 13:23	RJS
Arsenic	< 0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Cadmium	< 0.002	mg/L	EPA 200.7	0.002	1	09/27/18	RPV	10/01/18 13:23	RJS
Chromium	0.022	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Copper	0.061	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Lead	0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Mercury	< 0.0005	mg/L	SM 3112-B	0.0005	1	10/02/18	AER	10/03/18 12:05	RJS
Molybdenum	0.019	mg/L	EPA 200.7	0.004	1	09/27/18	RPV	10/01/18 13:23	RJS
Nickel	0.027	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Selenium	< 0.100	mg/L	EPA 200.7	0.100	1	09/27/18	RPV	10/01/18 13:23	RJS
Silver	< 0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Zinc	0.346	mg/L	EPA 200.7	0.200	1	09/27/18	RPV	10/01/18 13:23	RJS

Sample Number: 8082764-02 | Site: Sewer Manhole - Grab | Sample ID: Manhole
Collector: MF | Collect Date: 09/25/2018 8:30 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics									
Cyanide, Total	0.008	mg/L	ASTM D 7511-12	0.005	1	09/26/18	TML	09/26/18 17:44	TML
Oil and Grease, as HEM	14.1	mg/L	EPA 1664A	5.0	1	09/27/18	KMH	09/28/18 16:58	KMH
pH, Lab	7.79	pH Units	SM 4500-H-B		1	09/25/18	KTL	09/25/18 21:47	KTL
Total Petroleum Hydrocarbon, TPH as SGT-HEM	< 5.0	mg/L	EPA 1664A	5.0	1	10/08/18	DSM	10/08/18 14:00	DSM

Sample Receipt Conditions:

All samples met the sample receipt requirements for the relevant analyses.

Report Generated On: 10/08/2018 3:50 pm 8082764
STL_Results Revision #1.6 Effective: 07/09/2014

SUBURBAN TESTING LABS

Results Report

Order ID: 8082764

PA American Water - Norristown
300 W. Washington Street
Norristown, PA 19401

Project: Quarterly IPP Analysis

Attn: Maile Fordham

Regulatory ID:

Sample Number: 8082764-01 | Site: Sewer Manhole - Composite | Sample ID: Manhole
Collector: MF | Collect Date: 09/25/2018 8:30 am | Sample Type: 24 HC

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics									
Ammonia as N	3.34	mg/L	ASTM D6919-09	0.10	1	09/26/18	DSM	09/26/18 17:22	DAM
Biochemical Oxygen Demand (5 day BOD)	84.5	mg/L	SM 5210-B	2.0	1	09/26/18	KTL	09/26/18 17:12	KLS
Total Suspended Solids (TSS)	580	mg/L	SM 2540-D	4.0	1	09/27/18	CEK	09/27/18 18:10	AJH
Metals									
Aluminum	2.97	mg/L	EPA 200.7	0.100	1	09/27/18	RPV	10/01/18 13:23	RJS
Arsenic	< 0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Cadmium	< 0.002	mg/L	EPA 200.7	0.002	1	09/27/18	RPV	10/01/18 13:23	RJS
Chromium	0.022	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Copper	0.061	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Lead	0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Mercury	< 0.0005	mg/L	SM 3112-B	0.0005	1	10/02/18	AER	10/03/18 12:05	RJS
Molybdenum	0.019	mg/L	EPA 200.7	0.004	1	09/27/18	RPV	10/01/18 13:23	RJS
Nickel	0.027	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Selenium	< 0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Silver	< 0.020	mg/L	EPA 200.7	0.020	1	09/27/18	RPV	10/01/18 13:23	RJS
Zinc	0.346	mg/L	EPA 200.7	0.200	1	09/27/18	RPV	10/01/18 13:23	RJS

Sample Number: 8082764-02 | Site: Sewer Manhole - Grab | Sample ID: Manhole
Collector: MF | Collect Date: 09/25/2018 8:30 am | Sample Type: Grab

Department / Test / Parameter	Result	Units	Method	R.L.	DF	Prep Date	By	Analysis Date	By
Inorganics									
Cyanide, Total	0.008	mg/L	ASTM D 7511-12	0.005	1	09/26/18	TML	09/26/18 17:44	TML
Oil and Grease, as HEM	14.1	mg/L	EPA 1664A	5.0	1	09/27/18	KMH	09/28/18 16:58	KMH
pH, Lab	7.79	pH Units	SM 4500-H-B		1	09/25/18	KTL	09/25/18 21:47	KTL
Total Petroleum Hydrocarbon, TPH as SGT-HEM	< 5.0	mg/L	EPA 1664A	5.0	1	10/08/18	DSM	10/08/18 14:00	DSM

Sample Receipt Conditions:

All samples met the sample receipt requirements for the relevant analyses.

Report Generated On: 03/08/2019 1:00 pm 8082764
STL_Results Revision #1.6 Effective: 07/09/2014

SUBURBAN TESTING LABS

March 15, 2019

Kristin May
PA American Water:Norristown
300 W. Washington Street
Norristown, PA 19401

Re: Selenium Result, Quarterly IPP Analysis: Sewer Manhole - Composite

Dear Ms. May,

The purpose of this letter is to confirm the validity of the revised selenium result of <0.02mg/L for this sample.

Initially, the result was reported as <0.100mg/L, or less than the method reporting limit (MRL). The MRL is determined by the quantitation range of the method and is the standard reporting limit. Per The NELAC Institute, our accrediting body, the MRL must be the lowest concentration included in the quantitation range, meaning that it is used to calibrate the instrumentation.

The method detection limit, or MDL, is the minimum concentration that can be reported with 99% confidence that it is distinguishable from the method blank results. The procedure for the determination of this limit has been designed and is required by the EPA. The MDL determination procedure is an on-going process based on the most recent revision of the procedure and is verified yearly.

When a lower reporting limit was requested for this sample, the data was re-evaluated; Of the calibration blanks, the batch method blank and the sample, none had detections for selenium. Since there was no evidence of selenium over the MDL of 0.02mg/L, the result was able to be revised and reported as < 0.02mg/L.

Carrie E Miller

Sincerely,
Carrie Miller
Quality Specialist II
Suburban Testing Labs, Inc.
800-433-6595 ext.222
cmiller@suburbantestinglabs.com

REMINGTON & VERNICK ENGINEERS

922 Fayette Street
Conshohocken, PA 19428
O: (610) 940-1050
F: (610) 940-1161

March 25, 2019

Pennsylvania American Water Company
300 West Washington Street
Norristown, PA 19401

Attn: Ms. Maile Fordham
Water Quality Supervisor

Re: Pennsylvania American Water Company
IWP Permit No. NMWA-02
Our File #PMNAM032

Dear Ms. Fordham:

The Pennsylvania American Water Company (PAAWC) is required to submit semi-annual self-monitoring reports in accordance with its Industrial Waste Permit with the Norristown Municipal Waste Authority (Authority). For the 3rd quarter of 2018 the PAAWC's self-monitoring report indicated a method reporting limit for selenium of <0.10 mg/L, which exceeds the permitted average monthly discharge limit of 0.05 mg/L. We understand that this was a laboratory issue. In addition, there was no violation for selenium in the 1st quarter of 2018, and no future violations are anticipated as PAAWC does not have a history of high selenium concentrations.

We appreciate that once notified of the apparent permit exceedance, PAAWC immediately followed up with its laboratory to re-evaluate the sample results. As a result PAAWC's laboratory was able to reduce its reporting limit for selenium and issue a corrected analysis report. The laboratory also provided a letter of explanation to accompany the corrected analysis. No action will be taken by the Authority at this time, but please note that for all future instances of apparent permit noncompliance, the following steps are required:

1) The Authority Manager shall be notified immediately after PAAWC becomes aware of the noncompliance. PAAWC shall then resample its effluent with respect to the parameter in noncompliance and submit the results of this sampling to the Authority within thirty days of becoming aware of the initial result.

2) Per your Industrial Waste Permit, any Notices of Violation shall be responded to in writing to within five (5) calendar days of receipt. Your written response must provide an explanation of the reporting violations and a plan for the satisfactory correction and prevention of a repeat violation. You are also required to immediately re-sample your wastewater discharge with respect to the pollutants causing the non-compliance, and submit the results of the laboratory analysis within 30 calendar days. If an initial response is not provided within five (5) calendar days, enforcement by the Authority will be escalated. Enforcement could result in fines and penalties.

Again, we appreciate your cooperation in this matter. Should you have any questions or require additional information, please feel free to contact me at (610) 940-1050.

Very truly yours,
Remington & Vernick Engineers

Robert Praga, P.E.
Authority Engineer

cc: Barry Thompson, NMWA
John Larson, NMWA
Thomas F. Beach, P.E., C.M.E., Executive Vice President

APPENDIX E

METER CALIBRATION REPORTS

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

CSO-003
(New Meter)

Scope of Work:

Calibration of one (1) Sigma 950 area velocity used on a 36" circular pipe.

Meter Manufacturer and Model No:

Sigma 950

Meter Serial Number:

JU2

Equipment used in Certification:

ISCO Standards Book/Zero flow for velocity and level.

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
Norristown, PA 19401
Att: Dave

Meter Location:

Slip Stream 002

Scope of Work:

Calibration of one (1) Sigma 980 Ultrasonic used on a 15" Palmer Bowlus Flume.

Meter Manufacturer and Model:

Sigma 980

Meter Serial Number:

BVD Version 7.65S

Equipment used in Certification:

ISCO Standards Book, Stick Ruler, Zero Checked At Zero

Service Technician:

Date: January 30, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Slip Stream 001

Scope of Work:

Calibration of one (1) Sigma 950 Submerged Area / Velocity Sensor Flow Meter used on a 18" palmer bowles flume

Meter Manufacturer and Model No:

Sigma 950 Flow Meter

Meter Serial Number:

JJ5 Series 7.64

Equipment used in Certification:

ISCO Standards Book, Fixed Volume Vessel For Bubbler

Service Technician:

Date: January 30, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Final Effluent Flow
Outfall 002

Scope of Work:

Calibration of one (1) Milltronics OCM III Ultrasonic Flow Meter used on a 36" Rectangular Weir.

Meter Manufacturer and Model No:

Milltronics OCM III Flow Meter

Meter Serial Number:

PBD/C4191627XV

Equipment used in Certification:

ISCO Standards Book, Fixed Volume Vessel For Bubbler

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Post Aeration Tank 2

Scope of Work:

Calibration of one (1) Siemens Milltronics OCM III Ultrasonic Flow Meter on a 13' rectangular weir without end contractions. Max flow 27.00 mgd. Max selected head 12". Zero @ 53.00", exponent 1.5

Meter Manufacturer and Model No:

Milltronics OCM III

Meter Serial Number:

020501102PB

Equipment used in Certification:

ISCO Standards Book, Stick Ruler

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

PH Meter

Scope of Work:

Calibration of one (1) Great Lakes Instrument Pro PH Meter and (1) Honeywell DR4500 chart recorder. Range 0-14 PH.

Meter Manufacturer and Model No:

GLI Pro

Meter Serial Number:

0908Y980543800001

Equipment used in Certification:

Buffer Solution 4 & 7. 4-20 Ma Transmation

Service Technician:

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Date: January 30, 2018

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Norristown/Jackson St.
Influent

Scope of Work:

Endress & Hauser ProMag 50 24" magnetic flow meter

Meter Manufacturer and Model No:

Endress & Hauser ProMag 50

Meter Serial Number:

L803F216000

Equipment used in Certification:

ISCO Standards Book, Stick Ruler
4-20 MA. Generator

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Effluent Flow Recorder

Scope of Work:

Calibration of one (1) Endress & Hauser Ecograph T RSG35 0-18 to 0-27.5 Chart recorder total effluent flow.

Meter Manufacturer and Model:

Endress & Hauser Ecograph T

Meter Serial Number:

K903EF23428

Equipment used in Certification:

Transmation 4 - 20 ma Generator, Fluke 8060A Digital Volt Meter

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

West Norriton
Rittenhouse Influent

Scope of Work:

Calibration of one (1) 18" Kent-Taylor ABB Mag Master Magnetic (frequency 47.440hz) and one (1) Honeywell Chart Recorder # DR45A1. Range 0-20mgd. Counts x 1000

Meter Manufacturer and Model No:

Honeywell DR45A1
ABB # MFE4ER140111

Meter Serial Number:

Honeywell DR45A1 – 16W36C4000003552676
ABB Mag - 3K620000029271

Equipment used in Certification:

Transmation 4-20 ma Generator, Fluke 8060A Digital Volt Meter, Mag Calibrator

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

CONTROLEX SERVICE CORP
PO BOX 351
POTTSTOWN, PA 19464

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Post Aeration Tank 1

Scope of Work:

Calibration of one (1) Siemens Milltronics OCM III Ultrasonic Flow Meter on a 8' rectangular weir without end contractions. Selected max flow 17.5 mgd. Zero @ 52.5". Max head 12". Exponent 1.5

Meter Manufacturer and Model No:

Milltronics OCM III

Meter Serial Number:

PBD/T0130218XV

Equipment used in Certification:

ISCO Standards Book, Stick Ruler

Service Technician:

Date: January 30, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
Norristown, PA 19401
Att: Dave

Meter Location:

Slip Stream 002

Scope of Work:

Calibration of one (1) Sigma 980 Ultrasonic used on a 15" Palmer Bowlus Flume.

