pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Southwest Regional Office**
**CLEAN WATER PROGRAM**

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0028193** |
| Facility Type | **Municipal** | APS ID | **694932** |
| Major / Minor | **Minor** | Authorization ID | **1221694** |

# NPDES PERMIT FACT SHEET
# INDIVIDUAL SEWAGE

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **McCandless Township Sanitary Authority** | Facility Name | **Longvue #2 STP** |
| Applicant Address | 418 Arcadia Drive | Facility Address | Sunderland Drive |
| | Pittsburgh, PA 15237-5557 | | Pittsburgh, PA 15237 |
| Applicant Contact | Mr. William Youngblood | Facility Contact | Mr. Edward Bricker |
| Applicant Phone | (412) 364-2119 | Facility Phone | (724) 935-8050 |
| Client ID | 75745 | Site ID | 250310 |
| Ch 94 Load Status | | Municipality | Ross Township |
| Connection Status | | County | Allegheny |
| Date Application Received | March 23, 2018 | EPA Waived? | Yes |
| Date Application Accepted | March 26, 2018 | If No, Reason | |

Purpose of Application: Application for renewal of an NPDES permit for the discharge of treated Sewage.

## Summary of Review

The applicant has applied for a renewal of an existing NPDES Permit No. PA0028193, which was previously issued by the Department on September 10, 2013. That permit expired on September 30, 2018. The first draft NPDES Permit was issued on November 11, 2018. This permit is being redrafted for a second time due to changes in Department Policy and Water Quality Criteria.

WQM Permit No. 8046 authorized the construction of the plant to treat an annual average design flow of 0.1 MGD and later amended on January 27, 2020 to replace chlorine UV for disinfection purposes. The existing treatment process consists of primary clarification, a trickling filter, secondary clarification, and UV disinfection. The design organic capacity is 680 lbs/day.

The receiving stream, Unnamed Tributary to Girtys Run, is currently classified as a WWF and is located in State Watershed No. 18-A.

The applicant has complied with Act 14 Notifications and no comments were received.

Sludge use and disposal description and location(s): Sludge from the Longvue #2 STP is hauled to the Digesters at the Pine Creek Treatment Facility (PA0027669 owned and operated by MTSA) where it is dewatered via Centrifuge.

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | William C. Mitchell, E.I.T. / Environmental Engineering Specialist | September 22, 2022 |
| x | | Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineer Manager | September 29, 2022 |

| **Summary of Review** |
| --- |
| Public Participation<br><br>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. | 001 | Design Flow (MGD) | 0.1 |
| Latitude | 40º 33' 1.00" | Longitude | 80º 01' 40.00" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Unnamed Tributary to Girtys Run | Stream Code | UNT to 42124 |
| NHD Com ID | | RMI | 0.42 |
| Drainage Area | 0.0804 | Yield (cfs/mi$^2$) | 0.00453 |
| $Q_{7-10}$ Flow (cfs) | 0.000365 | $Q_{7-10}$ Basis | USGS StreamStats |
| Elevation (ft) | | Slope (ft/ft) | |
| Watershed No. | 18-A | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | **Impaired** | | |
| Cause(s) of Impairment | **Other Habitat Alteration and Organic Enrichment/Low D.O.** | | |
| Source(s) of Impairment | **Bank Modifications, Urban Runoff/Storm Sewers, and Removal of Vegetation** | | |
| TMDL Status | | Name | |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | West View Water Authority | | |
| PWS Waters | Ohio River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 15.0 |

Changes Since Last Permit Issuance: None

Other Comments: From April 16, 2019 through Jun 4, 2019, The Department conducted a cause and effect survey on Girtys Run, in the vicinity of the confluence of Girtys Run and a drainage channel (UNT to Girtys Run) that carries the Longvue #2 STP discharge. The purpose of the survey was to see if copper is exceeding Chapter 93 Water Quality Criteria above or below the discharge, to determine if Longvue #2 STP is having an impact and/or causing or contributing to nonattainment of the protected use, and to reassess Girtys Run.

The Longvue #2 STP discharges to a drainage channel (UNT to Girtys Run) and then enters an enclosure downstream from the discharge, so a cause and effect survey on this stream segment was not feasible. Therefore, for the purpose of the cause and effect study, the discharge of the Longview#2 STP was considered to be at the confluence of the UNT and Girtys Run.

