

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No. PA0028274
APS ID 1079772
Authorization ID 1424919

Applicant and Facility Information

| | |
|--|---|
| Applicant Name <u>New Wilmington Borough</u> | Facility Name <u>New Wilmington Borough STP</u> |
| Applicant Address <u>134 High Street</u> | Facility Address <u>155 Maple Street Extension</u> |
| <u>New Wilmington, PA 16142-1104</u> | <u>New Wilmington, PA 16142-1104</u> |
| Applicant Contact <u>Brad Latimer, Borough Superintendent</u> <u>(bradlatimer16142@gmail.com)</u> | Facility Contact <u>Brad Latimer, Borough Superintendent</u> <u>(bradlatimer16142@gmail.com)</u> |
| Applicant Phone <u>(724) 946-8167</u> | Facility Phone <u>(724) 946-8167</u> |
| Client ID <u>78266</u> | Site ID <u>466613</u> |
| Ch 94 Load Status <u>Not Overloaded</u> | Municipality <u>New Wilmington Borough</u> |
| Connection Status <u>No Limitations</u> | County <u>Lawrence</u> |
| Date Application Received <u>January 27, 2023</u> | EPA Waived? <u>Yes</u> |
| Date Application Accepted <u>January 30, 2023</u> | If No, Reason <u>-</u> |

Purpose of Application Renewal of a Major NPDES Permit for an existing discharge of treated sanitary wastewater from a municipal sewer system.

Summary of Review

Act 14 - Proof of Notification was submitted and received.
A Part II Water Quality Management permit is not required at this time.
The applicant should be able to meet the limits of this permit, which will protect the uses of the receiving stream.

I. OTHER REQUIREMENTS:

- A. Stormwater into Sewers
- B. Right of Way
- C. Solids Handling
- D. Little or no Assimilative Capacity
- E. Other Permits

SPECIAL CONDITIONS:

- II. Solids Management

There are no open violations in effects associated with the subject Client ID (78266) as of 11/9/2023. *11/13/2023 CWY*

| Approve | Deny | Signatures | Date |
|---------|------|--|------------|
| X | | Stephen A. McCauley | 11/9/2023 |
| | | Stephen A. McCauley, E.I.T. / Environmental Engineering Specialist | |
| X | | Chad W. Yurisc | 11/13/2023 |
| | | Chad W. Yurisc, P.E. / Environmental Engineer Manager | |

Discharge, Receiving Waters and Water Supply Information

| | | | |
|--|---|------------------------------|------------------------|
| Outfall No. | <u>001</u> | Design Flow (MGD) | <u>0.780</u> |
| Latitude | <u>41° 7' 5.00"</u> | Longitude | <u>-80° 19' 22.00"</u> |
| Quad Name | <u>-</u> | Quad Code | <u>-</u> |
| Wastewater Description: <u>Sewage Effluent</u> | | | |
| | | | |
| Receiving Waters | <u>Little Neshannock Creek</u> | Stream Code | <u>35535</u> |
| NHD Com ID | <u>130032125</u> | RMI | <u>3.0</u> |
| Drainage Area | <u>45.72</u> | Yield (cfs/mi ²) | <u>0.044</u> |
| Q ₇₋₁₀ Flow (cfs) | <u>2.01</u> | Q ₇₋₁₀ Basis | <u>calculated</u> |
| Elevation (ft) | <u>952</u> | Slope (ft/ft) | <u>0.007365</u> |
| Watershed No. | <u>20-A</u> | Chapter 93 Class. | <u>TSF</u> |
| Existing Use | <u>-</u> | Existing Use Qualifier | <u>-</u> |
| Exceptions to Use | <u>-</u> | Exceptions to Criteria | <u>-</u> |
| Assessment Status | <u>Impaired*</u> | | |
| Cause(s) of Impairment | <u>Pathogens</u> | | |
| Source(s) of Impairment | <u>Source Unknown</u> | | |
| TMDL Status | <u>-</u> | Name | <u>-</u> |
| | | | |
| Background/Ambient Data | Data Source | | |
| pH (SU) | <u>-</u> | <u>-</u> | |
| Temperature (°F) | <u>-</u> | <u>-</u> | |
| Hardness (mg/L) | <u>-</u> | <u>-</u> | |
| Other: | <u>-</u> | <u>-</u> | |
| | | | |
| Nearest Downstream Public Water Supply Intake | <u>Beaver Falls Municipal Authority</u> | | |
| PWS Waters | <u>Beaver River</u> | Flow at Intake (cfs) | <u>561</u> |
| PWS RMI | <u>3.5</u> | Distance from Outfall (mi) | <u>25.0</u> |

* - The receiving stream is impaired from Pathogens. Fecal Coliforms are already monitored and E. Coli monitoring is being added with this renewal.

Sludge use and disposal description and location(s): Sludge is hauled to the Seneca Landfill for disposal.

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.

Narrative: This Fact Sheet details the determination of draft NPDES permit limits for an existing discharge of 0.78 MGD of treated sewage from a municipal STP in New Wilmington Borough, Lawrence County.