Meter Manufacturer and Model:

Sigma 980

Meter Serial Number:

BVD Version 7.65S

Equipment used in Certification:

ISCO Standards Book, Stick Ruler, Zero Checked At Zero

Service Technician:

Date: June 15, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Final Effluent Flow
Outfall 002

Scope of Work:

Calibration of one (1) Milltronics OCM III Ultrasonic Flow Meter used on a 36" Rectangular Weir.

Meter Manufacturer and Model No:

Milltronics OCM III Flow Meter

Meter Serial Number:

PBD/C4191627XV

Equipment used in Certification:

ISCO Standards Book, Fixed Volume Vessel For Bubbler

Service Technician:

Date: June 15, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

West Norriton
Rittenhouse Influent

Scope of Work:

Calibration of one (1) 18" Kent-Taylor ABB Mag Master Magnetic (frequency 47.440hz) and one (1) Honeywell Chart Recorder # DR45A1. Range 0-20mgd. Counts x 1000

Meter Manufacturer and Model No:

Honeywell DR45A1
ABB # MFE4ER140111

Meter Serial Number:

Honeywell DR45A1 – 16W36C4000003552676
ABB Mag - 3K620000029271

Equipment used in Certification:

Transmation 4-20 ma Generator, Fluke 8060A Digital Volt Meter, Mag Calibrator

Service Technician:

Date: June 15, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Post Aeration Tank 1

Scope of Work:

Calibration of one (1) Siemens Milltronics OCM III Ultrasonic Flow Meter on a 8' rectangular weir without end contractions. Selected max flow 17.5 mgd. Zero @ 52.5". Max head 12". Exponent 1.5

Meter Manufacturer and Model No:

Milltronics OCM III

Meter Serial Number:

PBD/T0130218XV

Equipment used in Certification:

ISCO Standards Book, Stick Ruler

Service Technician:

Date: June 15, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

CSO-003
(New Meter)

Scope of Work:

Calibration of one (1) Sigma 950 area velocity used on a 36" circular pipe.

Meter Manufacturer and Model No:

Sigma 950

Meter Serial Number:

JU2

Equipment used in Certification:

ISCO Standards Book/Zero flow for velocity and level.

Service Technician:

Date: June 15, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Effluent Flow Recorder

Scope of Work:

Calibration of one (1) Endress & Hauser Ecograph T RSG35 0-18 to 0-27.5 Chart recorder total effluent flow.

Meter Manufacturer and Model:

Endress & Hauser Ecograph T

Meter Serial Number:

K903EF23428

Equipment used in Certification:

Transmation 4 - 20 ma Generator, Fluke 8060A Digital Volt Meter

Service Technician:

Date: June 15, 2018

Joseph J. Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Norristown/Jackson St.
Influent

Scope of Work:

Endress & Hauser ProMag 50 24" magnetic flow meter

Meter Manufacturer and Model No:

Endress & Hauser ProMag 50

Meter Serial Number:

L803F216000

Equipment used in Certification:

ISCO Standards Book, Stick Ruler
4-20 MA. Generator

Service Technician:

Date: June 15, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Slip Stream 001

Scope of Work:

Calibration of one (1) Sigma 950 Submerged Area / Velocity Sensor Flow Meter used on a 18" palmer bowles flume

Meter Manufacturer and Model No:

Sigma 950 Flow Meter

Meter Serial Number:

JJ5 Series 7.64

Equipment used in Certification:

ISCO Standards Book, Fixed Volume Vessel For Bubbler

Service Technician:

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Date: June 15, 2018

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

Post Aeration Tank 2

Scope of Work:

Calibration of one (1) Siemens Milltronics OCM III Ultrasonic Flow Meter on a 13' rectangular weir without end contractions. Max flow 27.00 mgd. Max selected head 12". Zero @ 53.00", exponent 1.5

Meter Manufacturer and Model No:

Milltronics OCM III

Meter Serial Number:

020501102PB

Equipment used in Certification:

ISCO Standards Book, Stick Ruler

Service Technician:

Date: June 15, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

Controlex
Service
Corporation

controlexservice@gmail.com

Instrumentation and Control Systems

METER CERTIFICATION

Customer Billing Address:

Norristown Municipal Waste Authority
368 E. Washington Street
Norristown, PA 19401
Att: Dave

Meter Location:

PH Meter

Scope of Work:

Calibration of one (1) Great Lakes Instrument Pro PH Meter and (1) Honeywell DR4500 chart recorder. Range 0-14 PH.

Meter Manufacturer and Model No:

GLI Pro

Meter Serial Number:

0908Y980543800001

Equipment used in Certification:

Buffer Solution 4 & 7. 4-20 Ma Transmation

Service Technician:

Date: June 15, 2018

Joseph J Kaminski, Jr

Joseph Kaminski, Jr

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
PHONE: (717) 768-0800 FAX: (717) 768-0802

*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AA
LOCATION: FINAL EFFLUENT FLOW
SERIAL #: PBD/C4191627/
MANUFACTURER: SIEMENS
TRANSMITTER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 37 INCH
MAXIMUM CAPACITY: 6.66 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: -.8 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
ADJUSTED EQUIPMENT
VERIFIED TOTALIZER (PASSED)
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
PHONE: (717) 768-0800 FAX: (717) 768-0802

*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AB
LOCATION: POST AERATION TANK #1
SERIAL #: PBD/T0130218XV/
MANUFACTURER: SIEMENS
TRANSMITTER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 48 INCH (2)
MAXIMUM CAPACITY: 16.35 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: -.1 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
CALIBRATED EQUIPMENT
FOUND SENSOR DROPS LEVEL OCCATIONALLY ABOUT 3/4" FOR 10-15 SEC.
LOOSENED SENSOR TO PREVENT RINGING.
FOUND FLOW PROGRAMMING INACCURATE - REPROGRAMMED NEW HEAD VS. FLOW TABLE
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AC
LOCATION: POST AERATION TANK #2
SERIAL #: 020501102PB/
MANUFACTURER: SIEMENS
TRANSMITTER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 80 INCH (2)
MAXIMUM CAPACITY: 27.15 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: -.45 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
ADJUSTED EQUIPMENT
VERIFIED TOTALIZER (PASSED)
FOUND PROGRAMMING INACCURATE - REPROGRAMMED NEW HEAD VS. FLOW TABLE
FOUND METER WILL NOT SIMULATE MA TO RECORDER
ADJUSTED SIGNAL TO RECORDER BY CHANGING SCALING AT RECORDER
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AD
LOCATION: SLIP STREAM NEW PLANT
SERIAL #: BDV/
MANUFACTURER: HACH
TRANSMITTER: 980 US
PRIMARY: N/A
MAXIMUM CAPACITY: 1.994 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: -.6 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
ADJUSTED EQUIPMENT
VERIFIED TOTALIZER (PASSED)
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AE
LOCATION: SLIP STREAM OLD PLANT
SERIAL #: JJ5/
MANUFACTURER: HACH
TRANSMITTER: 980 US
PRIMARY: FLUME PALMER-BOWLUS 21 INCH
MAXIMUM CAPACITY: 4.552 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: 0 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
VERIFIED TOTALIZER (PASSED)
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AF
LOCATION: NORRISTOWN INFLUENT
SERIAL #: L803F216000/
MANUFACTURER: ENDRESS+HAUSER
TRANSMITTER: PROMAG 50
PRIMARY: 24 INCH
MAXIMUM CAPACITY: 15 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
ENDRESS+HAUSER FIELD CHECK
ERROR: 0 % **TOLERANCE:** ±1.000 PERCENT

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AG
LOCATION: NORRITON/RITTENHOUSE INFLUENT
SERIAL #: 645954/1/16W36C4000003552676
MANUFACTURER: ABB/HONEYWELL
RECORDER: DR45A1 CLASSIC
TRANSMITTER: MAGMASTER
PRIMARY: 18 INCH
MAXIMUM CAPACITY: 20 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
FACTORY SET
ERROR: % **TOLERANCE:** ±1.000 PERCENT

RECORDER CALIBRATION
CHECKED AT: 0,100 **ERROR:** 0,0% **TOLERANCE:** ±1.000 PERCENT

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AH
LOCATION: CSO-003
SERIAL #: H42/
MANUFACTURER: HACH
TRANSMITTER: AS 950
PRIMARY: 30 INCH
MAXIMUM CAPACITY:
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: 0 INCHES **TOLERANCE:** ±1.000 PERCENT

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 PERCENT

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
FOUND PROGRAM SET TO FACTORY DEFAULT
REPROGRAMMED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AI
LOCATION: TOTAL INFLUENT RECORDER
SERIAL #: /0912Y980817600001
MANUFACTURER: N/A/HONEYWELL
RECORDER: DR45A1 CLASSIC
TRANSMITTER: N/A
PRIMARY: N/A
MAXIMUM CAPACITY: 35 MGD
SERVICE CONTRACT: ANNUAL

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
N/A
ERROR: N/A **TOLERANCE:** ±28

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** ±28

TOTALIZER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** ±28

*** TECHNICIAN COMMENTS ***

PERFORMED ANNUAL CALIBRATION
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: AUGUST 16, 2018
METER#: D0069 AJ
LOCATION: NORRITON/RITTENHOUSE RECORDER
SERIAL #: /16W36C4000003552676
MANUFACTURER: N/A/HONEYWELL
RECORDER: DR45A1 CLASSIC
TRANSMITTER: N/A
PRIMARY: N/A
MAXIMUM CAPACITY: 20 MGD
SERVICE CONTRACT: ANNUAL

*** WORK PERFORMED ***

TRANSMITTER CALIBRATION
N/A
ERROR: N/A **TOLERANCE:** ±28

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** ±28

TOTALIZER CALIBRATION
CHECKED AT: N/A **ERROR:** % **TOLERANCE:** ±28

*** TECHNICIAN COMMENTS ***

PERFORMED ANNUAL CALIBRATION
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE, JACOB BROWN

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AA
LOCATION: FINAL EFFLUENT FLOW
SERIAL #: PBD/C4191627
MANUFACTURER: SIEMENS
MODEL NUMBER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 37 INCH
MAXIMUM CAPACITY: 6.66 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: .00 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AB
LOCATION: POST AERATION TANK #1
SERIAL #: PBD/T0130218XV
MANUFACTURER: SIEMENS
MODEL NUMBER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 48 INCH (2)
MAXIMUM CAPACITY: 16.35 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: 0 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
VERIFIED TOTALIZER (PASSED)
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AC
LOCATION: POST AERATION TANK #2
SERIAL #: 020501102PB
MANUFACTURER: SIEMENS
MODEL NUMBER: OCM III
PRIMARY: WEIR RECTANGLE CONTRACTED 80 INCH (2)
MAXIMUM CAPACITY: 27.15 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: .65 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
ADJUSTED EQUIPMENT
CLEANED PRIMARY
FOUND SENSOR JUMPY. LOOSENED SENSOR ON BRACKET TO PREVENT RINGING
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AD
LOCATION: SLIP STREAM NEW PLANT
SERIAL #: BDV
MANUFACTURER: HACH
MODEL NUMBER: 980 US
PRIMARY: FLUME PALMER-BOWLUS 15 INCH
MAXIMUM CAPACITY: 1.994 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: 0 INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
CLEANED PRIMARY
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AE
LOCATION: SLIP STREAM OLD PLANT
SERIAL #: JJ5
MANUFACTURER: HACH
MODEL NUMBER: 980 US
PRIMARY: FLUME PALMER-BOWLUS 21 INCH
MAXIMUM CAPACITY: 4.552 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: INCHES **TOLERANCE:** ±0.125 INCHES

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

METER LEVEL NOT SHOWING CHANGES TO MATCH ACTUAL LEVEL. SUSPECT FAULTY SENSOR. RECOMMEND REPLACING SENSOR.