The point of first use is Girtys Run and effluent limitations for this facility will be evaluated at RMI 6.59 on Girtys Run, Stream Code 42124. The elevation is 1051.05 ft, Drainage Area is 0.88 sq mi, LFY is 0.008 cfs/mi$^2$, slope is 0.0130 ft/ft, and stream hardness is 201 mg/L.

**Treatment Facility Summary**

**Treatment Facility Name:** Longvue #2 STP

| WQM Permit No. | Issuance Date |
|---|---|
| 8046 | |
| 8046 A-1 | 01/27/2020 |

| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Sewage | Secondary with Ammonia Reduction | Primary Clarification, a Trickling Filter, and Secondary Clarification | UV | 0.095 (2017) |

| Hydraulic Capacity (MGD) | Organic Capacity (lbs/day) | Load Status | Biosolids Treatment | Biosolids Use/Disposal |
|---|---|---|---|---|
| 0.1 | 680 | | Sludge Digester | Hauled to Pine Creek WWTP |

Changes Since Last Permit Issuance: UV Disinfection was Installed to replace chlorination. Post Construction Certification Form dated March7, 2020.

Other Comments: N/A

## Compliance History

**Operations Compliance Check Summary Report**

**Facility:** Longvue STP #2 (McCandless Twp)

**NPDES Permit No.:** PA0028193

**Compliance Review Period:** 2/2017 – 2/2022

**Inspection Summary:**

| INSP ID | INSPECTED DATE | INSP TYPE | AGENCY | INSPECTION RESULT DESC |
|---|---|---|---|---|
| 3166859 | 02/24/2021 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 2859226 | 03/19/2019 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 2732102 | 05/08/2018 | Compliance Evaluation | County Health Dept | Violation(s) Noted |
| 2726439 | 04/12/2018 | Chapter 94 Inspection | PA Dept of Environmental Protection | Administratively Closed |
| 2592038 | 05/03/2017 | Chapter 94 Inspection | County Health Dept | Administratively Closed |
| 2585200 | 03/29/2017 | Compliance Evaluation | County Health Dept | Violation(s) Noted |

**Violation Summary:**

| VIOL ID | VIOLATION DATE | VIOLATION TYPE | VIOLATION TYPE DESC | RESOLVED DATE |
|---|---|---|---|---|
| 912904 | 02/24/2021 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 10/28/2021 |
| 845056 | 03/19/2019 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 04/22/2019 |
| 817188 | 05/08/2018 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 07/26/2018 |
| 783705 | 03/29/2017 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 10/15/2018 |
| 783706 | 03/29/2017 | 92A.41(A)5 | NPDES - Failure to properly operate and maintain all facilities which are installed or used by the permittee to achieve compliance | 10/15/2018 |

**Open Violations by Client ID:**

No open violations for client 75745

**Enforcement Summary:**

| ENF ID | ENF TYPE | EXECUTED DATE | VIOLATIONS | ENF FINALSTATUS | ENF CLOSED DATE |
|---|---|---|---|---|---|
| 373986 | NOV | 04/02/2019 | 92A.44 | Administrative Close Out | 04/09/2021 |
| 367134 | NOV | 07/26/2018 | 92A.44 | Administrative Close Out | 08/30/2019 |

**DMR Violation Summary:**

| Monitor end date | PARAMETER | STAT_BASE_CODE | PERMIT_VALUE | SAMPLE VALUE | UNIT_OF_MEASURE |
|---|---|---|---|---|---|
| 6/30/2021 | CBOD | Weekly Average | 15 | 17 | mg/L |
| 10/31/2020 | Copper, Total | Average Monthly | 0.06 | 0.065 | mg/L |
| 5/31/2019 | Copper, Total | Average Monthly | 0.06 | 0.064 | mg/L |
| 4/30/2019 | Copper, Total | Average Monthly | 0.06 | 0.094 | mg/L |
| 4/30/2019 | Copper, Total | Daily Maximum | 0.15 | 0.361 | mg/L |
| 10/31/2018 | Fecal Coliform | Instantaneous Maximum | 10000 | 32000 | CFU/100 ml |
| 9/30/2018 | Ammonia-Nitrogen | Weekly Average | 2.5 | 2.7 | lbs/day |
| 5/31/2018 | Copper, Total | Average Monthly | 0.06 | 0.123 | mg/L |
| 5/31/2018 | Copper, Total | Daily Maximum | 0.15 | 0.361 | mg/L |
| 5/31/2018 | Fecal Coliform | Instantaneous Maximum | 1000 | 4600 | CFU/100 ml |
| 4/30/2018 | Fecal Coliform | Instantaneous Maximum | 10000 | 36200 | CFU/100 ml |
| 2/28/2018 | Flow | Average Monthly | 0.1 | 0.176 | MGD |
| 11/30/2017 | Fecal Coliform | Instantaneous Maximum | 10000 | 160000 | CFU/100 ml |
| 7/31/2017 | Fecal Coliform | Instantaneous Maximum | 1000 | 5500 | CFU/100 ml |
| 6/30/2017 | Fecal Coliform | Instantaneous Maximum | 1000 | 200000 | CFU/100 ml |
| 5/31/2017 | Ammonia-Nitrogen | Weekly Average | 2.5 | 2.9 | lbs/day |
| 5/31/2017 | Fecal Coliform | Instantaneous Maximum | 1000 | 25100 | CFU/100 ml |
| 2/28/2017 | Fecal Coliform | Instantaneous Maximum | 10000 | 16700 | CFU/100 ml |