Treatment permitted under Water Quality Management (WQM) Permit No. 3775401 A-3 consists of the following: Coarse and fine screening, grit removal, a plant lift station with three 1050-gpm pumps, dual circular 500,000 gallon Sequential Batch Reactors (SBRs) in parallel, ultraviolet (UV) light disinfection, a 265,000 gallon aerobic digester for waste sludge stabilization, and a rotary fan press for sludge dewatering.

1. Streamflow:

Harthegig Run near Greenfield, PA - USGS Gage No. 03104760:

| | | | |
|---------------------|--------------|---------|--------------------|
| Q ₇₋₁₀ : | <u>0.1</u> | cfs | (USGS StreamStats) |
| Drainage Area: | <u>2.26</u> | sq. mi. | (USGS StreamStats) |
| Yieldrate: | <u>0.044</u> | cfs/mi | (Calculated) |

Little Neshannock Creek at Outfall 001:

| | | | |
|------------------------|--------------|---------|-----------------------------|
| Yieldrate: | <u>0.044</u> | cfs/mi | (Calculated above) |
| Drainage Area: | <u>45.72</u> | sq. mi. | (USGS StreamStats) |
| % of stream allocated: | <u>100%</u> | Basis: | <u>No nearby discharges</u> |
| Q ₇₋₁₀ : | <u>2.01</u> | cfs | (Calculated) |

2. Wasteflow:

Maximum discharge: 0.78 MGD = 1.20 cfs

Runoff flow period: 24 hours Basis: Runoff flow for municipal STPs

There is less than 3 parts stream flow (Q₇₋₁₀) to 1 part effluent (design flow). In accordance with the SOP, since this is an existing discharge, the treatment requirements in document number 391-2000-014, titled, "Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers", dated April 12, 2008, were evaluated for this facility. Based on eDMR data, the treatment requirements are not attainable with the treatment technology in place so the requirements will not be implemented in this NPDES Permit renewal.

Flow will be required to be monitored as authorized under Chapter 92a.61, and as recommended in the SOP.

3. Parameters:

The following parameters were evaluated: pH, Total Suspended Solids, Fecal Coliform, E. Coli, Total Phosphorus, Total Nitrogen, NH₃-N, CBOD₅, Dissolved Oxygen, and Disinfection.

a. pH

Between 6.0 and 9.0 at all times

Basis: Application of Chapter 93.7 technology-based limits.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

b. Total Suspended Solids

Limits are 30.0 mg/l as a monthly average and 60.0 as an instantaneous maximum.

Basis: Application of Chapter 92a47 technology-based limits.

c. Fecal Coliform

05/01 - 09/30: 200/100ml (monthly average geometric mean)
1,000/100ml (instantaneous maximum)

10/01 - 04/30: 2,000/100ml (monthly average geometric mean)
10,000/100ml (instantaneous maximum)

Basis: Application of Chapter 92a47 technology-based limits

d. E. Coli

Monitoring was added for E. Coli at a frequency of 1/quarter.

Basis: Application of Chapter 92a.61 as recommended by the SOP for flows greater than 0.05 MGD and less than 1.0 MGD.

e. Total Phosphorus

Chapter 96.5 does not apply. Therefore, the previous monitoring for Total Phosphorus will be retained in accordance with the SOP, based on Chapter 92a.61.

f. Total Nitrogen

The previous monitoring for Total Nitrogen will be retained in accordance with the SOP, based on Chapter 92a.61.

g. Ammonia-Nitrogen (NH₃-N)

Median discharge pH to be used: 6.8 Standard Units (S.U.)

Basis: eDMR data from previous 12 months

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25°C (default value used for TSF modeling)

Background NH₃-N concentration: 0.0 mg/l

Basis: Default value

Calculated NH₃-N Summer limits: 4.5 mg/l (monthly average)
9.1 mg/l (instantaneous maximum)

Calculated NH₃-N Winter limits: 13.5 mg/l (monthly average)
27.3 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the summer NH₃-N limits above (see Attachment 1). The winter limits are calculated as three times the summer limits. The calculated limits are less restrictive than in the previous permit. Based on eDMR data, the previous limits are attainable so they will be retained.

h. CBOD₅

Median discharge pH to be used: 6.8 Standard Units (S.U.)

Basis: eDMR data from previous 12 months

Discharge temperature: 25°C (default value used in the absence of data)

Median stream pH to be used: 7.0 Standard Units (S.U.)

Basis: default value used in the absence of data

Stream Temperature: 25°C (default value used for TSF modeling)

Background CBOD₅ concentration: 2.0 mg/l

Basis: Default value

Calculated CBOD₅ limits: 25.0 mg/l (monthly average)

50.0 mg/l (instantaneous maximum)

Result: WQ modeling resulted in the calculated CBOD₅ limits above (see Attachment 1). These limits are the same as in the previous permit and will be retained.

i. Influent Total Suspended Solids and BOD₅

Monitoring for these two parameters will be added as recommended in the SOP for POTWs, as authorized under Chapter 92a.61.

j. Dissolved Oxygen (DO)

The technology-based minimum of 4.0 mg/l is recommended by the WQ Model (see Attachment 1) and the SOP based on Chapter 93.7, under the authority of Chapter 92a.61.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

k. Disinfection

☒ Ultraviolet (UV) light monitoring

☐ Total Residual Chlorine (TRC) limits: _____ mg/l (monthly average)
_____ mg/l (instantaneous maximum)

Basis: Monitoring for UV Intensity (µw/cm²) will be retained with this renewal.