SERVICE REPRESENTATIVE(S): BOB HEINE

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AF
LOCATION: NORRISTOWN INFLUENT
SERIAL #: L803F216000
MANUFACTURER: ENDRESS+HAUSER
MODEL NUMBER: PROMAG 50
PRIMARY: 24 INCH
MAXIMUM CAPACITY: 15 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
ENDRESS+HAUSER FIELD CHECK
ERROR: 0 % **TOLERANCE:** ±1.000 %

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AG
LOCATION: NORRITON/RITTENHOUSE INFLUENT
SERIAL #: 645954/1/16W36C4000003552676
MANUFACTURER: ABB/HONEYWELL
RECORDER: DR45A1 CLASSIC
MODEL NUMBER: MAGMASTER
PRIMARY: 18 INCH
MAXIMUM CAPACITY: 20 MGD
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
FACTORY SET
ERROR: 0 % **TOLERANCE:** ±1.000 %

RECORDER CALIBRATION
CHECKED AT: 0,100 **ERROR:** 0,0 **TOLERANCE:** ±1.000 %

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

PERFORMED QUARTERLY CALIBRATION
VERIFIED TOTALIZER (PASSED)
TESTED 4-20MA LOOP
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
P.O. BOX 196, EAST EARL, PA 17519
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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AH
LOCATION: CSO-003
SERIAL #: H42
MANUFACTURER: HACH
MODEL NUMBER: AS 950
PRIMARY: 30 INCH
MAXIMUM CAPACITY:
SERVICE CONTRACT: QUARTERLY

*** WORK PERFORMED ***

METER CALIBRATION
LEVEL MEASUREMENTS AND FLOW CHECKS
ERROR: INCHES **TOLERANCE:** ±1.000 %

RECORDER CALIBRATION
CHECKED AT: N/A **ERROR: TOLERANCE:** N/A

TOTALIZER CALIBRATION
CHECKED AT: OPERATING VALUE **ERROR:** 0% **TOLERANCE:** ±1.000 %

*** TECHNICIAN COMMENTS ***

FOUND SENSOR HOOKED UP TO SIGMA 910 METER INSTEAD OF THIS METER. DID NOT CALIBRATE METER.

SERVICE REPRESENTATIVE(S): BOB HEINE

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*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AI
LOCATION: TOTAL INFLUENT RECORDER
SERIAL #: /0912Y980817600001
MANUFACTURER: N/A/HONEYWELL
RECORDER: DR45A1 CLASSIC
MODEL NUMBER: N/A
PRIMARY: RECORDER
MAXIMUM CAPACITY: 35 MGD
SERVICE CONTRACT: ANNUAL

*** WORK PERFORMED ***

METER CALIBRATION
N/A
ERROR: N/A **TOLERANCE:** N/A

RECORDER CALIBRATION
CHECKED AT: 0,50,100 **ERROR:** 0,0,0 **TOLERANCE:** ±1.000 %

TOTALIZER CALIBRATION
CHECKED AT: N/A **ERROR:** 0% **TOLERANCE:** N/A

*** TECHNICIAN COMMENTS ***

PERFORMED ANNUAL CALIBRATION
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

WG Malden
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PHONE: (717) 768-0800 FAX: (717) 768-0802

*** SERVICE REPORT ***

NORRISTOWN MUNICIPAL WASTE AUTHORITY
368 E. WASHINGTON STREET
NORRISTOWN, PA 19401

SERVICE DATE: DECEMBER 01, 2018
METER#: D0069 AJ
LOCATION: NORRITON/RITTENHOUSE RECORDER
SERIAL #: /16W36C4000003552676
MANUFACTURER: N/A/HONEYWELL
RECORDER: DR45A1 CLASSIC
MODEL NUMBER: N/A
PRIMARY: N/A
MAXIMUM CAPACITY: 20 MGD
SERVICE CONTRACT: ANNUAL

*** WORK PERFORMED ***

METER CALIBRATION
N/A
ERROR: N/A **TOLERANCE:** N/A

RECORDER CALIBRATION
CHECKED AT: 0,50,100 **ERROR:** 0,0,0 **TOLERANCE:** ±1.000 %

TOTALIZER CALIBRATION
CHECKED AT: N/A **ERROR:** 0% **TOLERANCE:** N/A

*** TECHNICIAN COMMENTS ***

PERFORMED ANNUAL CALIBRATION
NO ADJUSTMENT NEEDED
LEFT EQUIPMENT OPERATING PROPERLY

SERVICE REPRESENTATIVE(S): BOB HEINE

APPENDIX F

WEST NORRITON TOWNSHIP
2018 CHAPTER 94 REPORT

WEST NORRITON TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

2018 Municipal Wasteload Management Report
(Chapter 94 Report)

Prepared For:

West Norriton Township
1630 W. Marshall Street
Jeffersonville, PA 19403

March 2019

File No. 2019-01112T

Prepared By:
Gilmore & Associates, Inc.
Engineers ♦ Land Surveyors ♦ Planners ♦ GIS Consultants
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GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

CHAPTER 94 MUNICIPAL WASTELOAD MANAGEMENT ANNUAL REPORT

For Calendar Year: 2018

☐ Permittee is owner and/or operator of a POTW or other sewage treatment facility
☒ Permittee is owner and/or operator of a collection system tributary to a POTW not owned/operated by permittee

GENERAL INFORMATION

Permittee Name:	**West Norriton Township**	Permit No.:	**PA (N/A)**
Mailing Address:	**1630 W. Marshall Street**	Effective Date:	**N/A**
City, State, Zip:	**Jeffersonville, PA 19403**	Expiration Date:	**N/A**
Contact Person:	**Jason Bobst**	Renewal Due Date:	**N/A**
Title:	**Township Manager**	Municipality:	**West Norriton Township**
Phone:	**(610) 631-0450**	County:	**Montgomery County**
Email:	**JBobst@WNTwp.com**	Consultant Name:	**Gilmore & Associates, Inc.**

CHAPTER 94 REPORT COMPONENTS

1. Attach to this report a line graph depicting the monthly average flows (expressed in MGD) for each month for the past 5 years and projecting the flows for the next 5 years. The graph must also include a line depicting the hydraulic design capacity per the WQM permit. (25 Pa. Code § 94.12(a)(1))

   Check the appropriate boxes:
   ☐ Line graph for flows attached (**Attachment**)
   ☐ DEP Chapter 94 Spreadsheet used (**Attachment**)
   ☒ Section 1 is not applicable (report is for a collection system).

2. Attach to this report a line graph depicting the monthly average organic loads (express as lbs BOD5/day) for each month for the past 5 years and projecting the organic loads for the next 5 years. The graph must also include a line depicting the organic design capacity of the treatment plant per the WQM permit. (25 Pa. Code § 94.12(a)(2))

   Check the appropriate boxes:
   ☐ Line graph for organic loads attached (**Attachment**)
   ☐ DEP Chapter 94 Spreadsheet used (**Attachment**)
   ☒ Section 2 is not applicable (report is for a collection system).

3. If the DEP Chapter 94 Spreadsheet was not used to determine projections, discuss the basis for the hydraulic and organic projections. In all cases, include a description of the time needed to expand the plant to meet the load projections, if necessary, and data used to support the projections should be included in an appendix to this report. (25 Pa. Code § 94.12(a)(3))

   All flow is treated by Norritown Municipal Waste Authority at their wastewater treatment plant. See Attachment E.

4. Attach a map showing all sewer extensions constructed within the past calendar year, sewer extensions approved or exempted in the past year in accordance with Act 537 and Chapter 71, but not yet constructed, and all known proposed projects which require public sewers but are in the preliminary planning stages. The map must be accompanied by a list summarizing each extension or project and the population to be served by the extension or project. If a sewer extension approval or proposed project includes schedules describing how the project will be completed over time, the listing should include that information and the effect this build-out-rate will have on populations served. (25 Pa. Code § 94.12(a)(4))

   Check the appropriate boxes:

   ☒ Map showing sewer extensions constructed, approved/exempted but not yet constructed, and proposed projects attached (**Attachment B**)

   ☒ List summarizing each extension or project attached (**Attachment A**)

   ☒ Schedules describing how each project will be completed over time and effects attached (**Attachment A**)

   Comments:

   No sewer extensions were constructed in 2018.
   Markley Farms Phase I - 34 new connections.
   Reserve at Stoney Creek - 1 new connection.
   226 Jospeh Street - 1 new connection
   Steak 'n Shake - 2 new connections (previously approved - tenant moved into vacant buildilng).
   75 W. Indian Lane - 1 new connection.

5. Discuss the permittee's program for sewer system monitoring, maintenance, repair and rehabilitation, including routine and special activities, personnel and equipment used, sampling frequency, quality assurance, data analyses, infiltration/inflow monitoring, and, where applicable, maintenance and control of combined sewer regulators during the past year. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(5))

   See Attachment C

6. Discuss the condition of the sewer system including portions of the system where conveyance capacity is being exceeded or will be exceeded in the next 5 years and portions where rehabilitation or cleaning is needed or is underway to maintain the integrity of the system and prevent or eliminate bypassing, CSOs, SSOs, excessive infiltration and other system problems. Attach a separate sheet if necessary. (25 Pa. Code § 94.12(a)(6))

   Check the appropriate boxes:

   ☐ System experienced capacity-related bypassing, SSOs or surcharging during the report year. On a separate sheet, list the date, location, and reason for each bypass, SSO or surcharge event.

   ☒ System did not experience capacity-related bypassing, SSOs or surcharging during the report year.

   Comments:

   The Township is currently in the process of televising the and repairing the system as budget allows. See attached map of work done to date.

7. Attach a discussion on the condition of sewage pumping (pump) stations. Include a comparison of the maximum pumping rate with present maximum flows and the projected 2-year maximum flows for each station. (25 Pa. Code § 94.12(a)(7))

   Check the appropriate boxes:

   ☐ The collection system does not contain pump stations
   ☒ The collection system does contain pump stations (Number – **6**)
   ☒ Discussion of condition of each pump station attached (**Attachment D**)

8. If the sewage collection system receives industrial wastes (i.e., non-sanitary wastes), attach a report with the information listed below. (25 Pa. Code § 94.12(a)(8))

   a. A copy of any ordinance or regulation governing industrial waste discharges to the sewer system or a copy of amendments adopted since the initial submission of the ordinance or regulation under Chapter 94, if it has not previously been submitted.

   b. A discussion of the permittee's or municipality's program for surveillance and monitoring of industrial waste discharges into the sewer system during the past year.

   c. A discussion of specific problems in the sewer system or at the plant, known or suspected to be caused by industrial waste discharges and a summary of the steps being taken to alleviate or eliminate the problems. The discussion shall include a list of industries known to be discharging wastes which create problems in the plant or in the sewer system and action taken to eliminate the problem or prevent its recurrence. The report may describe pollution prevention techniques in the summary of steps taken to alleviate current problems caused by industrial waste dischargers and in actions taken to eliminate or prevent potential or recurring problems caused by industrial waste dischargers.

   Check the appropriate boxes:

   ☒ Industrial waste report as described in 8 a., b. and c. attached (**Attachment F**)
   ☐ Industrial pretreatment report as required in an NPDES permit attached (**Attachment**)

9. Existing or Projected Overload.

   Check the appropriate boxes:

   ☐ This report demonstrates an existing hydraulic overload condition.
   ☐ This report demonstrates a projected hydraulic overload condition.
   ☐ This report demonstrates an existing organic overload condition.
   ☐ This report demonstrates a projected organic overload condition.

   If one or more boxes above have been checked, attach a Corrective Action Plan (CAP) to reduce or eliminate present or projected overloaded conditions under §§ 94.21 and/or 94.22 (relating to existing overload and projected overload). (25 Pa. Code § 94.12(a)(9))

   ☐ Corrective Action Plan attached (**Attachment**)

10. Where required by the NPDES permit, attach a Sewage Sludge Management inventory that demonstrates a mass balance of solids coming in and leaving the facility over the previous calendar year.

    ☐ Sewage Sludge Management Inventory attached (**Attachment**)

11. For facilities with CSOs and where required by the NPDES permit, attach an Annual CSO Report (including satellite combined sewer systems).

☐ Annual CSO Report attached (**Attachment**)

12. For POTWs, attach a calibration report documenting that flow measuring, indicating and recording equipment has been calibrated annually. (25 Pa. Code § 94.13(b))

☒ Flow calibration report attached (**Attachment G**)

RESPONSIBLE OFFICIAL CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Jason Bobst, Township Manager
Name of Responsible Official

Signature

(610) 631-0450
Telephone No.