**Compliance Status:** No open violation or enforcements

**Completed by:** John Murphy

**Completed date:** 2/3/2022

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** 0.1
**Latitude** 40º 33' 1.00" **Longitude** -80º 1' 40.00"
**Wastewater Description:** Sewage Effluent

### Technology-Based Limitations

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

| Pollutant | Limit (mg/l) | SBC | Federal Regulation | State Regulation |
|---|---|---|---|---|
| $CBOD_5$ | 25 | Average Monthly | 133.102(a)(4)(i) | 92a.47(a)(1) |
| | 40 | Average Weekly | 133.102(a)(4)(ii) | 92a.47(a)(2) |
| Total Suspended Solids | 30 | Average Monthly | 133.102(b)(1) | 92a.47(a)(1) |
| | 45 | Average Weekly | 133.102(b)(2) | 92a.47(a)(2) |
| pH | 6.0 – 9.0 S.U. | Min – Max | 133.102(c) | 95.2(1) |
| Fecal Coliform (5/1 – 9/30) | 200 / 100 ml | Geo Mean | - | 92a.47(a)(4) |
| Fecal Coliform (5/1 – 9/30) | 1,000 / 100 ml | IMAX | - | 92a.47(a)(4) |
| Fecal Coliform (10/1 – 4/30) | 2,000 / 100 ml | Geo Mean | - | 92a.47(a)(5) |
| Fecal Coliform (10/1 – 4/30) | 10,000 / 100 ml | IMAX | - | 92a.47(a)(5) |
| Total Residual Chlorine | 0.5 | Average Monthly | - | 92a.48(b)(2) |

Comments: The above Technology-Based Limitations are imposed for TSS, pH, and Fecal Coliform.

### Water Quality-Based Limitations

A “Reasonable Potential Analysis” (TMS Version 1.3) was conducted.

The following limitations were determined through water quality modeling for the facility (Attachment # 3, 4, and 5):

| Parameter | Limit (mg/l) | SBC | Model |
|---|---|---|---|
| Dissolved Oxygen | 5.0 | Instantaneous Minimum | WQM 7.0 Version 1.1 |
| CBOD5 | 10 | Average Monthly | WQM 7.0 Version 1.1 |
| Ammonia Nov 1 - Apr 30 | 3.0 | Average Monthly | WQM 7.0 Version 1.1 |
| Ammonia May 1 - Oct 31 | 1.9 | Average Monthly | WQM 7.0 Version 1.1 |
| Total Copper (ug/L) | 10.1 | Average Monthly | TMS Version 1.3 |

Comments: The previous NPDES Permit established a total copper effluent limit based upon the use of a Water Effects Ratio (WER) Study that is over ten years old. The metal translator and WER can no longer be carried forward in this renewal NPDES Permit. The WQBEL for total copper was established using the Department’s TOXCONC Version 2.0 and TMS Model Version 1.3 (Attachment # 2 and 5). The applicant will have two years to comply with the new total copper limit. Please see Part C.III, Water Quality-Based Effluent Limitations for Toxic Pollutants, for further details regarding these WQBELs, Site-Specific Data Collection Studies, and Compliance Report.

The TMS recommended monitoring for total zinc because the discharge concentration is greater than 10% of the WQBEL.