The measurement frequency was previously set to 1/day as recommended in the SOP, based on Table 6-3 in the "Technical Guidance for the Development and Specification of Effluent Limitations" (362-0400-001), and will be retained.

4. Reasonable Potential Analysis for Receiving Stream:

A Reasonable Potential Analysis was performed in accordance with State practices for Outfall 001 using the Department's Toxics Management Spreadsheet (see Attachment 2).

Result: The discharge concentrations for the following parameters were found to be greater than 10% of the calculated WQBELs:

| Parameter | Discharge Conc. (mg/l) | WQBEL (mg/l) | %WQBEL |
|--------------|------------------------|--------------|--------|
| Total Copper | 0.015 | 0.024 | >50% |
| Total Zinc | 0.068 | 0.2 | >10% |

Per the SOP, a Pre-Draft Survey Letter can be sent to provide the Permittee a chance to sample for the parameters above at the target QLs to determine if they are indeed present. However, since Total Zinc would be monitoring only, and the Total Copper WQBEL was the same as in the previous permit, a Pre-Draft Survey Letter was not sent.

Per the SOP, since the maximum discharge concentration for Total Copper was greater than 50% of the calculated WQBEL, the calculated WQBEL will be added. Since the calculated WQBEL is the same as in the previous permit, it will be retained.

Also, per the SOP, since the maximum discharge concentration for Total Zinc was greater than 10% of the calculated WQBELs, 1/quarter monitoring will be set with the NPDES Permit renewal.

5. Reasonable Potential for Downstream Public Water Supply (PWS):

The Department's Toxics Management Spreadsheet does not calculate limits for parameters that are based on PWS criteria (TDS, Chloride, Bromide, and Sulfate).

Nearest Downstream potable water supply (PWS): Beaver Falls Municipal Authority

Distance downstream from the point of discharge: 25.0 miles (approximate)

| Parameter | PWS Criteria (mg/l) | Discharge Maximum (mg/l) |
|-----------|---------------------|--------------------------|
| TDS | 500 | 372 |
| Chloride | 250 | 96.6 |
| Bromide | 1.0 | <0.1 |
| Sulfate | 250 | 47.7 |

Result: Since none of the parameters are discharged at a concentration greater than the criteria at the PWS, no limits or monitoring are necessary as significant dilution is available.

6. Industrial/Commercial Users:

| User Name | Type of Business | Total Wastewater Flow |
|--|------------------|-----------------------|
| Westminster College Hoyt Science Center Building | School | Unknown |

7. Flow Information:

The New Wilmington Borough STP receives 89.23% of its flow from the New Wilmington Borough, 7.69% from the Wilmington Township in Lawrence County, and 3.08% from the Wilmington Township in Mercer County.

All three contributing municipalities are 100% separate sewer systems.

8. Anti-Backsliding:

Since all the permit limits in this renewal are the same or more restrictive than the previous NPDES Permit, anti-backsliding is not applicable.

9. Attachment List:

Attachment 1 - WQ Modeling Printouts

Attachment 2 - Toxics Management Spreadsheet

(The Attachments above can be found at the end of this document)

Compliance History

DMR Data for Outfall 001 (from October 1, 2022 to September 30, 2023)

