

Application Type Renewal
Facility Type Industrial
Major / Minor Minor

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

Application No. PA0051292
APS ID 1069182
Authorization ID 1406159

Applicant and Facility Information

Applicant Name	<u>Municipal Authority of the Borough of Morrisville</u>	Facility Name	<u>Morrisville Water Treatment Plant</u>
Applicant Address	<u>35 Union Street</u> <u>Morrisville, PA 19067</u>	Facility Address	<u>405 River Road</u> <u>Yardley, PA 19067</u>
Applicant Contact	<u>John Warenda</u>	Facility Contact	<u>Chris Harris</u>
Applicant Phone	<u>(215) 295-8181</u>	Facility Phone	<u>(215) 295-8181</u>
Client ID	<u>64800</u>	Site ID	<u>457125</u>
SIC Code	<u>4952</u>	Municipality	<u>Lower Makefield Township</u>
SIC Description	<u>Trans. & Utilities - Sewerage Systems</u>	County	<u>Bucks</u>
Date Application Received	<u>August 3, 2022</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>August 12, 2022</u>	If No, Reason	<u></u>
Purpose of Application	<u>Permit Renewal.</u>		

Summary of Review

The applicant requests renewal of an NPDES permit to discharge 0.15 MGD of filter backwash water and settling lagoon supernatant from the water filtration plant into Delaware River.

The Municipal Authority of the Borough of Morrisville operates 6.0 MGD Water Filtration Plant (WFP) located at the intersection of Ferry and River Roads in Lower Makefield Township, Bucks County. Water intake and discharge are both to/from the Delaware River. As a result of water treatment process, WFP generates two (2) types of residual streams. The first residual stream is the dual media filter backwash. The second residual stream is the sedimentation basins blowdown. The dual media backwash is discharged to Lagoons 3, 4, and 5 on a daily basis while the sedimentation basin solids are discharged to Lagoon 1 and 2, approximately 6-8 times/year. The settled solids in the holding lagoons are removed on a regular basis and are disposed at a DEP approved site. The lagoon supernatant is discharged to the Delaware River. The discharge flow ranges from 40,000 to 150,000 gallons per day (gpd).

The Water Treatment Plant uses Lime, Polyaluminum Chloride, and Polymer for coagulation and sedimentation. Liquid chlorine is used for pre-chlorination and finished water disinfection. The Authority uses Potassium Permanganate as an oxidizer at their low duty Pump Station. Liquid chlorine is used for pre-chlorination and finished water disinfection and finished water disinfection. Powdered activated carbon is used for color, taste and odor, and trihalomethanes removal. The water filtration plant also utilizes corrosion inhibitor for corrosion control in the water distribution system.

The effluent limits are based on BAT for wastewater discharges from Water Treatment Plants. The effluent limits for all the parameters will remain the same in this permit renewal. The discharge is in compliance with existing permit limits and is expected to be in compliance in the future.

Approve	Deny	Signatures	Date
X		<i>Ketan Thaker</i> Ketan Thaker / Project Manager	10/6/2022
X		<i>Pravin Patel</i> Pravin C. Patel, P.E. / Environmental Engineer Manager	10/7/2022

Summary of Review

The existing discharge is in 2E Watershed (Delaware River Zone 1E). This part of the Delaware River has been designated as "Special Protection Waters" (SPW) by Delaware River Basin Commission. Therefore, any expansion in flow will result in more stringent limits to reflect SPW designation.

Following are the effluent limits.

PARAMETER	AVERAGE MONTHLY LIMITS (mg/l)	BASIS
Total Suspended Solids	30	BAT
Total Iron	2.0	BAT
Total Aluminum	4.0	BAT
Total Manganese	1.0	BAT
pH (standard units SU)	6.0 to 9.0 SU	BAT
Total residual Chlorine	0.5	BAT
CBOD5	25	BAT

Act-14 Notification to Lower Makefield Township on July 7, 2022.

Act-14 Notification to Bucks County Planning Commission on July 7, 2022.

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.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.15</u>
Latitude	<u>40° 13' 23.20"</u>	Longitude	<u>-74° 47' 2.37"</u>
Quad Name	_____	Quad Code	_____
Wastewater Description: <u>Water Treatment Effluent</u>			

Receiving Waters	<u>Delaware River (WWF, MF)</u>	Stream Code	<u>00002</u>
NHD Com ID	<u>26064984</u>	RMI	<u>134.6</u>
Drainage Area	_____	Yield (cfs/mi ²)	_____
Q ₇₋₁₀ Flow (cfs)	_____	Q ₇₋₁₀ Basis	_____
Elevation (ft)	_____	Slope (ft/ft)	_____
Watershed No.	<u>2-E</u>	Chapter 93 Class.	<u>WWF, MF</u>
Existing Use	_____	Existing Use Qualifier	_____
Exceptions to Use	_____	Exceptions to Criteria	_____
Assessment Status	<u>Impaired</u>		
Cause(s) of Impairment	<u>MERCURY, POLYCHLORINATED BIPHENYLS (PCBS)</u>		
Source(s) of Impairment	<u>SOURCE UNKNOWN</u>		
TMDL Status	<u>Final</u>	Name	<u>Delaware River Estuary PCB TMDLs</u>

Background/Ambient Data	Data Source
pH (SU)	_____
Temperature (°F)	_____
Hardness (mg/L)	_____
Other:	_____