### Best Professional Judgment (BPJ) Limitations

Comments: N/A

**Anti-Backsliding**

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard of water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

The facility is not seeking to revise the previously permitted effluent limits.

**Additional Considerations**

Ultraviolet (UV) disinfection is used, and therefore, Total Residual Chlorine (TRC) limits are not applicable. Routine monitoring of UV Transmittance will be at the same monitoring frequency that is used for TRC.

For pH, Dissolved Oxygen (DO) and UV Transmittance, a monitoring frequency of 1/day has been imposed. In general, less frequent monitoring may be established only when the permittee demonstrates that there will be no discharge on days where monitoring is not required.

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/quarter for facilities with a design flows >=0.05 and < 1.0 MGD per Chapter 92.a.61.

Nutrient monitoring is required to establish the nutrient load from the wastewater treatment facility and the impacts that load may have on the quality of the receiving stream(s). A 1/quarter monitoring requirement for Total N & Total P has been added to the permit per Chapter 92.a.61.

Mass loading limits are applicable for publicly owned treatment works (POTWs). Current policy requires average monthly mass loading limits be established for $CBOD_5$, TSS, and $NH_3$-N and average weekly mass loading limits be established for $CBOD_5$ and TSS. Average monthly mass loading limits (lbs/day) are based on the formula: design flow (MGD) x concentration limit (mg/L) x conversion factor (8.34).

For POTWs with design flows greater than 2,000 GPD, influent $BOD_5$ and TSS monitoring must be established in the permit and the monitoring should be consistent with the same frequency and sample type as is used for other effluent parameters.

Monitoring frequency for the proposed effluent limits are based upon Table 6-3, Self-Monitoring Requirements for Sewage Dischargers, from the Departments Technical Guidance for the Development and Specification of Effluent Limitations and Other Permit Conditions in NPDES Permits (362-0400-001).

## 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 | Weekly Average | Instantaneous Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Flow (MGD) | Report | Report Daily Max | XXX | XXX | XXX | XXX | 1/week | Metered |
| pH (S.U.) | XXX | XXX | 6.0 | XXX | XXX | 9.0 | 1/day | Grab |
| DO | XXX | XXX | 5.0 | XXX | XXX | XXX | 1/day | Grab |
| CBOD5 | 8.0 | 12.0 | XXX | 10.0 | 15.0 | 20 | 1/week | 8-Hr Composite |
| BOD5 Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/week | 8-Hr Composite |
| TSS Raw Sewage Influent | Report | XXX | XXX | Report | XXX | XXX | 1/week | 8-Hr Composite |
| TSS | 20.0 | 31.0 | XXX | 25.0 | 37.5 | 50 | 1/week | 8-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 | XXX | Report | 1/quarter | Grab |
| UV Transmittance (%) | XXX | XXX | Report | XXX | XXX | XXX | 1/day | Measured |
| Total Nitrogen | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/year | 8-Hr Composite |
| Ammonia Nov 1 - Apr 30 | 2.5 | XXX | XXX | 3.0 | XXX | 6 | 1/week | 8-Hr Composite |
| Ammonia May 1 - Oct 31 | 1.5 | XXX | XXX | 1.9 | XXX | 3.9 | 1/week | 8-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 | Instantaneous Minimum | Average Monthly | Weekly Average | Instant. Maximum | | |
| Total Phosphorus | XXX | XXX | XXX | XXX | Report Daily Max | XXX | 1/year | 8-Hr Composite |
| Total Zinc (ug/L) | Report | Report Daily Max | XXX | Report | Report Daily Max | XXX | 1/week | 24-Hr Composite |

Compliance Sampling Location: Outfall # 001

Other Comments: N/A

## 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 24th Month**.

| Parameter | Effluent Limitations | | | | | | Monitoring Requirements | |
|---|---|---|---|---|---|---|---|---|
| | Mass Units (lbs/day) (1) | | Concentrations (mg/L) | | | | Minimum (2) Measurement Frequency | Required Sample Type |
| | Average Monthly | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Total Copper (ug/L) | 0.050 | 0.125 Daily Max | XXX | 60.0 | 150.0 Daily Max | XXX | 1/week | 24-Hr Composite |

Compliance Sampling Location: Outfall # 001

Other Comments: N/A

## 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: 25th Month 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 | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Total Copper (ug/L) | 0.008 | 0.014 Daily Max | XXX | 10.1 | 17.0 Daily Max | 25.3 | 1/week | 24-Hr Composite |