| Parameter | SEP-23 | AUG-23 | JUL-23 | JUN-23 | MAY-23 | APR-23 | MAR-23 | FEB-23 | JAN-23 | DEC-22 | NOV-22 | OCT-22 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Flow (MGD) Average Monthly | 0.204 | 0.229 | 0.191 | 0.179 | 0.222 | 0.294 | 0.424 | 0.260 | 0.406 | 0.239 | 0.278 | 0.204 |
| Flow (MGD) Weekly Average | 0.206 | 0.273 | 0.211 | 0.228 | 0.347 | 0.371 | 0.535 | 0.310 | 0.450 | 0.246 | 0.374 | 0.224 |
| pH (S.U.) Instantaneous Minimum | 6.7 | 6.6 | 6.6 | 6.7 | 6.5 | 6.4 | 6.6 | 6.7 | 6.7 | 6.8 | 6.7 | 6.7 |
| pH (S.U.) Instantaneous Maximum | 7.1 | 7.2 | 7.1 | 7.1 | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 | 7.0 | 7.0 | 6.9 |
| DO (mg/L) Instantaneous Minimum | 4.27 | 5.53 | 5.63 | 6.13 | 7.8 | 7.89 | 9.97 | 9.42 | 9.55 | 9.18 | 5.87 | 6.69 |
| CBOD5 (lbs/day) Average Monthly | < 5 | < 5 | < 6 | 7 | < 6 | < 8 | < 8 | < 7 | < 11 | < 5 | < 8 | < 6 |
| CBOD5 (lbs/day) Weekly Average | < 7 | < 5 | 8 | 11 | < 11 | < 11 | < 10 | < 8 | 19 | < 7 | < 14 | < 8 |
| CBOD5 (mg/L) Average Monthly | < 3.0 | < 3.0 | < 5.0 | 4.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 | < 3.0 |
| CBOD5 (mg/L) Weekly Average | < 3.0 | 3.0 | 7.0 | 4.0 | 4.0 | 4.0 | < 3.0 | < 3.0 | 4.0 | < 3.0 | < 3.0 | < 3.0 |
| CBOD5 (mg/L) Instantaneous Maximum | < 3.0 | 3.1 | 6.8 | 3.9 | 3.5 | 4.3 | < 3.0 | < 3.0 | 3.6 | < 3.0 | < 3.0 | < 3.0 |
| BOD5 (lbs/day) Raw Sewage Influent Average Monthly | 534 | 473 | 584 | 794 | 509 | 743 | 414 | 574 | 670 | 413 | 572 | 553 |
| BOD5 (mg/L) Raw Sewage Influent Average Monthly | 278 | 272 | 371 | 367 | 258 | 313 | 158 | 238 | 203 | 237 | 224 | 270 |
| TSS (lbs/day) Average Monthly | 13 | < 9 | 11 | 14 | < 7 | < 7 | < 8 | < 7 | < 17 | < 7 | < 13 | < 6 |
| TSS (lbs/day) Raw Sewage Influent Average Monthly | 816 | 739 | 892 | 732 | 669 | 681 | 470 | 641 | 909 | 355 | 939 | 646 |
| TSS (lbs/day) Weekly Average | 15 | 16 | 14 | 23 | 14 | < 11 | < 10 | 10 | 38 | 9 | 28 | 8 |
| TSS (mg/L) Average Monthly | 7 | < 5 | 9 | 7 | < 3 | < 3.0 | < 3.0 | < 3 | < 5 | < 4 | < 5 | < 3.0 |
| TSS (mg/L) Raw Sewage Influent Average Monthly | 424 | 435 | 581 | 343 | 347 | 282 | 184 | 279 | 268 | 204 | 349 | 314 |

NPDES Permit Fact Sheet
New Wilmington Borough STP

NPDES Permit No. PA0028274

| | | | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| TSS (mg/L) Weekly Average | 8 | 9 | 12 | 11 | 4 | 3.0 | 3.0 | 4 | 7 | 5 | 14 | 3.0 |
| Fecal Coliform (No./100 ml) Geometric Mean | < 2 | < 1 | < 1 | < 2 | 3 | 5 | < 2 | 6 | 1 | < 2 | < 2 | < 2 |
| Fecal Coliform (No./100 ml) Instantaneous Maximum | 5 | 5 | 2 | 5 | 7 | 17 | 4 | 18 | 5 | 7 | 5 | 10 |
| UV Intensity ($\mu\text{w}/\text{cm}^2$) Daily Maximum | 3.6 | 3.0 | 3.8 | 3.9 | 3.7 | 4.5 | 4.6 | 4.1 | 4.2 | 4.3 | 4.3 | 4.2 |
| Total Nitrogen (lbs/day) Average Quarterly | 7 | | | 14 | | | 34 | | | 12 | | |
| Total Nitrogen (mg/L) Average Quarterly | 6.03 | | | 6.3 | | | 6.28 | | | 8.18 | | |
| Ammonia (lbs/day) Average Monthly | < 0.3 | < 0.2 | < 0.1 | < 0.4 | < 0.3 | 0.6 | 0.5 | 0.5 | 2.0 | < 0.4 | 1.0 | < 0.4 |
| Ammonia (mg/L) Average Monthly | < 0.16 | < 0.14 | < 0.11 | < 0.18 | < 0.14 | 0.25 | 0.18 | 0.24 | 0.38 | < 0.2 | 0.41 | < 0.17 |
| Total Phosphorus (lbs/day) Average Quarterly | 6 | | | 6 | | | 11 | | | 7 | | |
| Total Phosphorus (mg/L) Average Quarterly | 5.18 | | | 2.74 | | | 2 | | | 4.37 | | |
| Total Copper (lbs/day) Average Monthly | 0.010 | 0.010 | 0.007 | 0.010 | 0.010 | 0.020 | 0.030 | 0.020 | 0.040 | 0.020 | 0.020 | 0.010 |
| Total Copper (mg/L) Average Monthly | 0.0060 | 0.0060 | 0.0050 | 0.0070 | 0.0070 | 0.0070 | 0.0110 | 0.0100 | 0.0100 | 0.0100 | 0.0060 | 0.0070 |