Nearest Downstream Public Water Supply Intake	
PWS Waters	_____
PWS RMI	_____
Flow at Intake (cfs)	_____
Distance from Outfall (mi)	_____

Compliance History

DMR Data for Outfall 001 (from September 1, 2021 to August 31, 2022)

Parameter	AUG-22	JUL-22	JUN-22	MAY-22	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21
Flow (MGD) Average Monthly	0.056	0.053	0.045	0.048	0.05	0.049	0.062	0.058	0.062	0.052	0.051	0.04
Flow (MGD) Daily Maximum	0.136	0.131	0.122	0.126	0.125	0.159	0.168	0.125	0.252	0.086	0.093	0.086
pH (S.U.) Instantaneous Minimum	8.2	8.5	7.6	7.5	7.3	7.1	7.3	7.3	7.4	7.4	7.3	7.5
pH (S.U.) Instantaneous Maximum	8.9	8.7	8.2	7.6	7.4	7.5	7.3	7.5	7.4	7.4	7.4	7.5
TRC (mg/L) Average Monthly	0.04	0.04	0.07	0.03	0.1	0.01	0.15	0.02	0.02	0.01	0.03	0.05
TRC (mg/L) Instantaneous Maximum	0.04	0.04	0.11	0.03	0.17	0.01	0.18	0.02	0.02	0.01	0.03	0.06
CBOD5 (lbs/day) Average Monthly	< 1.15	< 1.2	< 1.78	2.06	< 1.03	< 1.11	< 2.35	< 1.42	< 0.73	< 0.7	< 0.67	< 0.77
CBOD5 (lbs/day) Daily Maximum	< 1.5	1.71	< 2.67	2.52	1.35	1.56	2.8	< 1.42	< 0.73	< 0.7	< 0.67	< 0.77
CBOD5 (mg/L) Average Monthly	< 2.15	< 2.3	< 2.62	3.53	< 2.05	< 3.4	< 2.33	< 2	< 2	< 2	< 2	< 2
CBOD5 (mg/L) Daily Maximum	2.3	2.6	< 3.85	4.65	2.1	4.8	2.65	< 2	< 2	< 2	< 2	< 2
TSS (lbs/day) Average Monthly	1.5	1.38	3.01	5.18	2.53	1.83	2.58	0.99	0.69	0.91	0.67	0.92
TSS (lbs/day) Daily Maximum	1.8	2.04	4.91	8.83	3.31	2.03	3.5	1.06	0.84	0.91	0.67	0.92
TSS (mg/L) Average Monthly	2.9	2.6	4.47	6.45	5	5.55	2.4	1.4	1.9	2.6	2	2.4
TSS (mg/L) Daily Maximum	3.4	3.1	7.1	8.4	5.1	6.1	2.5	1.5	2.3	2.6	2	2.4
Total Aluminum (lbs/day) Average Monthly	0.02	0.02	0.03	0.08	0.03	0.04	< 0.02	< 0.01	0.01	0.018	0.017	0.023
Total Aluminum (lbs/day) Daily Maximum	0.03	0.03	0.06	0.12	0.05	0.04	< 0.03	< 0.01	0.01	0.018	0.017	0.023

**NPDES Permit Fact Sheet
Morrisville Water Treatment Plant**

NPDES Permit No. PA0051292

Total Aluminum (mg/L) Average Monthly	0.04	0.04	0.05	0.12	0.06	0.12	< 0.02	< 0.02	0.02	0.05	0.061	0.06
Total Aluminum (mg/L) Daily Maximum	0.04	0.05	0.08	0.13	0.07	0.12	< 0.02	< 0.02	0.02	0.05	0.061	0.06
Total Iron (lbs/day) Average Monthly	0.19	0.14	0.18	0.45	0.32	0.18	0.78	0.4	0.17	0.12	0.08	0.14
Total Iron (lbs/day) Daily Maximum	0.3	0.22	0.3	0.67	0.49	0.22	1.18	0.46	0.17	0.12	0.08	0.14
Total Iron (mg/L) Average Monthly	0.32	0.25	0.27	0.67	0.59	0.56	0.69	0.57	0.47	0.35	0.25	0.37
Total Iron (mg/L) Daily Maximum	0.4	0.33	0.43	0.69	0.73	0.66	0.84	0.65	0.48	0.35	0.25	0.37
Total Manganese (lbs/day) Average Monthly	0.029	0.026	0.056	0.155	0.14	0.085	0.132	0.164	0.037	0.034	0.02	0.028
Total Manganese (lbs/day) Daily Maximum	0.039	0.039	0.104	0.215	0.178	0.093	0.164	0.17	0.041	0.034	0.02	0.028
Total Manganese (mg/L) Average Monthly	0.053	0.049	0.085	0.24	0.282	0.257	0.128	0.232	0.103	0.096	0.061	0.074
Total Manganese (mg/L) Daily Maximum	0.053	0.059	0.15	0.275	0.3	0.28	0.139	0.24	0.113	0.096	0.061	0.074

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) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/month	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/month	Grab
CBOD5	31	50	XXX	25	40	50	1/month	24-Hr Composite
TSS	38	56	XXX	30	45	60	1/month	24-Hr Composite
Total Aluminum	5.0	8.0	XXX	4.0	6.0	8	1/month	24-Hr Composite
Total Iron	3.0	4.0	XXX	2.0	3.0	4	1/month	24-Hr Composite
Total Manganese	1.3	2.0	XXX	1.0	1.5	2	1/month	24-Hr Composite