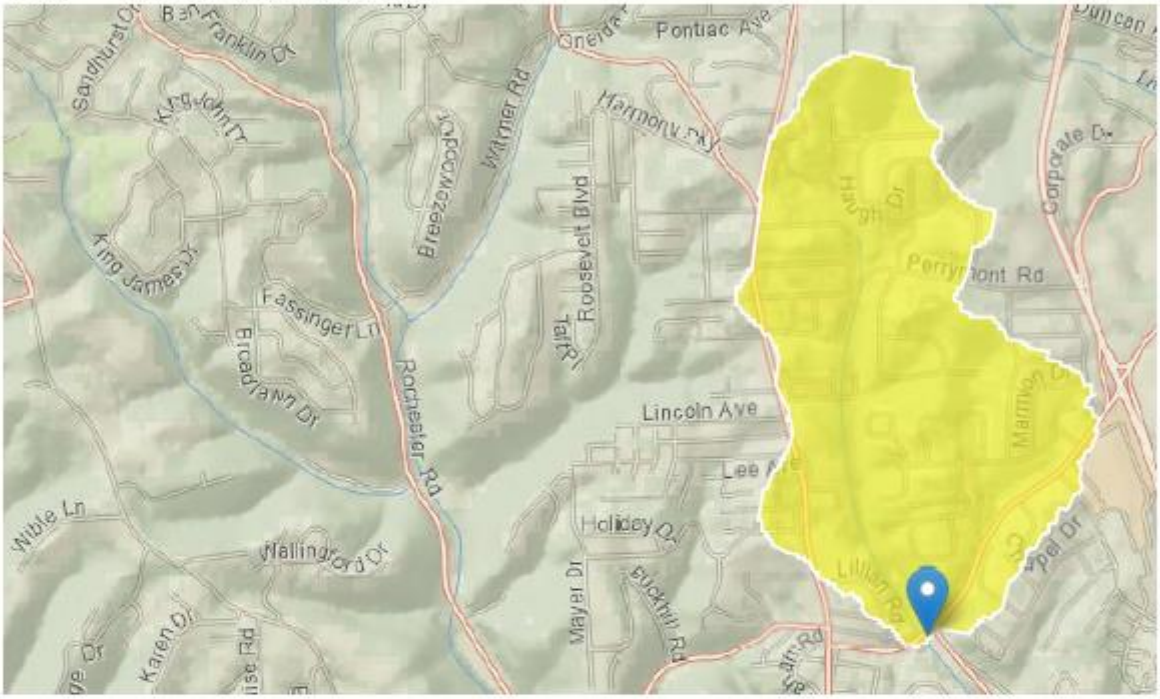
Compliance Sampling Location: Outfall # 001

Other Comments: N/A

# Attachment #1 – USGS StreamStats Report

## StreamStats Report

**Region ID:** PA
**Workspace ID:** PA20220204142629446000
**Clicked Point (Latitude, Longitude):** 40.54493, -80.03104
**Time:** 2022-02-04 09:26:51 -0500




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 0.88 | square miles |
| ELEV | Mean Basin Elevation | 1171 | feet |

Low-Flow Statistics Parameters [Low Flow Region 4]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.88 | square miles | 2.26 | 1400 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| ELEV | Mean Basin Elevation | 1171 | feet | 1050 | 2580 |

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow Region 4]

| Statistic | Value | Unit |
|---|---|---|
| 7 Day 2 Year Low Flow | 0.0238 | ft^3/s |
| 30 Day 2 Year Low Flow | 0.0461 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.00692 | ft^3/s |
| 30 Day 10 Year Low Flow | 0.0149 | ft^3/s |
| 90 Day 10 Year Low Flow | 0.0306 | ft^3/s |

*Low-Flow Statistics Citations*

**Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)**



Application Version: 4.6.2

StreamStats Services Version: 1.2.22

# Attachment #2 – TOXCONC Version 2.0

Reviewer/Permit Engineer: W. Mitchell

**Facility:** Longvue #2
**NPDES #:** PA0028193
**Outfall No:** 001
**n (Samples/Month):** 4

| Parameter | Distribution Applied | Coefficient of Variation (daily) | Avg. Monthly |
|---|---|---|---|
| Total Copper (mg/L) | Lognormal | 0.6500520 | 0.0921210 |