3/28/2019
Date

PREPARER CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared by me or otherwise under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowledge of violations. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Thomas J. Figaniak, P.E.
Name of Preparer

Thomas J Figaniak
Signature

(215) 345-4330
Telephone No.

3/28/ 2019
Date

ATTACHMENT A

ACTIVE, APPROVED AND PLANNED DEVELOPMENT

TABLE 1
ACTIVE, APPROVED AND PLANNED DEVELOPMENTS
WEST NORRITON TOWNSHIP

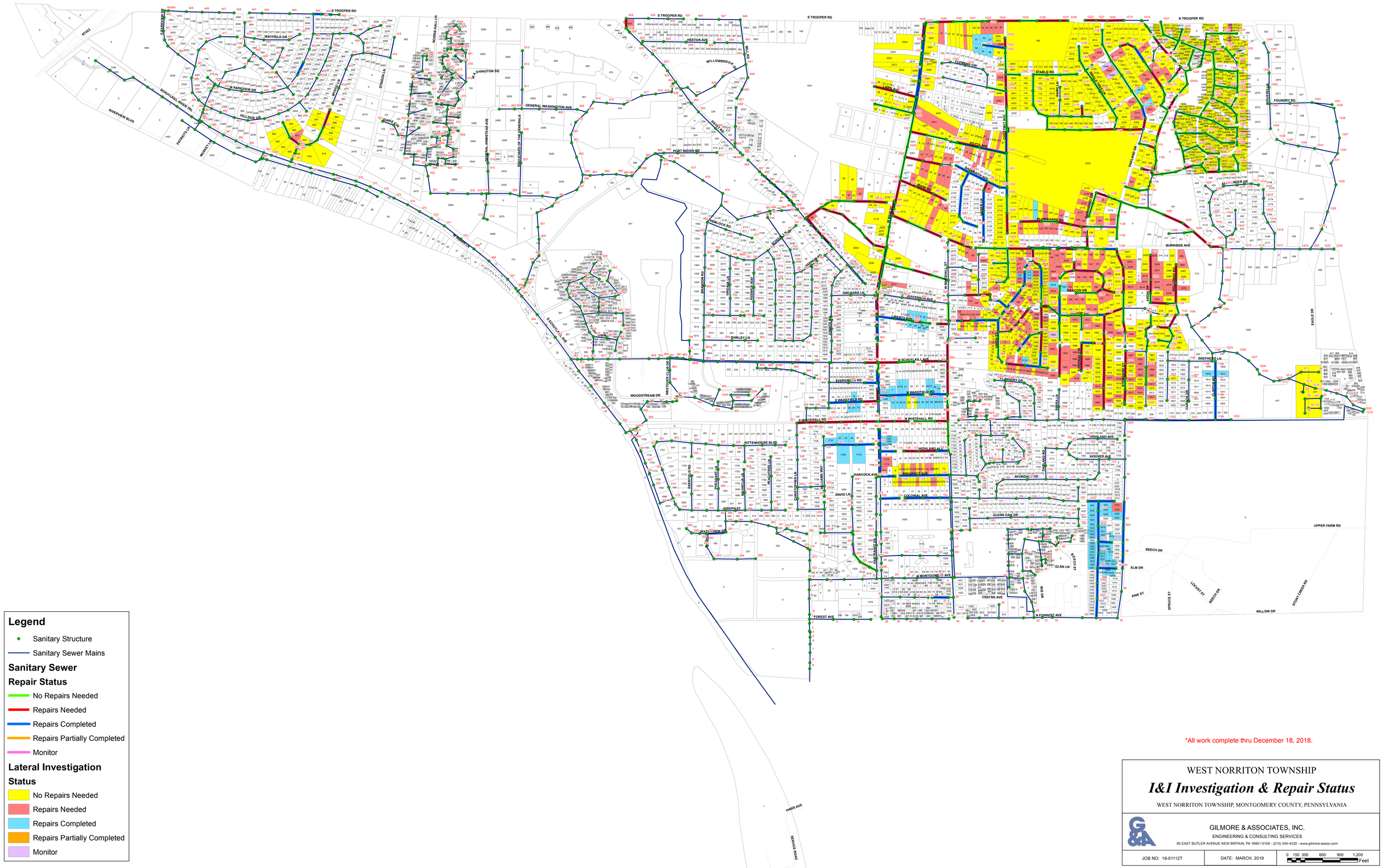
	NAME	Map Reference [1]	Drainage Basin	Status	Total Project Connections		Connetions Prior to 2018		2018 Connections		Remaining EDUs		Projected Buildout Schedule									
	Approved Developments										Total	Total	2019		2020		2021		2022		2023	
					EDUs	Flow	EDUs	Flow	EDUs	Flow	EDUs	Flow [2]	EDUs	Flow	EDUs	Flow	EDUs	Flow	EDUs	Flow	EDUs	Flow
1	The Reserve at Stoney Creek	1	Whitehall	Under Construction	51	14,535	8	2,280	1	285	42	11,970	10	2,850	10	2,850	10	2,850	10	2,850	2	570
2	Norristown School District	2	Whitehall	Approved	10	2,850	0	-	0	0	10	2,850	0	0	0	0	0	0	0	0	10	2,850
3	Apartments at Schuylkill & Main Street	3	Rittenhouse	Under Construction	22	6,270	0	-	0	0	22	6,270	0	0	10	2,850	12	3,420	0	0	0	0
4	Markley Farms	4	Whitehall	Under Construction	79	22,515	0	-	34	9,690	45	12,825	5	1,425	20	5,700	20	5,700	0	0	0	0
5	Steak 'n' Shake	5	Jackson	Connected	2	570	0	-	2	570	0	0										
6	226 Joseph Street	6	Jackson	Connected	1	285	0	-	1	285	0	0										
7	75 W. Indian Lane	7	Rittenhouse	Connected	1	285	0	-	1	285	0	0										
		Approved Sub Total EDUs / Flow			**166**	**47310**	**8**	**2280**	39	11,115	**119**	**33,915**	15	4,275	40	11,400	42	11,970	10	2,850	12	3,420
	Planned Developments																					
7	Office Building at 239 Egypt Road	8	Rittenhouse	In Planning Stages	11	3135	-	-	-	-	11	3,135	0	0	0	0	0	0	0	0	11	3,135
8	Fill in Lots and OLDs		-	-					-	-	5	1,425	1	285	1	285	1	285	1	285	1	285
		Planned Sub Total EDUs / Flow									**16**	**4,560**	1	285	1	285	1	285	1	285	12	3,420
										TOTAL	**135**	38,475	16	4,560	41	11,685	43	12,255	11	3,135	24	6,840
										Approved EDU's issued to WNT from NMWA/PADEP	**241**											
										Remaining EDU's	**83**											

Notes:
(1) See Attachment B for Development locations
(2) Total Flow based on 1 EDU = 285 gpd

Updated: February 2019

ATTACHMENT B

SANITARY SEWER SYSTEM MAP



Legend

- Sanitary Structure
- Sanitary Sewer Mains

Sanitary Sewer

Repair Status

- No Repairs Needed
- Repairs Needed
- Repairs Completed
- Repairs Partially Completed
- Monitor

Lateral Investigation

Status

- No Repairs Needed
- Repairs Needed
- Repairs Completed
- Repairs Partially Completed
- Monitor

*All work complete thru December 18, 2018.

WEST NORRITON TOWNSHIP

I&I Investigation & Repair Status

WEST NORRITON TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES
65 EAST BUTLER AVENUE NEW BRITAIN, PA 18901-5100 - (215) 345-4330 - www.gilmore-assoc.com

JOB NO: 19-01112T | DATE: MARCH, 2019 | 0 150 300 600 900 1,200 Feet

ATTACHMENT C

SANITARY SEWER SYSTEM

MONITORING, MAINTENANCE, REPAIR & REHABILITATION

SANITARY SEWER SYSTEM
MONITORING, MAINTENANCE, REPAIR & REHABILITATION

Pump Stations

West Norriton Township (WNT) currently performs routine maintenance on all pump stations owned and operated. Routine maintenance of the pump stations generally includes, but is not limited to, the following tasks:

- Inspected daily
- Wet wells cleaned
- Floats cleaned
- Standby pumps exercised
- Pumps lubricated
- Filter(s) cleaned
- Compressor tank drained of condensation and inspected
- Oil and coolant checked in generators
- Exercise generators
- Exercise alarms
- Bubbler system and sump pumps inspected
- Grease removed
- Basket cleaned
- Building(s) cleaned
- Grounds maintained

Specific maintenance performed and improvements made on the pump stations during 2018 can be found within Attachment D.

Collection System

WNT is continuously working to remove Inflow & Infiltration (I&I) from the sanitary sewer system. During 2018, WNT concentrated on the Upper Jackson Street drainage basin area. A majority of the televising took place predominantly in the area tributary to the Forrest Avenue Pump Station and Jackson Street Diversion Chamber/Meter Pit. The map shows the sewers and manholes that were televised and repaired during 2018. Repairs to the sanitary sewers and manholes are continuously being prioritized as televising/repairs occurs. Corrective repair commenced during 2017 and continued into 2018. WNT has contracted with Sewer Specialty Services Co., Inc. and they are repairing mains/laterals utilizing trenchless technologies such as grouting and cured in place pipe (CIPP) repair liners. The Township works with additional contractors as needed when unanticipated work arises for work that is outside of the contract with Sewer Specialties Services Co., Inc. During 2018, the following was completed:

- 17,617 linear feet of sanitary sewer televised
- 8,984 linear feet of sanitary sewer was lightly cleaned
- 10,626 linear feet of sanitary sewer hydraulically cleaned
- 2,834 sanitary sewer joints tested
- 1,480 joints sealed with 3,673.5 gallons of grout
- 10 protruding laterals were trimmed
- 86 laterals grouted with 892 gallons of grout
- 13 laterals were cleaned and roots removed

- 82 CIPP installed
- 21 manhole frames and covers replaced

As I&I is reduced in the system, WNT will request additional EDUs be released by the DEP. WNT is slowly running out of funding to complete the repairs to the sanitary sewer system and the release of some EDUs will be required to obtain the additional funding to accomplish the repairs.

WNT is committed to continue with I&I remediation until the system has controlled its peak hourly flows. WNT is committed to eliminate all illegal connections to the system, such as sump pumps, rain water conductors, and deficient laterals. WNT will continue inspections of properties at time of sale to locate any potential remaning connections.

ATTACHMENT D

PUMP STATION INFORMATION

PUMP STATION INFORMATION

The Township owns and maintains six (6) pump stations within the existing collection system:

- Rittenhouse Pump Station
- Whitehall Pump Station
- Forrest Avenue Pump Station
- Port Indian Pump Station
- Chestnut Avenue Pump Station
- Halford Hills Pump Station

1. Rittenhouse Pump Station: Originally constructed in 1965, was comprised of three (3)-75 hp pumps, each capable of 1,750 gpm. The pump station was configured in a wet/well dry well orientation. This station was upgraded circa 1983 and 1995, each time with larger pumps to accommodate additional flow. A new submersible pump station with an emergency generator was constructed in 2015 on the same site. The firm pumping capacity for the new pump station is 3,680 gallons per minute (gpm) (5.3 mgd) with two pumps operating. The system has a standard alarm system with a dialer to notify the Township of any problems.

2. Whitehall Pump Station: Constructed in 1965, is comprised of three (3)-60 hp pumps, each capable of 950 gpm. This station was upgraded in 1995 with pumps relocated from Rittenhouse Pump Station, each pump is 100 hp and capable of 1,750 gpm as part of the upgrade. PA DEP Water Quality Management (WQM) permit application for Whitehall Pump Station is approved. Project is currently on hold until funding is available.

3. Forrest Avenue Pump Station: Constructed in the 1960s, is comprised of two (2)-50 hp pumps, each capable of 600 gpm. This station was upgraded in the 1980s with the addition of an emergency generator. Pumps have been rebuilt in 2013.

4. Port Indian Pump Station: Constructed in the 1990s, is comprised of two (2)-40 hp pumps, each capable of 1,000 gpm. Pumps have been rebuilt in 2013.

5. Chestnut Avenue Pump Station: Constructed in the 1970s, is comprised of two (2)-15 hp pumps, each capable of 150 gpm. This pump station was replaced in 2004 with a new station with two (2)-20 pumps, capable of 180 gpm and an emergency generator.

6. Halford Hills Pump Station: Constructed in the 1970s, is comprised of two (2)-5 hp pumps, each capable of 25 gpm.

The following tables represent pump run times and flows for the six (6) collection system pump stations operated by the Township. Flow data has been included in the appendices to show the five (5) year summary of pump station flows for each pumping station.