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" (386-0400-001), 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 | Weekly Average | Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Flow (MGD) | Report | Report | XXX | XXX | XXX | XXX | Continuous | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Daily Min | XXX | 9.0 Daily Max | XXX | 1/day | Grab |
| DO | XXX | XXX | 4.0 Daily Min | XXX | XXX | XXX | 1/day | Grab |
| CBOD5 | 162.0 | 260.0 | XXX | 25.0 | 40.0 | 50 | 1/week | 24-Hr Composite |
| BOD5 | | | | | | | | |
| Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/week | 24-Hr Composite |
| TSS | | | | | | | | |
| Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/week | 24-Hr Composite |
| TSS | 195.0 | 292.0 | XXX | 30.0 | 45.0 | 60 | 1/week | 24-Hr Composite |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 1/week | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 1/week | Grab |
| E. Coli (No./100 ml) | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/quarter | Grab |
| UV Intensity (µw/cm²) | XXX | XXX | XXX | Report Daily Max | XXX | XXX | 1/day | Recorded |
| Total Nitrogen | XXX | Report Daily Max | XXX | Report Daily Max | XXX | XXX | 1/quarter | 24-Hr Composite |
| Ammonia Nov 1 - Apr 30 | 68.3 | XXX | XXX | 10.5 | XXX | 21 | 1/week | 24-Hr Composite |
| Ammonia May 1 - Oct 31 | 22.7 | XXX | XXX | 3.5 | XXX | 7 | 1/week | 24-Hr Composite |

Outfall 001 , Continued (from 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 | Weekly Average | Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Total Phosphorus | XXX | Report Daily Max | XXX | Report Daily Max | XXX | XXX | 1/quarter | 24-Hr Composite |
| Total Copper | 0.155 | XXX | XXX | 0.023 | XXX | 0.047 | 1/week | 24-Hr Composite |
| Total Zinc | XXX | Report Daily Max | XXX | Report Daily Max | XXX | XXX | 1/quarter | 24-Hr Composite |

Compliance Sampling Location: at Outfall 001, after Ultraviolet (UV) light disinfection.

Flow is monitor only based on Chapter 92a.61. The limits for pH and Dissolved Oxygen are technology-based on Chapter 93.7. The limits for CBOD₅, Total Suspended Solids, and Fecal Coliforms are technology-based on Chapter 92a.47. Monitoring for influent BOD₅ and influent Total Suspended Solids is based on Chapter 92a.61. The limits for Ammonia-Nitrogen are water quality-based Chapter 93.7. Monitoring for E. Coli, UV Intensity, Total Nitrogen, Total Phosphorus, and Total Zinc is based on Chapter 92a.61. The limits for Total Copper are water quality-based on Chapter 16.

Attachment 1

WQM 7.0 Effluent Limits

| <u>SWP Basin</u> | | <u>Stream Code</u> | <u>Stream Name</u> | | | | |
|------------------|----------------|--------------------|-------------------------|------------------|--------------------------------|----------------------------|----------------------------|
| 20A | | 35535 | LITTLE NESHANNOCK CREEK | | | | |
| RMI | Name | Permit Number | Disc Flow (mgd) | Parameter | Effl. Limit 30-day Ave. (mg/L) | Effl. Limit Maximum (mg/L) | Effl. Limit Minimum (mg/L) |
| 3.000 | New Wilmington | PA0028274 | 0.780 | CBOD5 | 25 | | |
| | | | | NH3-N | 4.58 | 9.16 | |
| | | | | Dissolved Oxygen | | | 4 |

WQM 7.0 D.O.Simulation

| <u>SWP Basin</u> | <u>Stream Code</u> | <u>Stream Name</u> | | |
|---------------------------------|-----------------------------------|----------------------------------|-----------------------------|----------------|
| 20A | 35535 | LITTLE NESHANNOCK CREEK | | |
| <u>RMI</u> | <u>Total Discharge Flow (mgd)</u> | <u>Analysis Temperature (°C)</u> | <u>Analysis pH</u> | |
| 3.000 | 0.780 | 25.000 | 6.914 | |
| <u>Reach Width (ft)</u> | <u>Reach Depth (ft)</u> | <u>Reach WDRatio</u> | <u>Reach Velocity (fps)</u> | |
| 27.723 | 0.645 | 43.000 | 0.180 | |
| <u>Reach CBOD5 (mg/L)</u> | <u>Reach Kc (1/days)</u> | <u>Reach NH3-N (mg/L)</u> | <u>Reach Kn (1/days)</u> | |
| 10.62 | 1.304 | 1.72 | 1.029 | |
| <u>Reach DO (mg/L)</u> | <u>Reach Kr (1/days)</u> | <u>Kr Equation</u> | <u>Reach DO Goal (mg/L)</u> | |
| 6.213 | 14.188 | Tsivoglou | 5 | |
| <u>Reach Travel Time (days)</u> | Subreach Results | | | |
| 0.122 | TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
| | 0.012 | 10.41 | 1.70 | 6.18 |
| | 0.024 | 10.21 | 1.68 | 6.15 |
| | 0.037 | 10.00 | 1.65 | 6.14 |
| | 0.049 | 9.80 | 1.63 | 6.14 |
| | 0.061 | 9.61 | 1.61 | 6.14 |
| | 0.073 | 9.42 | 1.59 | 6.15 |
| | 0.086 | 9.23 | 1.57 | 6.16 |
| | 0.098 | 9.05 | 1.55 | 6.18 |
| | 0.110 | 8.87 | 1.53 | 6.20 |
| | 0.122 | 8.69 | 1.51 | 6.22 |