# Attachment #3 – WQM 7.0 Version 1.1 – Warmer Period

## 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 |
|---|---|---|---|---|---|---|---|---|
| 18A | 42124 | GIRTYS RUN | 6.590 | 1051.05 | 0.88 | 0.01300 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q7-10 | 0.008 | 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 |
|---|---|---|---|---|---|---|---|
| Longvue #2 STP | PA0028193 | 0.1000 | 0.0000 | 0.0000 | 0.000 | 20.00 | 7.00 |

### Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|---|---|---|---|---|
| CBOD5 | 10.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 4.00 | 8.24 | 0.00 | 0.00 |
| NH3-N | 2.00 | 0.00 | 0.00 | 0.60 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| 18A | 42124 | GIRTYS RUN | 6.000 | 1011.29 | 1.38 | 0.01300 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q7-10 | 0.008 | 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 | 0.00 | 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

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.01 | 0.00 | 0.01 | .1547 | 0.01300 | .377 | 5.08 | 13.46 | 0.08 | 0.428 | 20.21 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.00 | 0.00 | 0.00 | .1547 | 0.01300 | NA | NA | NA | 0.08 | 0.431 | 20.14 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.01 | 0.00 | 0.01 | .1547 | 0.01300 | NA | NA | NA | 0.09 | 0.424 | 20.29 | 7.00 |

## WQM 7.0 Modeling Specifications

| | | | |
|---|---|---|---|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | ☑ |
| WLA Method | EMPR | Use Inputted W/D Ratio | ☑ |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | ☑ |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | ☐ |
| D.O. Saturation | 90.00% | Use Balanced Technology | ☑ |
| D.O. Goal | 5 | | |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

## 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 |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | 16.57 | 4 | 16.57 | 4 | 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 |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | 1.85 | 1.97 | 1.85 | 1.97 | 0 | 0 |

## Dissolved Oxygen Allocations

| RMI | Discharge Name | CBOD5 | | NH3-N | | Dissolved Oxygen | | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 6.59 | Longvue #2 STP | 10 | 10 | 1.97 | 1.97 | 5 | 5 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 6.590 | 0.100 | 20.214 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 5.079 | 0.377 | 13.456 | 0.084 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 9.66 | 1.481 | 1.88 | 0.610 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 5.139 | 25.092 | Owens | 5 |
| **Reach Travel Time (days)** | | | |
| 0.428 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.043 | 9.06 | 1.83 | 7.08 |
| 0.086 | 8.50 | 1.79 | 7.78 |
| 0.128 | 7.97 | 1.74 | 8.05 |
| 0.171 | 7.48 | 1.69 | 8.18 |
| 0.214 | 7.01 | 1.65 | 8.21 |
| 0.257 | 6.58 | 1.61 | 8.21 |
| 0.299 | 6.17 | 1.57 | 8.21 |
| 0.342 | 5.79 | 1.53 | 8.21 |
| 0.385 | 5.43 | 1.49 | 8.21 |
| 0.428 | 5.09 | 1.45 | 8.21 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| 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) |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | PA0028193 | 0.100 | CBOD5 | 10 | | |
| | | | | NH3-N | 1.97 | 3.94 | |
| | | | | Dissolved Oxygen | | | 5 |

# Attachment #4 – WQM 7.0 Version 1.1 – Colder Period

## 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 |
|---|---|---|---|---|---|---|---|---|
| 18A | 42124 | GIRTYS RUN | 6.590 | 1051.05 | 0.88 | 0.01300 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q7-10 | 0.016 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 5.00 | 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 |
|---|---|---|---|---|---|---|---|
| Longvue #2 STP | PA0028193 | 0.1000 | 0.0000 | 0.0000 | 0.000 | 15.00 | 7.00 |

### Parameter Data

| Parameter Name | Disc Conc (mg/L) | Trib Conc (mg/L) | Stream Conc (mg/L) | Fate Coef (1/days) |
|---|---|---|---|---|
| CBOD5 | 10.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 4.00 | 12.51 | 0.00 | 0.00 |
| NH3-N | 3.00 | 0.00 | 0.00 | 0.60 |

## 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 |
|---|---|---|---|---|---|---|---|---|
| 18A | 42124 | GIRTYS RUN | 6.000 | 1011.29 | 1.38 | 0.01300 | 0.00 | ☑ |

