

Application Type Renewal  
Facility Type Industrial  
Major / Minor Minor

**NPDES PERMIT FACT SHEET  
INDIVIDUAL INDUSTRIAL WASTE (IW)  
AND IW STORMWATER**

Application No. PA0254851  
APS ID 1037304  
Authorization ID 1351472

**Applicant and Facility Information**

Applicant Name	<u>Ford City Borough</u>	Facility Name	<u>Ford City Borough WTP</u>
Applicant Address	<u>1000 4th Avenue</u> <u>Ford City, PA 16226-1214</u>	Facility Address	<u>Neale Avenue</u> <u>Ford City, PA 16226</u>
Applicant Contact	<u>Carol Fenyes</u>	Facility Contact	<u>Carol Fenyes</u>
Applicant Phone	<u>(724) 763-3081</u>	Facility Phone	<u>(724) 763-3081</u>
Client ID	<u>35008</u>	Site ID	<u>254195</u>
SIC Code	<u>4941</u>	Municipality	<u>Ford City Borough</u>
SIC Description	<u>Trans. &amp; Utilities - Water Supply</u>	County	<u>Armstrong</u>
Date Application Received	<u>March 31, 2021</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>May 7, 2021</u>	If No, Reason	<u></u>
Purpose of Application	<u>NPDES Renewal for discharge of wastewater from potable water treatment plant.</u>		

**Summary of Review**

Outfall 001 discharges to a storm sewer that discharges to the Allegheny River, so Allegheny River is regarded as the receiving stream.

There are 18 open violations listed in WMS for the subject Client ID (35008) as of 5/10/2022 pertaining to this facility, issued by Safe Drinking Water, but none are expected to impede the renewal of this permit.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Jordan A. Frey, E.I.T. Jordan A. Frey, E.I.T. / Project Manager	June 9, 2022 AJP 6/13/2022
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	June 17, 2022

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.0648
Latitude	40° 45' 58"	Longitude	-79° 31' 53.2"
Quad Name	Kittanning	Quad Code	40079G5
Wastewater Description: IW Process Effluent without ELG			
Receiving Waters	Allegheny River (WWF)	Stream Code	42122
NHD Com ID	123860479	RMI	40.7300
Drainage Area	8990	Yield (cfs/mi <sup>2</sup> )	0.1
Q <sub>7-10</sub> Flow (cfs)	2070	Q <sub>7-10</sub> Basis	Default
Elevation (ft)	786	Slope (ft/ft)	---
Watershed No.	17-E	Chapter 93 Class.	WWF
Existing Use	---	Existing Use Qualifier	---
Exceptions to Use	---	Exceptions to Criteria	---
Assessment Status	Impaired		
Cause(s) of Impairment	POLYCHLORINATED BIPHENYLS (PCBS)		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status		Name	
Background/Ambient Data		Data Source	
pH (SU)	7.6	WQM ID 884, sampled 9/13/2021	
Temperature (°F)	71.06	WQM ID 884, sampled 9/13/2021	
Hardness (mg/L)	68	WQM ID 884, sampled 9/13/2021	
Other:			
Nearest Downstream Public Water Supply Intake	Cadogan Water District		
PWS Waters	Allegheny River	Flow at Intake (cfs)	
PWS RMI	39.3	Distance from Outfall (mi)	2.98

Changes Since Last Permit Issuance: None.

Other Comments: Upstream sample data acquired from WQM ID 884.

Treatment Facility Summary				
Treatment Facility Name: Ford City Waterworks				
WQM Permit No.		Issuance Date		
0317200		07/05/2017		
Waste Type		Degree of Treatment	Process Type	Avg Annual Flow (MGD)
Industrial		Physical (Industrial Waste)	Softening, Reverse Osmosis	0.274
Hydraulic Capacity (MGD)		Organic Capacity (lbs/day)	Load Status	Biosolids Treatment
0.634			Not Overloaded	Biosolids Use/Disposal

Changes Since Last Permit Issuance: None.

Other Comments: Existing Treatment Process/Facilities (WQM 0317200): From 3 wells to Softener Feed Tank, 2 water softeners, Reverse Osmosis Feed Tank, 2 Reverse Osmosis machines, to 1.5MG Settling Tank. Regeneration and Reject Water from the softeners and RO machines, and overflow from the settling tank are discharged to Outfall 001. Solids residual is removed by a licensed disposal contractor.