WQM 7.0 Modeling Specifications

| | | | |
|--------------------|--------|-------------------------------------|-------------------------------------|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | <input checked="" type="checkbox"/> |
| WLA Method | EMPR | Use Inputted W/D Ratio | <input type="checkbox"/> |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | <input type="checkbox"/> |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | <input checked="" type="checkbox"/> |
| D.O. Saturation | 90.00% | Use Balanced Technology | <input checked="" type="checkbox"/> |
| D.O. Goal | 5 | | |

Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|--------------|----------------|-------------------------|-------|-------------------|-----------------------------|------------------|----------------------------|-------------------------------------|
| 20A | 35535 | LITTLE NESHANNOCK CREEK | 3.000 | 952.00 | 45.72 | 0.00000 | 0.00 | <input checked="" type="checkbox"/> |

Stream Data

| Design Cond. | LFY | Trib Flow | Stream Flow | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary | | Stream | |
|-----------------|--------|--------------|----------------|-------------------------------|--------------------------|-------------|----------------------|----------------------|--------------|------|--------------|------|
| | (cfsm) | (cfs) | (cfs) | | | | | | Temp (°C) | pH | Temp (°C) | pH |
| Q7-10 | 0.044 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 25.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|----------------|---------------|-----------------------------------|------------------------------------|---------------------------------|-------------------|----------------------|------------|
| New Wilmington | PA0028274 | 0.7800 | 0.0000 | 0.0000 | 0.000 | 25.00 | 6.80 |

Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|------------------|------------------------|------------------------|--------------------------|--------------------------|
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 4.00 | 7.54 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

Input Data WQM 7.0

| SWP Basin | Stream Code | Stream Name | RMI | Elevation (ft) | Drainage Area (sq mi) | Slope (ft/ft) | PWS Withdrawal (mgd) | Apply FC |
|--------------|----------------|-------------------------|-------|-------------------|-----------------------------|------------------|----------------------------|-------------------------------------|
| 20A | 35535 | LITTLE NESHANNOCK CREEK | 2.640 | 938.00 | 46.35 | 0.00000 | 0.00 | <input checked="" type="checkbox"/> |

Stream Data

| Design Cond. | LFY | Trib Flow | Stream Flow | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary | | Stream | |
|-----------------|--------|--------------|----------------|-------------------------------|--------------------------|-------------|----------------------|----------------------|--------------|------|--------------|------|
| | (cfsm) | (cfs) | (cfs) | | | | | | Temp (°C) | pH | Temp (°C) | pH |
| Q7-10 | 0.044 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 25.00 | 7.00 | 0.00 | 0.00 |
| Q1-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |
| Q30-10 | | 0.00 | 0.00 | 0.000 | 0.000 | | | | | | | |

Discharge Data

| Name | Permit Number | Existing Disc Flow (mgd) | Permitted Disc Flow (mgd) | Design Disc Flow (mgd) | Reserve Factor | Disc Temp (°C) | Disc pH |
|------|---------------|-----------------------------------|------------------------------------|---------------------------------|-------------------|----------------------|------------|
| | | 0.0000 | 0.0000 | 0.0000 | 0.000 | 25.00 | 7.00 |

Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|------------------|------------------------|------------------------|--------------------------|--------------------------|
| CBOD5 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 3.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 25.00 | 0.00 | 0.00 | 0.70 |

WQM 7.0 Hydrodynamic Outputs

| <u>SWP Basin</u> | | <u>Stream Code</u> | | <u>Stream Name</u> | | | | | | | | |
|--------------------|-------------|--------------------|-----------------|-------------------------|-------------|-------|-------|-----------|----------|-----------------|---------------|-------------|
| 20A | | 35535 | | LITTLE NESHANNOCK CREEK | | | | | | | | |
| RMI | Stream Flow | PWS With | Net Stream Flow | Disc Analysis Flow | Reach Slope | Depth | Width | W/D Ratio | Velocity | Reach Trav Time | Analysis Temp | Analysis pH |
| | (cfs) | (cfs) | (cfs) | (cfs) | (ft/ft) | (ft) | (ft) | | (fps) | (days) | (°C) | |
| Q7-10 Flow | | | | | | | | | | | | |
| 3.000 | 2.01 | 0.00 | 2.01 | 1.2067 | 0.00737 | .645 | 27.72 | 43 | 0.18 | 0.122 | 25.00 | 6.91 |
| Q1-10 Flow | | | | | | | | | | | | |
| 3.000 | 1.29 | 0.00 | 1.29 | 1.2067 | 0.00737 | NA | NA | NA | 0.16 | 0.141 | 25.00 | 6.89 |
| Q30-10 Flow | | | | | | | | | | | | |
| 3.000 | 2.74 | 0.00 | 2.74 | 1.2067 | 0.00737 | NA | NA | NA | 0.20 | 0.109 | 25.00 | 6.93 |