### Stream Data

| Design Cond. | LFY (cfsm) | Trib Flow (cfs) | Stream Flow (cfs) | Rch Trav Time (days) | Rch Velocity (fps) | WD Ratio | Rch Width (ft) | Rch Depth (ft) | Tributary Temp (°C) | Tributary pH | Stream Temp (°C) | Stream pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q7-10 | 0.016 | 0.00 | 0.00 | 0.000 | 0.000 | 0.0 | 0.00 | 0.00 | 5.00 | 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 | 0.00 | 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

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| RMI | Stream Flow (cfs) | PWS With (cfs) | Net Stream Flow (cfs) | Disc Analysis Flow (cfs) | Reach Slope (ft/ft) | Depth (ft) | Width (ft) | W/D Ratio | Velocity (fps) | Reach Trav Time (days) | Analysis Temp (°C) | Analysis pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Q7-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.01 | 0.00 | 0.01 | .1547 | 0.01300 | .38 | 5.14 | 13.52 | 0.09 | 0.418 | 14.18 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.01 | 0.00 | 0.01 | .1547 | 0.01300 | NA | NA | NA | 0.08 | 0.425 | 14.46 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 6.590 | 0.02 | 0.00 | 0.02 | .1547 | 0.01300 | NA | NA | NA | 0.09 | 0.411 | 13.92 | 7.00 |

# WQM 7.0 Modeling Specifications

| | | | |
|---|---|---|---|
| Parameters | Both | Use Inputted Q1-10 and Q30-10 Flows | ☑ |
| WLA Method | EMPR | Use Inputted W/D Ratio | ☑ |
| Q1-10/Q7-10 Ratio | 0.64 | Use Inputted Reach Travel Times | ☑ |
| Q30-10/Q7-10 Ratio | 1.36 | Temperature Adjust Kr | ☐ |
| D.O. Saturation | 90.00% | Use Balanced Technology | ☑ |
| D.O. Goal | 5 | | |

# WQM 7.0 Wasteload Allocations

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

## 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 |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | 24.1 | 6 | 24.1 | 6 | 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 |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | 2.79 | 3 | 2.79 | 3 | 0 | 0 |

## Dissolved Oxygen Allocations

| RMI | Discharge Name | CBOD5 | | NH3-N | | Dissolved Oxygen | | Critical Reach | Percent Reduction |
|---|---|---|---|---|---|---|---|---|---|
| | | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | Baseline (mg/L) | Multiple (mg/L) | | |
| 6.59 | Longvue #2 STP | 10 | 10 | 3 | 3 | 5 | 5 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 6.590 | 0.100 | 14.179 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 5.138 | 0.380 | 13.518 | 0.086 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 9.34 | 1.466 | 2.75 | 0.383 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 5.616 | 25.166 | Owens | 5 |
| **Reach Travel Time (days)** | | | |
| 0.418 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.042 | 8.92 | 2.71 | 8.13 |
| 0.084 | 8.51 | 2.67 | 9.03 |
| 0.125 | 8.12 | 2.62 | 9.25 |
| 0.167 | 7.75 | 2.58 | 9.25 |
| 0.209 | 7.39 | 2.54 | 9.25 |
| 0.251 | 7.05 | 2.50 | 9.25 |
| 0.292 | 6.73 | 2.46 | 9.25 |
| 0.334 | 6.42 | 2.42 | 9.25 |
| 0.376 | 6.13 | 2.38 | 9.25 |
| 0.418 | 5.85 | 2.35 | 9.25 |

## WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 18A | 42124 | GIRTYS RUN |

| 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) |
|---|---|---|---|---|---|---|---|
| 6.590 | Longvue #2 STP | PA0028193 | 0.100 | CBOD5 | 10 | | |
| | | | | NH3-N | 3 | 6 | |
| | | | | Dissolved Oxygen | | | 5 |