Compliance History

DMR Data for Outfall 001 (from May 1, 2021 to April 30, 2022)

Parameter	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21
Flow (MGD) Average Monthly	0.0506	0.0515	0.0654	0.0527	0.0500	0.0519	0.0574	0.0568	0.0700	0.0666	0.0629	0.0659
Flow (MGD) Daily Maximum	0.0609	0.0658	0.0818	0.0756	0.0625	0.0627	0.0765	0.0646	0.0901	0.0815	0.0756	0.0864
pH (S.U.) Minimum	7.9	8.3	8.3	8.0	8.0	8.0	8.1	8.1	8.2	8.0	8.0	8.2
pH (S.U.) Maximum	7.9	8.3	8.3	8.0	8.2	8.3	8.3	8.3	8.3	8.2	8.3	8.3
TRC (mg/L) Average Monthly	0.03	0.02	0.03	0.02	0.06	0.05	0.03	0.03	0.04	0.03	0.04	0.03
TRC (mg/L) Instantaneous Maximum	0.05	0.03	0.03	0.02	0.07	0.07	0.04	0.04	0.05	0.04	0.05	0.04
TSS (mg/L) Average Monthly	3	< 3	4	< 3	10	< 3	< 3	3	3	6	< 3	11
TSS (mg/L) Instantaneous Maximum	3	< 3	4	< 3	14	< 3	< 3	4	3	9	< 3	16
Total Dissolved Solids (mg/L) Average Monthly	2225	2620	3020	2805	1814	2435	2795	2660	3550	2390	3120	3095
Total Dissolved Solids (mg/L) Instantaneous Maximum	2270	3110	3490	3380	2730	2560	3310	2860	3720	2480	3650	3300
Total Aluminum (mg/L) Average Monthly	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aluminum (mg/L) Instantaneous Maximum	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Iron (mg/L) Average Monthly	0.03	0.02	0.02	< 0.02	0.02	< 0.02	< 0.02	0.02	0.02	< 0.02	0.02	< 0.02
Total Iron (mg/L) Instantaneous Maximum	0.03	0.02	0.02	< 0.02	0.02	< 0.02	< 0.02	0.02	0.02	< 0.02	0.02	< 0.02

**NPDES Permit Fact Sheet**  
**Ford City Borough WTP**

**NPDES Permit No. PA0254851**

Total Manganese (mg/L) Average Monthly	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total Manganese (mg/L) Instantaneous Maximum	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

**Development of Effluent Limitations**

Outfall No. 001  
Latitude 40° 45' 58.00"  
Wastewater Description: IW Process Effluent without ELG

Design Flow (MGD) 0.0648  
Longitude -79° 31' 53.20"

**Technology-Based Limitations**

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (mg/l)	SBC	Federal Regulation	State Regulation
Total Suspended Solids	30	Average Monthly		362-2183-003
Total Suspended Solids	40	Daily Maximum		362-2183-003
Aluminum	4.0	Average Monthly		362-2183-003
Aluminum	8.0	Daily Maximum		362-2183-003
Manganese	1.0	Average Monthly		362-2183-003
Manganese	2.0	Daily Maximum		362-2183-003
Total Iron	2.0	Average Monthly		362-2183-003
Total Iron	4.0	Daily Maximum		362-2183-003
Total Residual Chlorine	0.5	Average Monthly		92a.48(b)(2)
Total Residual Chlorine	1.0	Daily Maximum		362-2183-003
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)

Comments: 362-2183-003 References the Department's technical guidance document entitled "Technology-based Control Requirements for Water Treatment Plant Wastes." The limits are BPT (Best Practical Control Technology) and are not based on actual regulation. The Department has identified the TSD requirements as the Best Available Treatment (BAT) that, as a minimum, the permittee will be required to meet. Since no federal effluent limitation guidelines (ELGs) have been promulgated, the Department's Best Professional Judgment of BAT, as outlined in the TSD, satisfies the Federal requirements of the 40 CFR 125.3(d) regulations.

**Water Quality-Based Limitations**

A "Reasonable Potential Analysis" determined the following parameters were candidates for limitations: None

The following limitations were determined through water quality modeling (output files attached): None

Comments: No limits or monitoring was recommended as a result of water quality modeling.