WQM 7.0 Wasteload Allocations

| <u>SWP Basin</u> | | <u>Stream Code</u> | <u>Stream Name</u> | | | | | | |
|-------------------------------------|----------------|---------------------------------|---------------------------|---------------------------------|---------------------------|-------------------------|----------------------|-------------------|----------------------|
| 20A | | 35535 | LITTLE NESHANNOCK CREEK | | | | | | |
| NH3-N Acute Allocations | | | | | | | | | |
| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction | | |
| 3.000 | New Wilmington | 12.09 | 24.99 | 12.09 | 24.99 | 0 | 0 | | |
| NH3-N Chronic Allocations | | | | | | | | | |
| RMI | Discharge Name | Baseline Criterion (mg/L) | Baseline WLA (mg/L) | Multiple Criterion (mg/L) | Multiple WLA (mg/L) | Critical Reach | Percent Reduction | | |
| 3.000 | New Wilmington | 1.4 | 4.58 | 1.4 | 4.58 | 0 | 0 | | |
| Dissolved Oxygen Allocations | | | | | | | | | |
| RMI | Discharge Name | <u>CBOD5</u> | | <u>NH3-N</u> | | <u>Dissolved Oxygen</u> | | Critical Reach | Percent Reduction |
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 3.00 | New Wilmington | 25 | 25 | 4.58 | 4.58 | 4 | 4 | 0 | 0 |



Attachment 2

Toxics Management Spreadsheet
Version 1.4, May 2023

Discharge Information

Instructions Discharge Stream

Facility: **New Wilmington STP** NPDES Permit No.: **PA0028274** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **POTW sewage**

| Discharge Characteristics | | | | | | | | |
|---------------------------|------------------|----------|----------------------------|-----|-----|-----|--------------------------|----------------|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | Q ₇₋₁₀ | Q _h |
| 0.78 | 100 | 6.8 | | | | | | |

| | | | | 0 if left blank | | 0.5 if left blank | | 0 if left blank | | | 1 if left blank | |
|---------|---------------------------------|------|---|-----------------|----------------|-------------------|--------------|-----------------|---------------|-----|------------------|----------------|
| | | | | Trib Conc | Stream Conc | Daily CV | Hourly CV | Strea m CV | Fate Coeff | FOS | Criteri a Mod | Chem Transl |
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 372 | | | | | | | | |
| | Chloride (PWS) | mg/L | | 96.6 | | | | | | | | |
| | Bromide | mg/L | < | 0.1 | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 47.7 | | | | | | | | |
| | Fluoride (PWS) | mg/L | | | | | | | | | | |
| Group 2 | Total Aluminum | µg/L | | | | | | | | | | |
| | Total Antimony | µg/L | | | | | | | | | | |
| | Total Arsenic | µg/L | | | | | | | | | | |
| | Total Barium | µg/L | | | | | | | | | | |
| | Total Beryllium | µg/L | | | | | | | | | | |
| | Total Boron | µg/L | | | | | | | | | | |
| | Total Cadmium | µg/L | | | | | | | | | | |
| | Total Chromium (III) | µg/L | | | | | | | | | | |
| | Hexavalent Chromium | µg/L | | | | | | | | | | |
| | Total Cobalt | µg/L | | | | | | | | | | |
| | Total Copper | mg/L | | 0.015 | | | | | | | | |
| | Free Cyanide | µg/L | | | | | | | | | | |
| | Total Cyanide | µg/L | | | | | | | | | | |
| | Dissolved Iron | µg/L | | | | | | | | | | |
| | Total Iron | µg/L | | | | | | | | | | |
| | Total Lead | mg/L | < | 0.001 | | | | | | | | |
| | Total Manganese | µg/L | | | | | | | | | | |
| | Total Mercury | µg/L | | | | | | | | | | |
| | Total Nickel | µg/L | | | | | | | | | | |
| | Total Phenols (Phenolics) (PWS) | µg/L | | | | | | | | | | |
| | Total Selenium | µg/L | | | | | | | | | | |
| | Total Silver | µg/L | | | | | | | | | | |
| | Total Thallium | µg/L | | | | | | | | | | |
| | Total Zinc | mg/L | | 0.068 | | | | | | | | |
| | Total Molybdenum | µg/L | | | | | | | | | | |
| | 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 | < | | | | | | | | | | | | | | | | | |
| Group 5 | 2,4,6-Trichlorophenol | µg/L | < | | | | | | | | | | | | | | | | | |
| | 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 | < | | | | | | | | | | | | | | | | |
| Group 7 | 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 | < | | | | | | | | | | | | | | | | |
| | 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 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |



Stream / Surface Water Information

New Wilmington STP, NPDES Permit No. PA0028274, Outfall 001

Instructions Discharge **Stream**

Receiving Surface Water Name: **Little Neshannock Creek**

No. Reaches to Model: **1**

- ☒ Statewide Criteria
☐ Great Lakes Criteria
☐ ORSANCO Criteria

| Location | Stream Code* | RMI* | Elevation (ft)* | DA (mi ²)* | Slope (ft/ft) | PWS Withdrawal (MGD) | Apply Fish Criteria* |
|--------------------|--------------|------|-----------------|------------------------|---------------|----------------------|----------------------|
| Point of Discharge | 035535 | 3 | 952 | 45.72 | | | Yes |
| End of Reach 1 | 035535 | 2.64 | 938 | 46.35 | | | Yes |

Q₇₋₁₀

| Location | RMI | LFY (cfs/mi ²)* | 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 | 3 | 0.044 | | | | | | | | | | 100 | 7 | | |
| End of Reach 1 | 2.64 | 0.004 | | | | | | | | | | 100 | 7 | | |

Q_h

| Location | RMI | LFY (cfs/mi ²)* | 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 | 3 | | | | | | | | | | | | | | |
| End of Reach 1 | 2.64 | | | | | | | | | | | | | | |



Toxics Management Spreadsheet
Version 1.4, May 2023

Model Results

New Wilmington STP, NPDES Permit No. PA0028274, Outfall 001

Instructions

Results

RETURN TO INPUTS

SAVE AS PDF

PRINT

☒ All

☐ Inputs

☐ Results

☐ Limits

☒ Hydrodynamics

Q_{7-10}

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|------|-------------------|----------------------|-----------------------|-------------------------------|---------------|------------|------------|-----------|----------------|--------------------|-------------------------|
| 3 | 2.01 | | 2.01 | 1.207 | 0.007 | 0.645 | 27.723 | 43. | 0.18 | 0.122 | 9.264 |
| 2.64 | 2.01 | | 2.0142 | | | | | | | | |

Q_h

| RMI | Stream Flow (cfs) | PWS Withdrawal (cfs) | Net Stream Flow (cfs) | Discharge Analysis Flow (cfs) | Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Travel Time (days) | Complete Mix Time (min) |
|------|-------------------|----------------------|-----------------------|-------------------------------|---------------|------------|------------|-----------|----------------|--------------------|-------------------------|
| 3 | 13.69 | | 13.69 | 1.207 | 0.007 | 1.265 | 27.723 | 21.913 | 0.425 | 0.052 | 7.285 |
| 2.64 | 13.702 | | 13.70 | | | | | | | | |

☒ Wasteload Allocations

☒ AFC

CCT (min): 9.264

PMF: 1

Analysis Hardness (mg/l): 100

Analysis pH: 6.91

| 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 Copper | 0 | 0 | | 0 | 13.439 | 14.0 | 37.3 | Chem Translator of 0.96 applied |
| Total Lead | 0 | 0 | | 0 | 64.581 | 81.6 | 218 | Chem Translator of 0.791 applied |
| Total Zinc | 0 | 0 | | 0 | 117.180 | 120 | 320 | Chem Translator of 0.978 applied |

☒ CFC

CCT (min): 9.264

PMF: 1

Analysis Hardness (mg/l): 100

Analysis pH: 6.91

| 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 Copper | 0 | 0 | | 0 | 8.956 | 9.33 | 24.9 | Chem Translator of 0.96 applied |
| Total Lead | 0 | 0 | | 0 | 2.517 | 3.18 | 8.49 | Chem Translator of 0.791 applied |
| Total Zinc | 0 | 0 | | 0 | 118.139 | 120 | 320 | Chem Translator of 0.986 applied |

☒ **THH** CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

| 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 | N/A | |
| Chloride (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | N/A | |
| Sulfate (PWS) | 0 | 0 | | 0 | 250,000 | 250,000 | N/A | |
| Total Copper | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Lead | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Zinc | 0 | 0 | | 0 | N/A | N/A | N/A | |

☒ **CRL** CCT (min): PMF: Analysis Hardness (mg/l): Analysis pH:

| 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 Copper | 0 | 0 | | 0 | N/A | N/A | N/A | |
| Total Lead | 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:

| Pollutants | Mass Limits | | Concentration Limits | | | | Governing WQBEL | WQBEL Basis | Comments |
|--------------|---------------|---------------|----------------------|--------|--------|-------|-----------------|-------------|------------------------------------|
| | AML (lbs/day) | MDL (lbs/day) | AML | MDL | IMAX | Units | | | |
| Total Copper | 0.16 | 0.24 | 0.024 | 0.037 | 0.06 | mg/L | 0.024 | AFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Zinc | Report | Report | Report | Report | Report | mg/L | 0.2 | AFC | Discharge Conc > 10% WQBEL (no RP) |

☒ **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) | N/A | N/A | PWS Not Applicable |

| | | | |
|----------------|-----|-----|----------------------|
| Chloride (PWS) | N/A | N/A | PWS Not Applicable |
| Bromide | N/A | N/A | No WQS |
| Sulfate (PWS) | N/A | N/A | PWS Not Applicable |
| Total Lead | N/A | N/A | Discharge Conc < TQL |