ATTACHMENT D
TABLE 4
PUMP STATION INFORMATION
WEST NORRITON TOWNSHIP
2018

Name and Location of Pumping Station	Installation / Expansion Date	Number of Pumps	Pump Manufacturer	Drive Type	Capacity (gpm) each Pump	Maximum Pumping Capacity	Flow Meter	Standby Generator	Estimated Connected EDUs	Flow (mgd) 2018 Monthly Average / Peak	Additional EDUs Projected in Next 2 Years	Projected Flow in Next 2 Years (mgd) Average / Peak
Rittenhouse Boulevard	2015	3	Fairbanks-Morse	Variable	2500 gpm @124 ft. TDH	3,680 gpm - 5.3 mgd with 2 pumps	Yes	Yes	3,197	2.892 / 3.822	10 EDUs / 2,850 gpd / 0.003 mgd	2.8958 / 3.825
Chestnut Avenue	2004	2	Hydromatic	Fixed	180 gpm @30 ft. TDH	180 gpm - 0.259 mgd	Yes	Yes	280	0.086/ 0.116	0	0.086/ 0.116
Whitehall Road	1994	3	Fairbanks-Morse	Variable	1750 gpm @220 ft. TDH	2625 gpm - 3.78 mgd with 2 pumps	Yes	Yes	1,550	0.769 / 0.985	45 EDUs / 12,825 gpd / 0.013 mgd	0.782 / 0.998
Forrest Avenue	1987	2	Chicago	Fixed	600 gpm @63 ft. TDH	600 gpm - 0.864 mgd	No	Yes	530	0.178 / 0.241	0	0.178 / 0.241
Port Indian Road	1999	2	Fairbanks-Morse	Fixed	1000 gpm @113 ft. TDH	1000 gpm -1.44 mgd	Yes	Yes	1,230	0.576 / 0.799	0	0.576 / 0.799
Halford Hills	1995	2	Hydromatic	Fixed	25 gpm @50 ft. TDH	25 gpm - 0.036 mgd	No	No	10	0.0033 / 0.0041	0	0.0033 / 0.0041

1 EDU = 285 gpd

TABLE 5
PUMP STATIONS MONTHLY AVERAGE DAILY FLOWS
WEST NORRITON TOWNSHIP
2018

Month	Rittenhouse Blvd (gpd)	Whitehall Road (gpd)	Port Indian Road (gpd)	Forrest Avenue (gpd)	Chestnut Avenue (gpd)	Halford Hills (gpd)
January	1,545,870	721,577	276,745	120,600	61,809	3,135
February	3,219,714	855,911	696,718	209,880	94,553	3,390
March	3,624,032	960,288	798,900	231,840	103,287	3,210
April	2,449,800	631,106	447,920	144,000	73,130	3,255
May	2,658,733	767,966	586,033	172,440	84,640	3,300
June	2,992,933	675,786	564,573	163,080	81,716	2,964
July	2,438,613	629,774	458,590	139,680	73,061	2,730
August	3,143,258	690,203	628,219	189,360	87,190	
September	3,051,066	865,953	698,643	186,840	89,523	3,234
October	2,607,935	600,961	453,039	142,560	72,919	3,915
November	3,822,066	985,213	733,446	241,200	116,263	4,140
December	3,146,064	844,935	569,593	189,000	97,065	2,475
Average	2,891,674	769,139	576,035	177,540	86,263	3,250

Halford Hills Pump hours log was destroyed by mouse in August

Updated: February 2019

2018 Chestnut Avenue Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1		PUMP #2		PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	88.30	2.85	112.40	3.63	1,916,100	61,809
2/1/2018 - 3/1/2018	115.41	4.12	159.29	5.69	2,647,500	94,553
3/1/2018 - 4/1/2018	148.46	4.79	201.43	6.49	3,201,900	103,287
4/1/2018 - 5/1/2018	123.03	4.10	132.27	4.41	2,193,900	73,130
5/1/2018 - 6/1/2018	142.22	4.74	152.50	5.08	2,539,200	84,640
6/1/2018 - 7/1/2018	138.95	4.63	148.44	4.94	2,451,500	81,716
7/1/2018 - 8/1/2018	111.47	3.59	136.28	4.39	2,264,900	73,061
8/1/2018 - 9/1/2018	152.84	4.93	164.57	5.30	2,702,900	87,190
9/1/2018 - 10/1/2018	207.21	6.91	180.34	6.01	2,685,700	89,523
10/1/2018 - 11/1/2018	136.45	4.40	143.02	4.61	2,260,500	72,919
11/1/2018 - 12/1/2018	203.78	6.79	227.94	7.59	3,487,900	116,263
12/1/2018 - 1/1/2019	175.85	5.67	189.9	6.13	3,009,000	97,065
					Annual Average Month	**86,263**
					Peak Month	116,263
					Peaking Factor	1.35

Months	Comments
April	New check valve installed on Pump #1 Side. Comminutor installed. Pump gaskets replaced.
May	Flow meter cailbrated on 5-10-2018
June	M&S Services adjusted floats in wetwell
August	McGovern hauled out wetwell
September	Meter Guys cailbrated flow meter on September 26, 2018

2018 Whitehall Road Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1		PUMP #2		PUMP #3		PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	371.10	11.97	169.40	5.46	162.00	5.23	13,068,900	721,577
2/1/2018 - 3/1/2018	251.00	8.96	212.00	7.57	317.30	11.33	23,965,500	855,911
3/1/2018 - 4/1/2018	353.30	11.39	252.90	8.16	247.80	7.99	29,768,900	960,288
4/1/2018 - 5/1/2018	44.30	1.47	342.70	11.42	319.30	10.64	18,933,200	631,106
5/1/2018 - 6/1/2018	204.20	6.81	325.80	10.86	255.70	8.52	23,039,000	767,966
6/1/2018 - 7/1/2018	318.10	10.60	250.50	8.35	203.20	6.77	20,273,600	675,786
7/1/2018 - 8/1/2018	201.80	6.51	285.50	9.21	245.40	7.92	19,523,000	629,774
8/1/2018 - 9/1/2018	311.80	10.05	212.70	6.86	327.01	10.55	21,396,300	690,203
9/1/2018 - 10/1/2018	268.40	8.95	245.10	8.17	218.00	7.26	25,978,600	865,953
10/1/2018 - 11/1/2018	192.50	6.21	239.20	7.72	288.60	9.31	18,629,800	600,961
11/1/2018 - 12/1/2018	381.90	12.70	153.00	5.10	336.00	11.20	29,556,400	985,213
12/1/2017 - 1/1/2019	336.30	10.84	73.90	2.38	249.00	8.03	26,193,000	844,935
							Annual Average Month	769,139
							Peak Month	985,213
							Peaking Factor	1.28

Months	Comments
January	McGovern came to the pump station to clean out the wetwell
March	New limit switch on check valve 3 pump by M&S Services
May	McGovern came to the pump station to clean out the wetwell; Flow meter was calibrated.
September	Check valve replaced on compressor, Meter guys calibrated flow meter on 9/26/2018.
October	Air compressor in the control panel was replaced
November	Istalled new air compressor in control panel for pump 1, installed new sump pump in dry well, installed new electric lines in control panel for pump 2

2018 Forrest Avenue Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1			PUMP #2			PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	GAL/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GAL/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	90.10	2.91	104,760	13.90	0.44	15,840	3,744,000	120,600
2/1/2018 - 3/1/2018	79.40	2.84	102,240	83.70	2.99	107,640	5,871,600	209,880
3/1/2018 - 4/1/2018	100.00	3.23	116,280	99.80	3.21	115,560	7,192,800	231,840
4/1/2018 - 5/1/2018	60.00	2.00	72,000	60.10	2.00	72,000	4,323,600	144,000
5/1/2018 - 6/1/2018	71.70	2.39	86,040	72.10	2.40	86,400	5,176,800	172,440
6/1/2018 - 7/1/2018	66.90	2.23	80,280	66.80	2.30	82,800	4,813,200	163,080
7/1/2018 - 8/1/2018	59.80	1.93	69,480	60.50	1.95	70,200	4,330,800	139,680
8/1/2018 - 9/1/2018	81.50	2.63	94,680	51.60	2.63	94,680	4,791,600	189,360
9/1/2018 - 10/1/2018	77.60	2.59	93,240	78.00	2.60	93,600	5,601,600	186,840
10/1/2018 - 11/1/2018	48.40	1.56	56,160	74.40	2.40	86,400	4,420,800	142,560
11/1/2018 - 12/1/2018	100.90	3.36	120,960	100.00	3.34	120,240	7,232,400	241,200
12/1/2017 - 1/1/2019	81.60	2.63	94,680	81.30	2.62	94,320	5,864,400	189,000
							Annual Average Month	**177,540**
							Peak Month	241,200
							Peaking Factor	1.36

Months	Comments
January	Pump #2 was installed in the dry well and is operational. A new starter was installed on Pump #2.
March	Heater was replaced inside buildling
October	Packing in pump 1 replaced

2018 Port Indian Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1		PUMP #2		PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	82.60	2.66	82.45	2.65	8,579,100	276,745
2/1/2018 - 3/1/2018	191.14	6.83	181.22	6.47	19,508,100	696,718
3/1/2018 - 4/1/2018	255.80	8.25	240.53	7.76	24,765,900	798,900
4/1/2018 - 5/1/2018	196.70	6.56	438.50	1.46	13,437,600	447,920
5/1/2018 - 6/1/2018	331.35		11.05		17,581,000	586,033
6/1/2018 - 7/1/2018	238.33	7.94	362.85	12.09	16,937,200	564,573
7/1/2018 - 8/1/2018	131.81	4.25	114.25	3.69	14,216,300	458,590
8/1/2018 - 9/1/2018	183.32	5.91	158.08	5.099	19,474,800	628,219
9/1/2018 - 10/1/2018	192.40	6.41	157.43	5.25	20,959,300	698,643
10/1/2018 - 11/1/2018	136.76	4.41	122.87	3.96	14,044,200	453,039
11/1/2018 - 12/1/2018	126.88	4.23	325.67	10.85	22,003,400	733,446
12/1/2017 - 1/1/2019	121.45	3.92	248.13	8.00	17,657,400	569,593
					Annual Average Month	**576,035**
					Peak Month	798,900
					Peaking Factor	1.39

Date	Comments
April	Junction box relocated outside of wetwell. Pump #2 out for repair
May	Pump 2 pulled for service; Flow meter calibrated
June	Pump 2 was reinstalled on 6/18/2018
October	Comminutor was pulled for repair
November	Seely in installed Micropa for new pump controls; pumps were pulled out and cleaned of debris in impellers.
December	New block heater installed on generator, flow meter calibrated

Note:

1. Pump Station Total Flow for July based upon pump capacity of 1,000 gpm at 113 TDH

2018 Halford Hills Estates Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1			PUMP #2			PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	GAL/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GAL/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	35.39	1.14	1,710	29.57	0.95	1,425	97,440	3,135
2/1/2018 - 3/1/2018	34.04	1.22	1,830	29.14	1.04	1,560	94,770	3,390
3/1/2018 - 4/1/2018	36.62	1.18	1,770	29.64	0.96	1,440	99,390	3,210
4/1/2018 - 5/1/2018	35.87	1.19	1,785	29.52	0.98	1,470	98,085	3,255
5/1/2018 - 6/1/2018	36.61	1.22	1,830	29.51	0.98	1,470	99,180	3,300
6/1/2018 - 7/1/2018	32.52	1.08	1,626	26.76	0.89	1,338	88,920	2,964
7/1/2018 - 8/1/2018	30.45	0.98	1,470	26.13	0.84	1,260	84,870	2,730
8/1/2018 - 9/1/2018			0					
9/1/2018 - 10/1/2018	31.34	1.04	1,566	33.37	1.11	1,668	97,065	3,234
10/1/2018 - 11/1/2018	59.79	1.92	2,880	21.38	0.69	1,035	121,755	3,915
11/1/2018 - 12/1/2018	82.97	2.76	4,140			0	124,455	4,140
12/1/2017 - 1/1/2019	51.30	1.65	2,475			0	76,950	2,475
							Annual Average Month	**3,250**
							Peak Month	4,140
							Peaking Factor	1.27

Months	Comments
August	McGovern hauled wetwell due to heavy rain
October	Piping on the #1 pump is leaking near the pumps quick connect and needs to be replaced. Work order put in.
November	Pump #2 offline