**Best Professional Judgment (BPJ) Limitations**

Comments: See Technology-Based Limitations section above.

Monitoring for TDS is being retained under the authority of Chapter 92a.61.

**Anti-Backsliding**

Comments: Daily Maximum BPJ effluent limits were previously expressed as IMAX limits. Since IMAX is more stringent than daily max statistical base code, the IMAX limits will be retained due to anti-backsliding provisions.

**Proposed Effluent Limitations and Monitoring Requirements**

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

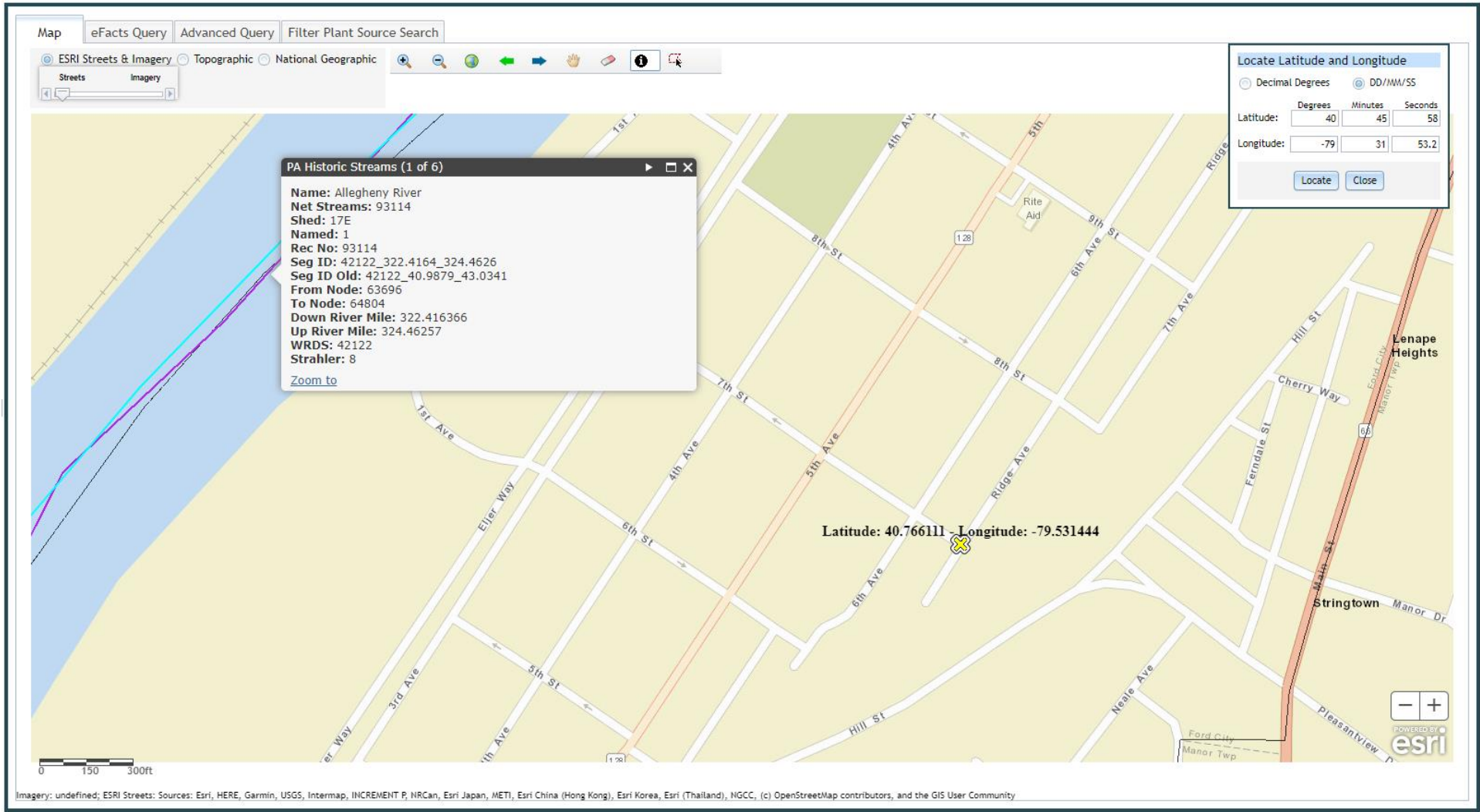
**Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	2/month	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.0	2/month	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60.0	2/month	Grab
Total Dissolved Solids	XXX	XXX	XXX	Report	XXX	Report	2/month	Grab
Total Aluminum	XXX	XXX	XXX	4.0	XXX	8.0	2/month	Grab
Total Iron	XXX	XXX	XXX	2.0	XXX	4.0	2/month	Grab
Total Manganese	XXX	XXX	XXX	1.0	XXX	2.0	2/month	Grab

Compliance Sampling Location: Outfall 001, before mixing.