# Attachment #5 – TMS Version 1.3

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

## Discharge Information

Instructions | Discharge | Stream

Facility: **Longvue #2** NPDES Permit No.: **PA0028193** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage Effluent - Minor < 0.1 MGD**

| Discharge Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Design Flow (MGD)* | Hardness (mg/l)* | pH (SU)* | Partial Mix Factors (PMFs) | | | | Complete Mix Times (min) | |
| | | | AFC | CFC | THH | CRL | $Q_{7-10}$ | $Q_h$ |
| 0.1 | 100 | 7 | | | | | | |

| | | | | | 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 | Strea m CV | Fate Coeff | FOS | Criteri a Mod | Chem Transl |
| Group 1 | Total Dissolved Solids (PWS) | mg/L | | 573 | | | | | | | | | |
| | Chloride (PWS) | mg/L | | 183 | | | | | | | | | |
| | Bromide | mg/L | | 0.099 | | | | | | | | | |
| | Sulfate (PWS) | mg/L | | 37.1 | | | | | | | | | |
| | 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 | µg/L | | 92.12 | | | 0.6501 | | | | | | |
| | Free Cyanide | µg/L | | | | | | | | | | | |
| | Total Cyanide | µg/L | | | | | | | | | | | |
| | Dissolved Iron | µg/L | | | | | | | | | | | |
| | Total Iron | µg/L | | | | | | | | | | | |
| | Total Lead | µg/L | < | 0.8 | | | | | | | | | |
| | 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 | µg/L | | 14 | | | | | | | | | |
| | 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 | < | | | | | | | | | | | |
| | 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)Anthrancene | 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 | | | | | | | | | | | | |
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pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Toxics Management Spreadsheet
Version 1.3, March 2021

## Stream / Surface Water Information

**Longvue #2, NPDES Permit No. PA0028193, Outfall 001**

Instructions | Discharge | Stream

Receiving Surface Water Name: **Girtys Run**

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 | 042124 | 6.59 | 1051.05 | 0.88 | | | Yes |
| End of Reach 1 | 042124 | 6 | 1011.29 | 1.38 | | | Yes |

$Q_{7-10}$

| 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 | 6.59 | 0.00786 | | | | | | | | | | 201 | 7 | | |
| End of Reach 1 | 6 | 0.00786 | | | | | | | | | | | | | |

$Q_h$

| 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 | 6.59 | | | | | | | | | | | | | | |
| End of Reach 1 | 6 | | | | | | | | | | | | | | |

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Toxics Management Spreadsheet
Version 1.3, March 2021

## Model Results

**Longvue #2, NPDES Permit No. PA0028193, Outfall 001**

Instructions | Results | RETURN TO INPUTS | SAVE AS PDF | PRINT | ◉ All ○ Inputs ○ Results ○ Limits

☑ ***Hydrodynamics***

$Q_{7\text{-}10}$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.59 | 0.01 | | 0.01 | 0.155 | 0.013 | 0.377 | 5.087 | 13.478 | 0.084 | 0.428 | 0.002 |
| 6 | 0.01 | | 0.011 | | | | | | | | |

$Q_h$

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.59 | 0.10 | | 0.10 | 0.155 | 0.013 | 0.458 | 5.087 | 11.107 | 0.108 | 0.335 | 0.149 |
| 6 | 0.143 | | 0.14 | | | | | | | | |

☑ ***Wasteload Allocations***

☑ *AFC* CCT (min): 0.002 PMF: 1 Analysis Hardness (mg/l): 104.32 Analysis pH: 7.00

| 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 | 13.986 | 14.6 | 15.2 | Chem Translator of 0.96 applied |
| Total Lead | 0 | 0 | | 0 | 67.624 | 86.2 | 90.0 | Chem Translator of 0.785 applied |
| Total Zinc | 0 | 0 | | 0 | 121.458 | 124 | 130 | Chem Translator of 0.978 applied |

☑ *CFC* CCT (min): 0.002 PMF: 1 Analysis Hardness (mg/l): 104.32 Analysis pH: 7.00

| 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 | 9.286 | 9.67 | 10.1 | Chem Translator of 0.96 applied |
| Total Lead | 0 | 0 | | 0 | 2.635 | 3.36 | 3.51 | Chem Translator of 0.785 applied |
| Total Zinc | 0 | 0 | | 0 | 122.452 | 124 | 130 | Chem Translator of 0.986 applied |

☑ ***THH*** CCT (min): 0.002 PMF: 1 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 | 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): 0.149 PMF: 1 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 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:** 4

| | *Mass Limits* | | *Concentration Limits* | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pollutants | AML (lbs/day) | MDL (lbs/day) | AML | MDL | IMAX | Units | Governing WQBEL | WQBEL Basis | Comments |
| Total Copper | 0.008 | 0.014 | 10.1 | 17.0 | 25.3 | µg/L | 10.1 | CFC | Discharge Conc ≥ 50% WQBEL (RP) |
| Total Zinc | Report | Report | Report | Report | Report | µg/L | 124 | 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 |