* Pump hour log was damaged by mouse for August

2018 Rittenhouse Pump Station Annual Report

West Norriton Township

Montgomery County, Pennsylvania

PERIODS	PUMP #1		PUMP #2		PUMP #3		PUMP STATION TOTAL FLOW	
	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	TOTAL RUN HOURS	AVE HOURS/DAY	GALLON	GAL/DAY
1/1/2018 - 2/1/2018	204.90	6.61	194.10	6.26	191.50	6.18	47,922,000	1,545,870
2/1/2018 - 3/1/2018	272.40	9.73	293.40	10.48	271.80	9.71	90,152,000	3,219,714
3/1/2018 - 4/1/2018	365.40	11.79	381.00	12.29	364.30	11.75	112,345,000	3,624,032
4/1/2018 - 5/1/2018	236.50	7.88	228.50	7.62	233.70	7.79	73,494,000	2,449,800
5/1/2018 - 6/1/2018	255.10	8.50	253.00	8.43	247.20	8.24	79,762,000	2,658,733
6/1/2018 - 7/1/2018	266.80	8.89	257.00	8.57	252.90	8.43	89,788,000	2,992,933
7/1/2018 - 8/1/2018	238.40	7.69	239.30	7.72	223.90	7.23	75,597,000	2,438,613
8/1/2018 - 9/1/2018	299.1	9.65	291.4	9.4	282.7	9.11	97,441,000	3,143,258
9/1/2018 - 10/1/2018	195.80	6.53	309.40	10.31	287.70	9.59	91,532,000	3,051,066
10/1/2018 - 11/1/2018	-	-	360.40	11.63	348.10	11.23	80,846,000	2,607,935
11/1/2018 - 12/1/2018	-	-	494.60	16.48	459.20	15.31	114,662,000	3,822,066
12/1/2017 - 1/1/2019	-	-	407.70	13.15	373.90	12.03	97,528,000	3,146,064
							Annual Average Month	**2,891,674**
							Peak Month	3,822,066
							Peaking Factor	1.32

Months	Comments
April	PennPower in to inspect generator
May	Flow meter calibrated
September	PennPower replaced relay in generator; Meter Guys calibrated flow meter
October	Pump #1 pulled for repair
November	Phone line to dialer was repaired
December	Crane repaired

CHESTNUT AVENUE

Operator: Ed Chelius **Date: January 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
1/1/2018 - 1/31/2018	88.3	2.85	112.4	3.63

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018	1,916,100	61,809

Comments: Generator hours = 1.34

CHESTNUT AVENUE

Operator: Ed Chelius **Date: February 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
2/1/2018 - 2/28/2018	115.41	4.12	159.29	5.69

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018	2,647,500	94,553

Comments: Generator hours = 1.42

CHESTNUT AVENUE

Operator: Ed Chelius **Date: March 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
3/1/2018 - 4/1/2018	148.46	4.79	201.43	6.49

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018	3,201,900	103,287

Comments: Generator hours = 1.67

CHESTNUT AVENUE

Operator: Ed Chelius **Date: April 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
4/1/2018 - 5/1/2018	123.03	4.10	132.27	4.41

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018	2,193,900	73,130

Comments: Generator hours = 1.71

- 4-19-18→ New check valve was installed in #1 Pump side.

CHESTNUT AVENUE

Operator: Ed Chelius **Date: May 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
5/1/2018 - 6/1/2018	142.22	4.74	152.5	5.08

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018	2,539,200	84,640

Comments: Generator hours = 1.43

- 5-10-18→ Flow meter was calibrated at pump station.

CHESTNUT AVENUE

Operator: Ed Chelius **Date: June 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
6/1/2018 - 7/1/2018	138.95	4.63	148.44	4.94

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018	2,451,500	81,716

Comments: Generator hours = 1.35

- 6-19-18→ M&S Services adjusted the floats in the wet well.

CHESTNUT AVENUE

Operator: Ed Chelius **Date: July 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
7/1/2018 - 8/1/2018	111.47	3.59	136.28	4.39

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018	2,264,900	73,061

Comments: Generator hours = 1.34

CHESTNUT AVENUE

Operator: Ed Chelius **Date: August 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
8/1/2018 - 9/1/2018	152.84	4.93	164.57	5.30

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018	2,702,900	87,190

Comments: Generator hours = 1.04

- 8/13/18→McGovern hauled out wet well due to heavy rains going into houses.

CHESTNUT AVENUE

Operator: Ed Chelius **Date: September 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
9/1/2018 - 10/1/2018	207.21	6.907	180.34	6.011

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018	2,685,700	89,523

Comments: Generator hours = 1.8
9-26-18→ Meter Guys came to calibrate flow meter.

CHESTNUT AVENUE

Operator: Ed Chelius **Date: October 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
10/1/2018 - 11/1/2018	136.45	4.40	143.02	4.61

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018	2,260,500	72,919

Comments: Generator hours = 1.33

CHESTNUT AVENUE

Operator: Ed Chelius **Date: November 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
11/1/2018 - 12/1/2018	203.78	6.79	227.94	7.59

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018	3,487,900	116,263

Comments: Generator hours = 2.1

CHESTNUT AVENUE

Operator: Ed Chelius **Date: December 2018**

Item	Priority	Remarks
Control Panel		
Level Controls	3	
Backup System	3	
#1 Pump		
Operation	3	
Check Valve	3	
Valving	3	
#2 Pump		
Operation	3	
Check Valve	3	
Valving	3	
Generator		
Operational	3	
Generator Run Hours ___		
Air Relief Valve		
Operation	3	
Auto Dialer		
Operational	3	
Wetwell		
Condition	3	
Building Condition		
Exterior	3	
Interior	3	
Driveway	3	
Grounds, Weeds	3	

1- Immediate Priority; 2- Priority; 3 – Needs No Attention

DATE	PUMP 1		PUMP 2	
	Run Hour	Per Day	Run Hour	Per Day
12/1/2018 - 1/1/2019	175.85	5.67	189.9	6.13

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019	3,009,000	97,065

Comments: Generator hours = 1.34

WHITEHALL ROAD

Operator: Ed Chelius **Date: January 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: January 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018	13,068,900	721,577

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
1/1/2018 - 1/31/2018	371.1	169.4	162.0	11.97	5.46	5.23

Comments:

Generator run hours: 2.4

- 1/12/18→ McGovern came to the pump station to clean out the wet well.

WHITEHALL ROAD

Operator: Ed Chelius **Date: February 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: February 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018	23,965,500	855,911

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
2/1/2018 - 2/28/2018	251	212	317.3	8.96	7.57	11.33

Comments:
Generator run hours: 1.8

WHITEHALL ROAD

Operator: Ed Chelius **Date: March 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: March 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018	29,768,900	960,288

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
3/1/2018 - 4/1/2018	353.3	252.9	247.8	11.39	8.16	7.99

Comments:
Generator run hours: 3.8
3/9/18→ New limit switch on check valve on #1 Pump by M&S Services.

WHITEHALL ROAD

Operator: Ed Chelius **Date: April 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: April 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018	18,933,200	631,106

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
4/1/2018 - 5/1/2018	44.3	342.7	319.3	1.47	11.42	10.64

Comments:
Generator run hours: 2.4

WHITEHALL ROAD

Operator: Ed Chelius **Date: May 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: May 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018	23,039,000	767,966

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
5/1/2018 - 6/1/2018	204.2	325.8	255.7	6.81	10.86	8.52

Comments:
Generator run hours: 3.2

- 5-1-18→ McGovern came to the pump station to clean the wet well.
- 5-10-18→ The flow meter was calibrated this month at the pump station.

WHITEHALL ROAD

Operator: Ed Chelius **Date: June 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: June 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018	20,273,600	675,786

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
6/1/2018 - 7/1/2018	318.1	250.5	203.2	10.6	8.35	6.77

Comments:
Generator run hours: 2.4

WHITEHALL ROAD

Operator: Ed Chelius **Date: July 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: July 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018	19,523,000	629,774

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
7/1/2018 - 8/1/2018	201.8	285.5	245.4	6.51	9.21	7.92

Comments:
Generator run hours: 2.4

WHITEHALL ROAD

Operator: Ed Chelius **Date: August 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: August 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018	21,396,300	690,203

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
8/1/2018 - 9/1/2018	311.8	212.7	327.01	10.05	6.86	10.55

Comments:
Generator run hours: 1.5

WHITEHALL ROAD

Operator: Ed Chelius **Date: September 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	

Pump Bearings	3
Valves	3

WHITEHALL ROAD

Operator: Ed Chelius **Date: September 2018**

Item	Priority	Remarks
Generator	3	
Plant Air Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018	25,978,600	865,953

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
9/1/2018 - 10/1/2018	268.4	245.1	218.0	8.95	8.17	7.26

Comments:

Generator run hours: 1.7

9-25-18→ Compressed Air came to replace bad check valve on main air compressor.

9-26-18→ Meter Guys came to calibrate flow meter.

WHITEHALL ROAD

Operator: Ed Chelius **Date: October 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: October 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018	18,629,800	600,961

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
10/1/2018 - 11/1/2018	192.5	239.2	288.6	6.21	7.716	9.31

Comments:

Generator run hours: 2.4

- A small air compressor in the control panel was replaced this month by Seely. This controls the pump speed.

WHITEHALL ROAD

Operator: Ed Chelius **Date: November 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: November 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018	29,556,400	985,213

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
11/1/2018 - 12/1/2018	381.9	153.0	336.0	12.7	5.1	11.2

Comments:

Generator run hours: 2.4

- 11-2-18→ A new air compressor was installed on the #1 pump in control panel.
- 11-28-18→ A new sump pump was installed in the dry well.
- Electric lines were installed in the control panel for the #2 pump. The wires were old and corroding.

WHITEHALL ROAD

Operator: Ed Chelius **Date: December 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	1	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwell	3	
Comminutor	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher Unit	3	
Pillow Block	3	
Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block		
Bearing	3	
Pump Bearings	3	
Valves	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
Flow Matcher	3	
U-Joints	3	
Pillow Block	3	
Bearing	3	
Valves	3	
Pump Bearings	3	
Valves	3	

WHITEHALL ROAD

Operator: Ed Chelius **Date: December 2018**

Item	Priority	Remarks
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

Readings:

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019	26,193,000	844,935

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
12/1/2018 - 1/1/2019	336.3	73.9	249.0	10.84	2.38	8.03

Comments:
Generator run hours: 2.4

FOREST AVENUE

Operator: Ed Chelius **Date: January 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
1/1/2018 - 1/31/2018	90.1	13.9	2.91	0.44

Comments:

Generator run hours = 1.4

- 1/24/18→ Pump #2 was installed in the dry well and is operational.
- 1/26/18→ A new starter was installed on Pump #2.

FOREST AVENUE

Operator: Ed Chelius **Date: February 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
2/1/2018 - 2/28/2018	79.4	83.7	2.84	2.99

Comments:
Generator run hours = 1.3

FOREST AVENUE

Operator: Ed Chelius **Date: March 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
3/1/2018 - 4/1/2018	100.0	99.8	3.23	3.21

Comments:
Generator run hours = 2.0
3/28/18→ Heater was replaced inside the building by Jack Henry.

FOREST AVENUE

Operator: Ed Chelius **Date: April 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
4/1/2018 - 5/1/2018	60.0	60.1	2.0	2.0

Comments:
Generator run hours = 1.6

FOREST AVENUE

Operator: Ed Chelius **Date: May 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
5/1/2018 - 6/1/2018	71.7	72.1	2.39	2.40

Comments:
Generator run hours = 1.4

FOREST AVENUE

Operator: Ed Chelius **Date: June 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
6/1/2018 - 7/1/2018	66.9	66.8	2.23	2.23

Comments:
Generator run hours = 1.6

FOREST AVENUE

Operator: Ed Chelius **Date: July 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
7/1/2018 - 8/1/2018	59.8	60.5	1.93	1.95

Comments:
Generator run hours = 5.6

FOREST AVENUE

Operator: Ed Chelius **Date: August 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
8/1/2018 - 9/1/2018	81.5	81.6	2.63	2.63

Comments:
Generator run hours = 1.5

FOREST AVENUE

Operator: Ed Chelius **Date: September 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
9/1/2018 - 10/1/2018	77.6	78.0	2.59	2.60

Comments:
Generator run hours = 1.3

FOREST AVENUE

Operator: Ed Chelius **Date: October 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
10/1/2018 - 11/1/2018	48.4	74.4	1.56	2.40

Comments:

Generator run hours = 1.6

- The packing in #1 Pump was replaced this month.