Other Comments:

Attachment 1  
eMap – Location Map





Attachment 2  
Google Earth Imagery







## Discharge Information

Instructions Discharge Stream

Facility: Ford City Boro WTP NPDES Permit No.: PA0254851 Outfall No.: Outfall 001

Evaluation Type: Major Sewage / Industrial Waste Wastewater Description: Wastewater From Potable Water Treatment

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q <sub>7-10</sub>	Q <sub>n</sub>
0.0648	100	8.3						

				0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc	Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L	10									
	Chloride (PWS)	mg/L	731									
	Bromide	mg/L	2.26									
	Sulfate (PWS)	mg/L	685									
	Fluoride (PWS)	mg/L										
Group 2	Total Aluminum	mg/L	0.01									
	Total Antimony	mg/L	0.0003									
	Total Arsenic	mg/L	< 0.002									
	Total Barium	mg/L	0.209									
	Total Beryllium	mg/L	0.00005									
	Total Boron	mg/L	0.22									
	Total Cadmium	mg/L	< 0.00008									
	Total Chromium (III)	mg/L	0.0004									
	Hexavalent Chromium	mg/L	0.005									
	Total Cobalt	mg/L	0.0002									
	Total Copper	mg/L	0.016									
	Free Cyanide	mg/L										
	Total Cyanide	mg/L	0.005									
	Dissolved Iron	mg/L	0.02									
	Total Iron	mg/L	0.04									
	Total Lead	mg/L	0.004									
	Total Manganese	mg/L	0.003									
	Total Mercury	mg/L	0.00004									
	Total Nickel	mg/L	0.0009									
	Total Phenols (Phenolics) (PWS)	mg/L	0.05									
	Total Selenium	mg/L	0.006									
	Total Silver	mg/L	< 0.00005									
	Total Thallium	mg/L	< 0.002									
	Total Zinc	mg/L	0.003									
	Total Molybdenum	mg/L	0.0005									
	Acrolein	µg/L	<									
	Acrylamide	µg/L	<									
	Acrylonitrile	µg/L	<									
	Benzene	µg/L	<									
	Bromoform	µg/L	<									