FOREST AVENUE

Operator: Ed Chelius **Date: November 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
11/1/2018 - 12/1/2018	100.9	100.3	3.36	3.34

Comments:
Generator run hours = 1.3

FOREST AVENUE

Operator: Ed Chelius **Date: December 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Grounds, Weeds	3	
Roof	3	
Driveway	3	
Wetwell		
Grease buildup	3	
Station Interior		
#1 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Pillow Block Bearings	3	
#2 Pump		
Motor	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pillow Block Bearing	3	
Generator	3	
Pumps Packing	3	
Sump Pump	3	
Valves	2	
Ventilation		
Drywell	3	
Wetwell	3	
Electric Heaters	3	

1 - Immediate Priority; 2 -Priority; 3 – Needs No Attention

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
12/1/2018 - 1/1/2019	81.6	81.3	2.63	2.62

Comments:

Generator run hours = 1.9

- The #1 pump is going to be pulled for repair next month before Deckmans closes.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: January 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018	8,579,100	276,745

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
1/1/2018 - 1/31/2018	82.6	82.45	2.66	2.65

Comments:
Generator run hours = 2.1
Replaced contacts on Pump #1 this month.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: February 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018	19,508,100	696,718

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
2/1/2018 - 2/28/2018	191.14	181.22	6.83	6.47

Comments:
Generator run hours = 2.0

PORT INDIAN P.S.

Operator: Ed Chelius **Date: March 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018	24,765,900	798,900

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
3/1/2018 - 4/1/2018	255.8	240.53	8.25	7.76

Comments:
Generator run hours = 17.5

PORT INDIAN P.S.

Operator: Ed Chelius **Date: April 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018	13,437,600	447,920

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
4/1/2018 - 5/1/2018	196.7	438.5	6.56	1.46

Comments:
Generator run hours = 1.5

- 4-13-18→ Eastern Environmental Company came to the pump station to reroute the control wires and control box to the outside of the pump station, where it is tangible.
- 4-23-18→ #2 Pump was sent to Deckmans for repair.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: May 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	
Diversion Chamber	X	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018	17,581,000	586,033

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
5/1/2018 - 6/1/2018	331.35	Out	11.05	

Comments:
Generator run hours = 1.9

- 5-10-18→ The flow meter was calibrated at the pump station.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: June 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	
Diversion Chamber	X	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018	16,937,200	564,573

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
6/1/2018 - 7/1/2018	238.33	362.85	7.94	12.09

Comments:
Generator run hours = 2.0

- 6-18-19→ The #2 pump was reinstalled in the wet well.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: July 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018	14,216,300	458,590

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
7/1/2018 - 8/1/2018	131.80	114.25	4.25	3.69

Comments:
Generator run hours = 2.0

PORT INDIAN P.S.

Operator: Ed Chelius **Date: August 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018	19,474,800	628,219

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
8/1/2018 - 9/1/2018	183.32	158.08	5.91	5.099

Comments:
Generator run hours = 2.6

PORT INDIAN P.S.

Operator: Ed Chelius **Date: September 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018	20,959,300	698,643

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
9/1/2018 - 10/1/2018	192.4	157.43	6.41	5.25

Comments:
Generator run hours = 1.5

PORT INDIAN P.S.

Operator: Ed Chelius **Date: October 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018	14,044,200	453,039

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
10/1/2018 - 11/1/2018	136.76	122.87	4.41	3.96

Comments:
Generator run hours = 2.0

- The comminutor at the station was pulled out for repair because of missing teeth. It will be put back in service as soon as it is repaired.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: November 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018	22,003,400	733,446

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
11/1/2018 - 12/1/2018	126.88	325.67	4.23	10.85

Comments:
Generator run hours = 2.6

- 11-9-18→ Seely came in to install Micropac for new pump controls.
- The #1 and #2 pumps were pulled out and debris was removed from impellers. This is due to the comminutor being out for repair. The comminutor will be reinstalled as soon as it is repaired.
- The heater in the control building is being repaired this month. The block heater on the generator is being repaired this month by PENN Power.

PORT INDIAN P.S.

Operator: Ed Chelius **Date: December 2018**

Equipment:

	OPERATIONAL YES	NO
Pump #1	x	
Pump #2	x	
Controls	x	
Check Valves	x	
Diversion Chamber	x	

Alarm System
Operational YES _X_ NO ___

Emergency Generator
Run Hrs/Month hr. YES _X_ NO ___

Wetwell
Debris Buildup Good _X_ Needs Cleaning ___

Exterior	**General Condition**
Fascia and Cornice	Good _X_ Poor ___
Roof	Good _X_ Poor ___
Grounds, Weeds	Good _X_ Poor ___
Driveway	Good _X_ Poor___

Flows

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019	17,657,400	569.593

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
12/1/2018 - 1/1/2019	121.45	248.13	3.92	8.00

Comments:
Generator run hours = 2.4

- 12-13-18→ New block heater installed on genset
- 12-28-18→ Meter Guys in to calibrate flow meter.
- A new heater was installed in building this month.

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: January 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
1/1/2018 - 1/31/2018	35.39	29.57	1.14	0.95

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: February 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
2/1/2018 - 2/28/2018	34.04	29.14	1.22	1.04

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: March 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
3/1/2018 - 4/1/2018	36.62	29.64	1.18	0.96

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: April 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
4/1/2018 - 5/1/2018	35.87	29.52	1.19	0.98

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: May 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
5/1/2018 - 6/1/2018	36.61	29.51	1.22	0.98

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: June 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
6/1/2018 - 7/1/2018	32.52	26.76	1.084	0.892

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: July 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
7/1/2018 - 8/1/2018	30.45	26.13	0.98	0.84

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: August 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
8/1/2018 - 9/1/2018				

Not available: Mouse chewed pump hour pages.

Comments:

8/13/18→McGovern hauled wet well due to heavy rain.

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: September 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
9/1/2018 - 10/1/2018	31.34	33.37	1.044	1.112

Comments:

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: October 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
10/1/2018 - 11/1/2018	59.79	21.38	1.92	0.69

Comments:

- The piping on the #1 pump is leaking near the pumps quick connect and needs to be replaced. The work order is put in to fix it as soon as possible.

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: November 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
11/1/2018 - 12/1/2018	82.97	Off	2.76	–

Comments:

- In the process of getting estimate for repair to quick connect on #2 pump and repair the piping in wet well.

HALFORD HILLS ESTATES

Operator: Ed Chelius **Date: December 2018**

Equipment:

	Operational	
	Yes	No
Pump #1	X	
Pump #2	X	
Controls	X	
Check Valves	X	

Alarm System:
Operational

	Good	Poor
Wetwell Debris Buildup	X	
Grounds, weeds		

DATE	RUN HOURS		PER DAY	
	Pump #1	Pump #2	Pump #1	Pump #2
12/1/2018 - 1/1/2019	51.3	off	1.65	

Comments:

- The #2 pump quick connect needs to be repaired. Waiting for a quote.

RITTENHOUSE

Operator: Ed Chelius **Date: January 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: January 2018**

Audio Dialer	**2**

Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018	47,922,000	1,545,870

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
1/1/2018 - 1/31/2018	204.9	194.1	191.5	6.61	6.26	6.18

Comments: Generator Run Hours = 1.3

RITTENHOUSE

Operator: Ed Chelius **Date: February 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: February 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018	90,152,000	3,219,714

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
2/1/2018 - 2/28/2018	272.4	293.4	271.8	9.73	10.48	9.71

Comments: Generator Run Hours = 1.3

RITTENHOUSE

Operator: Ed Chelius **Date: March 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: March 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018	112,345,000	3,624,032

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
3/1/2018 - 4/1/2018	365.4	381.0	364.3	11.79	12.29	11.75

Comments: Generator Run Hours = 2.0

RITTENHOUSE

Operator: Ed Chelius **Date: April 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: April 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018	73,494,000	2,449,800

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
4/1/2018 - 5/1/2018	236.5	228.5	233.7	7.88	7.62	7.79

Comments: Generator Run Hours = 1.5

- PENN Power came to the pump station to inspect the genset control panel and found parts that went bad. They will be replaced ASAP. The generator still runs as backup power.

RITTENHOUSE

Operator: Ed Chelius **Date: May 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: May 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018	79,762,000	2,658,733

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
5/1/2018 - 6/1/2018	255.1	253	247.2	8.50	8.43	8.24

Comments: Generator Run Hours = 1.5

- 5-10-18→ The flow meter was calibrated at the pump station

RITTENHOUSE

Operator: Ed Chelius **Date: June 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: June 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018	89,788,000	2,992,933

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
6/1/2018 - 7/1/2018	266.8	257.0	252.9	8.89	8.57	8.43

Comments: Generator Run Hours = 1.1

RITTENHOUSE

Operator: Ed Chelius **Date: July 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: July 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018	75,597,000	2,438,613

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
7/1/2018 - 8/1/2018	238.4	239.3	223.9	7.69	7.72	7.23

Comments: Generator Run Hours = 1.7

RITTENHOUSE

Operator: Ed Chelius **Date: August 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: August 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018	97,441,000	3,143,258

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
8/1/2018 - 9/1/2018	299.1	291.4	282.7	9.65	9.40	9.11

Comments: Generator Run Hours = 1.0

RITTENHOUSE

Operator: Ed Chelius **Date: September 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: September 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018	91,532,000	3,051,066

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
9/1/2018 - 10/1/2018	195.8	309.4	287.7	6.53	10.31	9.59

Comments: Generator Run Hours = 1.4
9-6-18→ PENN Power came to station to replace relay in generator.
9-26-18→ Meter Guys came to calibrate flow meter.

RITTENHOUSE

Operator: Ed Chelius **Date: October 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: October 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018	80,846,000	2,607,935

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
10/1/2018 - 11/1/2018	out	360.4	348.1	out	11.63	11.23

Comments: Generator Run Hours = 1.1

- The #1 Pump was pulled out and sent for repair to Deckmans. It will be replaced as soon as it is repaired.

RITTENHOUSE

Operator: Ed Chelius **Date: November 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: November 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018	114,662,000	3,822,066

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
11/1/2018 - 12/1/2018	out	494.6	459.2	–	16.48	15.31

Comments: Generator Run Hours = 2.3

- 11-25-18→ The phone line to the dialer was repaired this month.
- As of 12-13-18 the #1 pump is scheduled to be installed and online.

RITTENHOUSE

Operator: Ed Chelius **Date: December 2018**

Item	Priority	Remarks
Exterior		
Fascia & Cornice	3	
Roof	3	
Grounds, Weeds	3	
Driveway	3	
Wetwell		
Grease Buildup	3	
Stairwells	3	
Comminutor	3	
Valves	3	
Station Interior		
#1 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matchers	3	
Pillow Block Bearing	3	
#2 Pump		
Motor	3	
Rings	3	
Brushes	3	
Bearings	3	
Drive Shafts	3	
U-Joints	2	
Flow Matcher	3	
Pillow Block	2	
Bearing	3	
Generator	3	
Plant Air		
Compressor	3	
Pumps Packing	3	
Sump Pump	3	
Pump Bearing	3	

RITTENHOUSE

Operator: Ed Chelius **Date: December 2018**

Audio Dialer	**2**	
Ventilation	**Priority**	**Remarks**
Dry well	3	
Wetwell	3	
Electric Heaters	3	
#3 Pump		
Motor	3	
Rings	3	
Brushes	3	
Drive Shafts	3	
U-Joints	3	
Pump Bearings	3	
Valves	3	
Flow Matcher	3	
Pillow Block Bearing	3	
Pump Bearings	3	

1 - Immediate Priority; 2 - Priority; 3 – Needs No Attention

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019	97,528,000	3,146,064

DATE	Pump Run Hours			Run Hours Per Day		
	Pump #1	Pump #2	Pump #3	Pump #1	Pump #2	Pump #3
12/1/2018 - 1/1/2019	off	407.7	373.9	off	13.15	12.06

Comments: Generator Run Hours = 2.3

- The outside crane was repaired this month.
- The #1 pump is scheduled to be installed this month.