Group 3	Carbon Tetrachloride	µg/L	<																	
	Chlorobenzene	µg/L																		
	Chlorodibromomethane	µg/L	<																	
	Chloroethane	µg/L	<																	
	2-Chloroethyl Vinyl Ether	µg/L	<																	
	Chloroform	µg/L	<																	
	Dichlorobromomethane	µg/L	<																	
	1,1-Dichloroethane	µg/L	<																	
	1,2-Dichloroethane	µg/L	<																	
	1,1-Dichloroethylene	µg/L	<																	
	1,2-Dichloropropane	µg/L	<																	
	1,3-Dichloropropylene	µg/L	<																	
	1,4-Dioxane	µg/L	<																	
	Ethylbenzene	µg/L	<																	
	Methyl Bromide	µg/L	<																	
	Methyl Chloride	µg/L	<																	
	Methylene Chloride	µg/L	<																	
	1,1,2,2-Tetrachloroethane	µg/L	<																	
	Tetrachloroethylene	µg/L	<																	
	Toluene	µg/L	<																	
	1,2-trans-Dichloroethylene	µg/L	<																	
	1,1,1-Trichloroethane	µg/L	<																	
	1,1,2-Trichloroethane	µg/L	<																	
	Trichloroethylene	µg/L	<																	
	Vinyl Chloride	µg/L	<																	
Group 4	2-Chlorophenol	µg/L	<																	
	2,4-Dichlorophenol	µg/L	<																	
	2,4-Dimethylphenol	µg/L	<																	
	4,6-Dinitro-o-Cresol	µg/L	<																	
	2,4-Dinitrophenol	µg/L	<																	
	2-Nitrophenol	µg/L	<																	
	4-Nitrophenol	µg/L	<																	
	p-Chloro-m-Cresol	µg/L	<																	
	Pentachlorophenol	µg/L	<																	
	Phenol	µg/L	<																	
	2,4,6-Trichlorophenol	µg/L	<																	
Group 5	Acenaphthene	µg/L	<																	
	Acenaphthylene	µg/L	<																	
	Anthracene	µg/L	<																	
	Benzidine	µg/L	<																	
	Benzo(a)Anthracene	µg/L	<																	
	Benzo(a)Pyrene	µg/L	<																	
	3,4-Benzofluoranthene	µg/L	<																	
	Benzo(ghi)Perylene	µg/L	<																	
	Benzo(k)Fluoranthene	µg/L	<																	
	Bis(2-Chloroethoxy)Methane	µg/L	<																	
	Bis(2-Chloroethyl)Ether	µg/L	<																	
	Bis(2-Chloroisopropyl)Ether	µg/L	<																	
	Bis(2-Ethylhexyl)Phthalate	µg/L	<																	
	4-Bromophenyl Phenyl Ether	µg/L	<																	
	Butyl Benzyl Phthalate	µg/L	<																	
	2-Chloronaphthalene	µg/L	<																	
	4-Chlorophenyl Phenyl Ether	µg/L	<																	
	Chrysene	µg/L	<																	
	Dibenzo(a,h)Anthracene	µg/L	<																	
	1,2-Dichlorobenzene	µg/L	<																	
	1,3-Dichlorobenzene	µg/L	<																	
	1,4-Dichlorobenzene	µg/L	<																	
	3,3-Dichlorobenzidine	µg/L	<																	
	Diethyl Phthalate	µg/L	<																	
	Dimethyl Phthalate	µg/L	<																	
	Di-n-Butyl Phthalate	µg/L	<																	
	2,4-Dinitrotoluene	µg/L	<																	



	2,6-Dinitrotoluene	µg/L	<																
	Di-n-Octyl Phthalate	µg/L	<																
	1,2-Diphenylhydrazine	µg/L	<																
	Fluoranthene	µg/L	<																
	Fluorene	µg/L	<																
	Hexachlorobenzene	µg/L	<																
	Hexachlorobutadiene	µg/L	<																
	Hexachlorocyclopentadiene	µg/L	<																
	Hexachloroethane	µg/L	<																
	Indeno(1,2,3-cd)Pyrene	µg/L	<																
	Isophorone	µg/L	<																
	Naphthalene	µg/L	<																
	Nitrobenzene	µg/L	<																
	n-Nitrosodimethylamine	µg/L	<																
	n-Nitrosodi-n-Propylamine	µg/L	<																
	n-Nitrosodiphenylamine	µg/L	<																
	Phenanthrene	µg/L	<																
	Pyrene	µg/L	<																
	1,2,4-Trichlorobenzene	µg/L	<																
Group 6	Aldrin	µg/L	<																
	alpha-BHC	µg/L	<																
	beta-BHC	µg/L	<																
	gamma-BHC	µg/L	<																
	delta BHC	µg/L	<																
	Chlordane	µg/L	<																
	4,4-DDT	µg/L	<																
	4,4-DDE	µg/L	<																
	4,4-DDD	µg/L	<																
	Dieldrin	µg/L	<																
	alpha-Endosulfan	µg/L	<																
	beta-Endosulfan	µg/L	<																
	Endosulfan Sulfate	µg/L	<																
	Endrin	µg/L	<																
	Endrin Aldehyde	µg/L	<																
	Heptachlor	µg/L	<																
	Heptachlor Epoxide	µg/L	<																
	PCB-1016	µg/L	<																
	PCB-1221	µg/L	<																
	PCB-1232	µg/L	<																
	PCB-1242	µg/L	<																
	PCB-1248	µg/L	<																
	PCB-1254	µg/L	<																
	PCB-1260	µg/L	<																
	PCBs, Total	µg/L	<																
	Toxaphene	µg/L	<																
	2,3,7,8-TCDD	ng/L	<																
Group 7	Gross Alpha	pCi/L	<																
	Total Beta	pCi/L	<																
	Radium 226/228	pCi/L	<																
	Total Strontium	µg/L	<																
	Total Uranium	µg/L	<																
	Osmotic Pressure	mOs/kg																	



## Stream / Surface Water Information

Ford City Boro WTP, NPDES Permit No. PA0254851, Outfall Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: Allegheny River

No. Reaches to Model: 1

- ☒ Statewide Criteria  
☐ Great Lakes Criteria  
☐ ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi <sup>2</sup> )*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	042122	40.73	770	8990			Yes
End of Reach 1	042122	39.3	769	9000		0.1	Yes

**Q<sub>7-10</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	40.73	0.1	2070									68	7.6		
End of Reach 1	39.3	0.1	2070												

**Q<sub>h</sub>**

Location	RMI	LFY (cfs/mi <sup>2</sup> )*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	40.73														
End of Reach 1	39.3														



Toxics Management Spreadsheet  
Version 1.3, March 2021

## Model Results

Ford City Boro WTP, NPDES Permit No. PA0254851, Outfall Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All

☐ Inputs

☐ Results

☐ Limits

☐ Hydrodynamics

☒ Wasteload Allocations

☒ AFC

CCT (min): 15

PMF: 0.008

Analysis Hardness (mg/l): 68.182

Analysis pH: 7.60

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	750	750	131,810	
Total Antimony	0	0		0	1,100	1,100	193,321	
Total Arsenic	0	0		0	340	340	59,754	Chem Translator of 1 applied
Total Barium	0	0		0	21,000	21,000	3,690,675	
Total Boron	0	0		0	8,100	8,100	1,423,546	
Total Cadmium	0	0		0	1.387	1.45	254	Chem Translator of 0.96 applied
Total Chromium (III)	0	0		0	416.361	1,318	231,563	Chem Translator of 0.316 applied
Hexavalent Chromium	0	0		0	16	16.3	2,863	Chem Translator of 0.982 applied
Total Cobalt	0	0		0	95	95.0	16,696	
Total Copper	0	0		0	9.368	9.76	1,715	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	42.460	50.1	8,812	Chem Translator of 0.847 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	1.400	1.65	289	Chem Translator of 0.85 applied
Total Nickel	0	0		0	338.649	339	59,636	Chem Translator of 0.998 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	Chem Translator of 0.922 applied
Total Silver	0	0		0	1.665	1.96	344	Chem Translator of 0.85 applied
Total Thallium	0	0		0	65	65.0	11,424	
Total Zinc	0	0		0	84.708	86.6	15,222	Chem Translator of 0.978 applied

☒ CFC

CCT (min): 720

PMF: 0.059

Analysis Hardness (mg/l): 68.026

Analysis pH: 7.60

Model Results

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Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	220	220	266,569	
Total Arsenic	0	0		0	150	150	181,752	Chem Translator of 1 applied
Total Barium	0	0		0	4,100	4,100	4,967,884	
Total Boron	0	0		0	1,600	1,600	1,938,686	
Total Cadmium	0	0		0	0.188	0.2	246	Chem Translator of 0.925 applied
Total Chromium (III)	0	0		0	54.059	62.9	76,165	Chem Translator of 0.86 applied
Hexavalent Chromium	0	0		0	10	10.4	12,595	Chem Translator of 0.962 applied
Total Cobalt	0	0		0	19	19.0	23,022	
Total Copper	0	0		0	6.444	6.71	8,133	Chem Translator of 0.96 applied
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	1,500	1,500	30,975,428	WQC = 30 day average; PMF = 1
Total Lead	0	0		0	1.650	1.95	2,361	Chem Translator of 0.847 applied
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	0.770	0.91	1,098	Chem Translator of 0.85 applied
Total Nickel	0	0		0	37.541	37.7	45,624	Chem Translator of 0.997 applied
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	4.600	4.99	6,045	Chem Translator of 0.922 applied
Total Silver	0	0		0	N/A	N/A	N/A	Chem Translator of 1 applied
Total Thallium	0	0		0	13	13.0	15,752	
Total Zinc	0	0		0	85.236	86.4	104,745	Chem Translator of 0.986 applied