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: January 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018	11,807,700	380,893

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
1/1/2018 - 1/31/2018	19,233,200	620,425

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
1/1/2018 - 1/31/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: February 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018	10,041,800	358,636

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
2/1/2018 - 2/28/2018	38,422,100	1,372,218

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
2/1/2018 - 2/28/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: March 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018	9,463,800	305,284

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
3/1/2018 - 4/1/2018	46,171,100	1,489,390

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
3/1/2018 - 4/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: April 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018	8,482,400	282,746

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
4/1/2018 - 5/1/2018	29,467,600	982,253

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
4/1/2018 - 5/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: May 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018	13,630,200	454,340

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
5/1/2018 - 6/1/2018	33,078,200	1,102,606

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
5/1/2018 - 6/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: June 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018	8,759,300	291,976

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
6/1/2018 - 7/1/2018	34,516,400	1,150,546

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
6/1/2018 - 7/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: July 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018	8,647,400	278,948

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
7/1/2018 - 8/1/2018	31,200,300	1,006,461

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
7/1/2018 - 8/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: August 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018	10,500,900	338,738

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
8/1/2018 - 9/1/2018	38,598,700	1,245,119

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
8/1/2018 - 9/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: September 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018	8,812,100	293,736

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
9/1/2018 - 10/1/2018	33,884,300	1,129,476

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
9/1/2018 - 10/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: October 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018	6,936,700	223,765

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
10/1/2018 - 11/1/2018	36,184,900	1,167,255

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
10/1/2018 - 11/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: November 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018	9,277,100	309,236

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
11/1/2018 - 12/1/2018	44,478,200	1,482,607

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
11/1/2018 - 12/1/2018		

JACKSON STREET METERING PIT

Operator: Ed Chelius **Date: December 2018**

Flow Jackson Street Pit

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019	8,570,800	276,477

Montgomery Avenue Metering Pit to the Rittenhouse P.S.

DATE	Total Flow	Average flow/day
12/1/2018 - 1/1/2019	42,810,300	1,380,977

Flow to Norristown

DATE	TOTAL GALLONS	GALLONS/DAY
12/1/2018 - 1/1/2019		

ATTACHMENT E

MONTHLY ADF TO NMWA

Table 6
2018 TOTAL FLOW TO NORRISTOWN
WEST NORRITON TOWNSHIP

Average Daily Flow	Rittenhouse Blvd Pump Station (gpd)	Jackson Street Pit (gpd)	Total Flow to Norristown (gpd)
January	1,545,870	380,893	1,926,763
February	3,219,714	358,636	3,578,350
March	3,624,032	305,284	3,929,316
April	2,449,800	282,746	2,732,546
May	2,658,733	454,340	3,113,073
June	2,992,933	291,976	3,284,909
July	2,438,613	278,948	2,717,561
August	3,143,258	338,738	3,481,996
September	3,051,066	293,736	3,344,802
October	2,607,935	223,765	2,831,700
November	3,822,066	309,236	4,131,302
December	3,146,064	276,477	3,422,541

Average total flow (gpd)	34,700,084	3,794,775	38,494,859
Average Daily Flow (gpd)	2,891,674	316,231	3,207,905

Table 7
Average Daily Flow to NMWA (2008 to 2018)
West Norriton Township

Rittenhouse Pump Station

Month	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	1,140,058	1,456,990	1,463,313	829,881	1,631,760	1,708,296	1,847,377	1,765,629	1,418,064	1,316,032	1,545,870
February	1,766,872	559,437	1,722,096	1,505,254	1,204,106	1,603,490	3,119,342	1,649,457	2,902,034	1,270,321	3,219,714
March	1,846,990	515,907	2,755,964	2,072,793	1,304,838	1,684,645	233,590	2,617,167	1,724,129	1,829,354	3,624,032
April	977,496	544,155	1,361,187	1,515,407	1,724,400	1,310,723	2,577,086	3,009,310	1,401,366	1,710,233	2,449,800
May	1,196,496	540,160	778,958	1,063,490	1,660,581	1,212,654	2,603,622	1,071,816	1,766,419	1,650,709	2,658,733
June	858,186	576,791	637,826	551,286	1,411,733	2,491,360	1,517,076	1,598,126	1,128,400	1,748,633	2,992,933
July	1,008,148	571,476	806,335	503,868	1,160,841	1,681,932	1,037,000	1,751,812	1,043,032	1,770,258	2,438,613
August	611,941	1,197,658	764,652	1,320,574	1,297,906	1,549,880	931,329	1,026,774	887,709	1,719,645	3,143,258
September	1,086,073	1,130,403	696,443	2,465,300	1,538,583	980,463	966,586	1,425,910	986,100	1,399,866	3,051,066
October	953,025	1,310,132	955,535	1,613,858	1,481,161	1,054,687	971,709	1,240,903	897,483	1,380,613	2,607,935
November	1,012,316	1,013,466	753,803	1,322,593	1,372,833	1,012,422	1,245,956	953,266	1,054,833	1,607,500	3,822,066
December	1,922,929	2,076,363	896,903	2,257,632	1,686,839	1,855,090	1,643,680	1,680,290	1,350,677	1,486,967	3,146,064
Total flow (gpd)	**14,380,530**	**11,492,938**	**13,593,015**	**17,021,936**	**17,475,581**	**18,145,642**	**18,694,353**	**19,790,460**	**16,560,246**	**18,890,131**	**34,700,084**
Average daily (gpd)	**1,198,378**	**957,745**	**1,132,751**	**1,418,495**	**1,456,298**	**1,512,137**	**1,557,863**	**1,649,205**	**1,380,021**	**1,574,178**	**2,891,674**

Jackson Street

Month		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
January		790,335	769,226	957,096	926,654	774,271	501,065	549,006	465,968	321,458	465,968	380,893
February		778,410	702,625	984,242	1,181,932	627,951	324,078	381,053	357,029	370,917	357,029	358,636
March		939,700	634,481	1,199,387	1,382,040	441,216	293,412	455,265	413,816	357,858	413,816	305,284
April		891,593	787,590	1,057,330	1,107,757	404,566	293,516	363,277	418,336	391,640	418,336	282,746
May		976,874	799,035	844,048	821,629	315,281	422,419	333,000	401,526	366,465	401,526	454,340
June		737,986	818,420	810,590	910,306	42,916	422,650	402,150	374,006	422,190	374,006	291,976
July		572,561	711,158	721,716	780,844	359,752	314,109	427,270	382,194	299,829	382,194	278,948
August		730,770	919,719	604,587	965,958	318,684	509,303	437,970	392,509	427,322	392,509	338,738
September		519,453	841,158	749,493	921,690	198,200	494,650	368,222	405,593	399,580	405,593	293,736
October		605,374	914,658	944,132	629,923	264,568	387,968	393,510	292,897	311,125	292,897	223,765
November		723,646	865,060	899,283	1,031,928	356,193	348,340	336,196	321,070	314,900	321,070	309,236
December		839,361	1,062,719	962,383	599,409	381,393	405,984	416,813	287,471	405,265	287,471	276,477
Total flow (gpd)		**9,106,063**	**9,825,849**	**10,734,287**	**11,260,070**	**4,484,991**	**4,717,494**	**4,863,732**	**4,512,415**	**4,388,549**	**4,512,415**	**3,794,775**
Average daily (gpd)		**758,839**	**818,821**	**894,524**	**938,339**	**373,749**	**393,125**	**405,311**	**376,035**	**365,712**	**376,035**	**316,231**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Average daily to NMWA (gpd)	1,957,216	1,776,566	2,027,275	2,356,834	1,830,048	1,905,261	1,963,174	2,025,240	1,745,733	1,950,212	3,207,905
Total precipitation (inch)	41.78	48.17	44.06	54.19	44.56	49.64	39.99	23.59	38.12	39.12	74.62

* 2015 Precipitaiton from www.accuweather.com for 19403
**2016-2018 precipitation from NMWA

ATTACHMENT F

INDUSTRIAL WASTES

INDUSTRIAL WASTES

All industrial wastes is required to meet the Industrial Pretreatment Standards of NWMA.

ATTACHMENT G

FLOW METER CALIBRATION REPORTS

TheMeterGuy, LLC.
5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

MAY 21 2018

WEST NORRITON
1630 WEST MARSHALL
JEFFERSONVILLE, PA 19403

SERVICE DATE: 5/11/2018
METER#: C2000 AE
LOCATION: CHESTNUT STREET
SERIAL #: N28401/20/4
MANUFACTURER: ABB
RECORDER: 1900 COMMANDER
TRANSMITTER: MAGMASTER
PRIMARY: 4 INCH
MAXIMUM CAPACITY: 500 GPM
SERVICE CONTRACT: QUARTERLY

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** 0, 25, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TOTALIZER CALIBRATION **CHECKED AT:** ZERO & FLOW RATE
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TRANSMITTER CALIBRATION
CHECKED OUTPUT AT ZERO & FLOW RATE
ERROR: 0% **CORRECTED ACCURACY:** ±1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY.

SERVICE REPRESENTATIVE: DAVID MOORE **PERSON SEEN:** TONY TUSKI
copies-

MAY 21

TheMeterGuy, LLC.
5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

WEST NORRITON
1630 WEST MARSHALL
JEFFERSONVILLE, PA 19403

SERVICE DATE: 5/11/2018
METER#: C2000 AC
LOCATION: WHITEHALL ROAD
SERIAL #: 8503A0455
MANUFACTURER: FISCHER & PORTER
RECORDER: 51C1102DZ
TRANSMITTER: 50PZ1112
PRIMARY: MAG X
MAXIMUM CAPACITY: 3,000 GPM
SERVICE CONTRACT: QUARTERLY

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** 0, 15, 50 & 80%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TOTALIZER CALIBRATION **CHECKED AT:** 0, 15, 50 & 80%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TRANSMITTER CALIBRATION
0, 15, 50 & 80%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY.

SERVICE REPRESENTATIVE: DAVID MOORE **PERSON SEEN:** TONY TUSKI
copies-

TheMeterGuy, LLC.
5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

WEST NORRITON
1630 WEST MARSHALL
JEFFERSONVILLE, PA 19403

SERVICE DATE: 5/11/2018
METER#: C2000 AD
LOCATION: PORT INDIAN
SERIAL #: 160612-FA-18621692
MANUFACTURER: F&P / OMEGA
RECORDER: 1392
TRANSMITTER: FDT-21W
PRIMARY: 8 INCH
MAXIMUM CAPACITY: 1500 GPM
SERVICE CONTRACT: QUARTERLY

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** 0, 25, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TOTALIZER CALIBRATION **CHECKED AT:** 0, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TRANSMITTER CALIBRATION
CHECKED OUTPUT AT ZERO FLOW
ERROR: 0% **CORRECTED ACCURACY:** ±1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY.

SERVICE REPRESENTATIVE: DAVID MOORE **PERSON SEEN:** TONY TUSKI
copies-

TheMeterGuy, LLC.
5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

MAY 21 2018

SERVICE REPORT

WEST NORRITON
1630 WEST MARSHALL
JEFFERSONVILLE, PA 19403

SERVICE DATE: 5/11/2018
METER#: C2000 AA
LOCATION: JACKSON STREET
SERIAL #: 9902E3010E6/US21707-001
MANUFACTURER: E & H/CHESSELL
RECORDER: 392
TRANSMITTER: FMU90
PRIMARY: 9" PARSHALL FLUME
MAXIMUM CAPACITY: 3.5 MGD
SERVICE CONTRACT: QUARTERLY

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** 0, 25, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TOTALIZER CALIBRATION **CHECKED AT:** 0, 25, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TRANSMITTER CALIBRATION
FLOW MEASUREMENTS
ERROR: 0% **CORRECTED ACCURACY:** ±1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY.

SERVICE REPRESENTATIVE: DAVID MOORE **PERSON SEEN:** TONY TUSKI
copies-

TheMeterGuy, LLC.
5758 GLEN OAKS DRIVE NARVON, PA 17555
PHONE: (717) 940-1987

SERVICE REPORT

WEST NORRITON
1630 WEST MARSHALL
JEFFERSONVILLE, PA 19403

SERVICE DATE: 5/11/2018
METER#: C2000 AB
LOCATION: RITTENHOUSE PUMP STATION
SERIAL #: 356807
MANUFACTURER: SPARLING/CHESSELL
RECORDER: 392
TRANSMITTER: FM656-185-1A3-0
PRIMARY: MAG
MAXIMUM CAPACITY: 10,000 GPM
SERVICE CONTRACT: QUARTERLY

WORK PERFORMED

CLEANED EQUIPMENT: X **PRIMARY:** X

RECORDER CALIBRATION **CHECKED AT:** 0, 25, 50 & 100%
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TOTALIZER CALIBRATION **CHECKED AT:** OPERATING RATE
ERROR: 0% **CORRECTED ACCURACY:** ±1%

TRANSMITTER CALIBRATION
INTERNAL SIMULATION
ERROR: 0% **CORRECTED ACCURACY:** ±1%

COMMENTS: LEFT EQUIPMENT OPERATING PROPERLY.

SERVICE REPRESENTATIVE: DAVID MOORE **PERSON SEEN:** TONY TUSKI
copies-