☒ THH

CCT (min): 69.744

THH PMF: 0.059

Analysis Hardness (mg/l): N/A

Analysis pH: N/A

PWS PMF: 0.0182

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	500,000	500,000	#####	WQC applied at RMI 39.3 with a design stream flow of 2070 cfs
Chloride (PWS)	0	0		0	250,000	250,000	94,451,047	WQC applied at RMI 39.3 with a design stream flow of 2070 cfs
Sulfate (PWS)	0	0		0	250,000	250,000	94,451,047	WQC applied at RMI 39.3 with a design stream flow of 2070 cfs
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	5.6	5.6	2,116	THH WQC applied at PWS at RMI 39.3
Total Arsenic	0	0		0	10	10.0	3,778	THH WQC applied at PWS at RMI 39.3
Total Barium	0	0		0	2,400	2,400	906,730	THH WQC applied at PWS at RMI 39.3
Total Boron	0	0		0	3,100	3,100	1,171,193	THH WQC applied at PWS at RMI 39.3
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	



**NPDES Permit Fact Sheet**  
**Ford City Borough WTP**

**NPDES Permit No. PA0254851**

Dissolved Iron	0	0		0	300	300	113,341	THH WQC applied at PWS at RMI 39.3
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	1,000	1,000	377,804	THH WQC applied at PWS at RMI 39.3
Total Mercury	0	0		0	0.050	0.05	18.9	THH WQC applied at PWS at RMI 39.3
Total Nickel	0	0		0	610	610	230,461	THH WQC applied at PWS at RMI 39.3
Total Phenols (Phenolics) (PWS)	0	0		0	5	5.0	1,889	WQC applied at RMI 39.3 with a design stream flow of 2070 cfs
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	0.24	0.24	90.7	THH WQC applied at PWS at RMI 39.3
Total Zinc	0	0		0	N/A	N/A	N/A	

☒ **CRL**

CCT (min): **720**

PMF: **0.083**

Analysis Hardness (mg/l): **N/A**

Analysis pH: **N/A**

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Dissolved Solids (PWS)	0	0		0	N/A	N/A	N/A	
Chloride (PWS)	0	0		0	N/A	N/A	N/A	
Sulfate (PWS)	0	0		0	N/A	N/A	N/A	
Total Aluminum	0	0		0	N/A	N/A	N/A	
Total Antimony	0	0		0	N/A	N/A	N/A	
Total Arsenic	0	0		0	N/A	N/A	N/A	
Total Barium	0	0		0	N/A	N/A	N/A	
Total Boron	0	0		0	N/A	N/A	N/A	
Total Cadmium	0	0		0	N/A	N/A	N/A	
Total Chromium (III)	0	0		0	N/A	N/A	N/A	
Hexavalent Chromium	0	0		0	N/A	N/A	N/A	
Total Cobalt	0	0		0	N/A	N/A	N/A	
Total Copper	0	0		0	N/A	N/A	N/A	
Dissolved Iron	0	0		0	N/A	N/A	N/A	
Total Iron	0	0		0	N/A	N/A	N/A	
Total Lead	0	0		0	N/A	N/A	N/A	
Total Manganese	0	0		0	N/A	N/A	N/A	
Total Mercury	0	0		0	N/A	N/A	N/A	
Total Nickel	0	0		0	N/A	N/A	N/A	
Total Phenols (Phenolics) (PWS)	0	0		0	N/A	N/A	N/A	
Total Selenium	0	0		0	N/A	N/A	N/A	
Total Silver	0	0		0	N/A	N/A	N/A	
Total Thallium	0	0		0	N/A	N/A	N/A	
Total Zinc	0	0		0	N/A	N/A	N/A	

☒ **Recommended WQBELs & Monitoring Requirements**

No. Samples/Month: **4**

Model Results

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Pollutants	Mass Limits		Concentration Limits				Governing WQBEL	WQBEL Basis	Comments
	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units			

☒ **Other Pollutants without Limits or Monitoring**

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments
Total Dissolved Solids (PWS)	188,902	mg/L	Discharge Conc ≤ 10% WQBEL
Chloride (PWS)	94,451	mg/L	Discharge Conc ≤ 10% WQBEL
Bromide	N/A	N/A	No WQS
Sulfate (PWS)	94,451	mg/L	Discharge Conc ≤ 10% WQBEL
Total Aluminum	84.5	mg/L	Discharge Conc ≤ 10% WQBEL
Total Antimony	2.12	mg/L	Discharge Conc ≤ 10% WQBEL
Total Arsenic	N/A	N/A	Discharge Conc < TQL
Total Barium	907	mg/L	Discharge Conc ≤ 10% WQBEL
Total Beryllium	N/A	N/A	No WQS
Total Boron	912	mg/L	Discharge Conc ≤ 10% WQBEL
Total Cadmium	0.16	mg/L	Discharge Conc < TQL
Total Chromium (III)	76.2	mg/L	Discharge Conc ≤ 10% WQBEL
Hexavalent Chromium	1.84	mg/L	Discharge Conc ≤ 10% WQBEL
Total Cobalt	10.7	mg/L	Discharge Conc ≤ 10% WQBEL
Total Copper	1.1	mg/L	Discharge Conc ≤ 10% WQBEL
Total Cyanide	N/A	N/A	No WQS
Dissolved Iron	113	mg/L	Discharge Conc ≤ 10% WQBEL
Total Iron	30,975	mg/L	Discharge Conc ≤ 10% WQBEL
Total Lead	2.36	mg/L	Discharge Conc ≤ 10% WQBEL
Total Manganese	378	mg/L	Discharge Conc ≤ 10% WQBEL
Total Mercury	0.019	mg/L	Discharge Conc ≤ 10% WQBEL
Total Nickel	38.2	mg/L	Discharge Conc ≤ 10% WQBEL
Total Phenols (Phenolics) (PWS)	1.89	mg/L	Discharge Conc ≤ 10% WQBEL
Total Selenium	6.05	mg/L	Discharge Conc ≤ 10% WQBEL
Total Silver	0.22	mg/L	Discharge Conc < TQL
Total Thallium	0.091	mg/L	Discharge Conc < TQL
Total Zinc	9.76	mg/L	Discharge Conc ≤ 10% WQBEL
Total Molybdenum	N/A	N/A	No WQS

TRC Spreadsheet

TRC EVALUATION					
Input appropriate values in A3:A9 and D3:D9					
2070	= Q stream (cfs)	0.5	= CV Daily		
0.0648	= Q discharge (MGD)	0.5	= CV Hourly		
30	= no. samples	0.008	= AFC_Partial Mix Factor		
0.3	= Chlorine Demand of Stream	0.059	= CFC_Partial Mix Factor		
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)		
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)		
0	= % Factor of Safety (FOS)		= Decay Coefficient (K)		
Source	Reference	AFC Calculations		Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 52.716		1.3.2.iii	WLA cfc = 378.905
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373		5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc = 19.643		5.1d	LTA_cfc = 220.277
Source	Effluent Limit Calculations				
PENTOXSD TRG	5.1f	AML MULT = 1.231			
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.500		BAT/BPJ	
		INST MAX LIMIT (mg/l) = 1.635			
WLA afc	$(.019/e(-k*AFC\_tc)) + [(AFC\_Yc*Qs*.019/Qd*e(-k*AFC\_tc))... \\ ...+ Xd + (AFC\_Yc*Qs*Xs/Qd)]*(1-FOS/100)$				
LTAMULT afc	$EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)$				
LTA_afc	wla_afc*LTAMULT_afc				
WLA_cfc	$(.011/e(-k*CFC\_tc)) + [(CFC\_Yc*Qs*.011/Qd*e(-k*CFC\_tc))... \\ ...+ Xd + (CFC\_Yc*Qs*Xs/Qd)]*(1-FOS/100)$				
LTAMULT_cfc	$EXP((0.5*LN(cvd^2/no\_samples+1))-2.326*LN(cvd^2/no\_samples+1)^0.5)$				
LTA_cfc	wla_cfc*LTAMULT_cfc				
AML MULT	$EXP(2.326*LN((cvd^2/no\_samples+1)^0.5)-0.5*LN(cvd^2/no\_samples+1))$				
AVG MON LIMIT	MIN(BAT_BPJ, MIN(LTA_afc, LTA_cfc)*AML_MULT)				
INST MAX LIMIT	1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)				

$$(0.011/EXP(-K*CFC\_tc/1440))+(((CFC\_Yc*Qs*0.011)/(1.547*Qd)).... \\ ....*EXP(-K*CFC\_tc/1440)))+Xd+(CFC\_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)$$