pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

| | | | |
|---|---|---|---|
| Application Type | **Renewal** | Application No. | **PA0216852** |
| Facility Type | **Non-Municipal** | APS ID | **1037503** |
| Major / Minor | **Minor** | Authorization ID | **1352548** |

# NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

## Applicant and Facility Information

| | | | |
|---|---|---|---|
| Applicant Name | **Jones Estates Trc LLC** | Facility Name | **Jones Estates Trc STP** |
| Applicant Address | 2310 S Miami Boulevard #238 | Facility Address | Wen Dell Lane |
| | Durham, NC 27703-5798 | | Ruffsdale, PA 15679 |
| Applicant Contact | Kellen Buss | Facility Contact | Eric Planey |
| Applicant Phone | (919) 820-3318 | Facility Phone | |
| Client ID | 356612 | Site ID | 248310 |
| Ch 94 Load Status | Not Overloaded | Municipality | East Huntingdon Township |
| Connection Status | | County | Westmoreland |
| Date Application Received | April 23, 2021 | EPA Waived? | Yes |
| Date Application Accepted | | If No, Reason | |

Purpose of Application .

## Summary of Review

This application has applied for a renewal of NPDES Permit No. PA0216852, which was previously issued by the department on July 1, 2016. That permit expired on June 30, 2021.

The receiving stream is Buffalo Run which is classified as warm water fishery.

The existing treatment process consists of an equalization tank, aeration tanks, settling tanks, and UV system.

The applicant is currently enrolled in and will continue to use eDMR.

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

Public Participation

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

| Approve | Deny | Signatures | Date |
|---|---|---|---|
| X | | Jordan T Coldsmith<br>Jordan Coldsmith / Environmental Engineering Specialist | June 5, 2024 |
| X | | Mahbuba Iasmin<br>Mahbuba Iasmin, Ph.D., P.E. / Environmental Engineering Manager | July 25, 2024 |

**Discharge, Receiving Waters and Water Supply Information**

| | | | |
|---|---|---|---|
| Outfall No. | 001 | Design Flow (MGD) | .008 |
| Latitude | 40º 10' 3.69" | Longitude | -79º 36' 23.47" |
| Quad Name | | Quad Code | |
| Wastewater Description: | Sewage Effluent | | |
| Receiving Waters | Buffalo Run (WWF) | Stream Code | 37662 |
| NHD Com ID | 69913997 | RMI | 2.83 |
| Drainage Area | 0.48 | Yield (cfs/mi$^2$) | 0.00675 |
| $Q_{7-10}$ Flow (cfs) | 0.00324 | $Q_{7-10}$ Basis | USGS StreamStat |
| Elevation (ft) | 1033 | Slope (ft/ft) | |
| Watershed No. | 19-D | Chapter 93 Class. | WWF |
| Existing Use | | Existing Use Qualifier | |
| Exceptions to Use | | Exceptions to Criteria | |
| Assessment Status | Attaining Use(s) | | |
| Cause(s) of Impairment | **Metals; pH; Aluminum; Iron; Manganese; pH, Low** | | |
| Source(s) of Impairment | | | |
| TMDL Status | Final | Name | Sewickley Creek Watershed |

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

| | | | |
|---|---|---|---|
| Nearest Downstream Public Water Supply Intake | WEST CNTY MUNI AUTH-MCKEESPORT | | |
| PWS Waters | Youghiogheny River | Flow at Intake (cfs) | |
| PWS RMI | | Distance from Outfall (mi) | 34.2 |

Changes Since Last Permit Issuance: None

Other Comments: This facility discharges to the Sewickley Creek Watershed. This Watershed has a Final TMDL and is impaired by metals. Abandoned mine drainage is a source of such impairment. Jones EstatesTrc STP (PA0216852) was initially permitted in July 1998 and is not identified in the TMDL, which was finalized on March 12, 2009. Therefore, this sewage discharge is not expected to contribute to the stream impairment. No WLAs have been developed for this sewage discharge, and they are not expected to contribute to the stream impairment for these pollutants. No monitoring requirements for Total Iron, Total Manganese and Total Aluminum will be imposed on this facility.

**Treatment Facility Summary**

**Treatment Facility Name:** Jones Estates Trc STP

| WQM Permit No. | Issuance Date |
|---|---|
| 6501402 A-1 | 06/21/2024 |
| | |

| Waste Type | Degree of Treatment | Process Type | Disinfection | Avg Annual Flow (MGD) |
|---|---|---|---|---|
| Sewage | Tertiary | UV | No Disinfection | 0.008 |

| Hydraulic Capacity (MGD) | Organic Capacity (lbs/day) | Load Status | Biosolids Treatment | Biosolids Use/Disposal |
|---|---|---|---|---|
| 0.008 | | Not Overloaded | | |

Changes Since Last Permit Issuance:

Treatment facility consists of:

- 10,046-gallon Equalization Tank with air lift pump and basket screen
- 1 grinder pump as backup
- 1 Flow Splitter Box
- 1 Aeration Chamber
- 1 Aeration chamber as backup
- 2 Clarifiers
- 5,105-gallon Sludge holding tank with submersible pump
- UV Disinfection Unit

| Compliance History |
|---|
| |

## Operations Compliance Check Summary Report

**Facility:** JONES ESTATES TRC STP

**NPDES Permit No.:** PA0216852

**Compliance Review Period:** 7/1/19-7/25/24

**Inspection Summary:**

| INSPECTED DATE | INSP TYPE | AGENCY | INSPECTION RESULT DESC |
|---|---|---|---|
| 02/20/2024 | Compliance Evaluation | PA Dept of Environmental Protection | No Violations Noted |
| 09/06/2023 | Administrative/File Review | PA Dept of Environmental Protection | Violation(s) Noted |
| 01/03/2023 | Administrative/File Review | PA Dept of Environmental Protection | Violation(s) Noted |
| 09/07/2022 | Administrative/File Review | PA Dept of Environmental Protection | Violation(s) Noted |
| 11/16/2020 | Compliance Evaluation | PA Dept of Environmental Protection | Viol(s) Noted & Immediately Corrected |

**Violation Summary:**

| VIOLATION DATE | VIOLATION TYPE | VIOLATION TYPE DESC | RESOLVED DATE | VIOLATION COMMENT |
|---|---|---|---|---|
| 09/06/2023 | 92A.62 | NPDES - Failure to pay annual fee | 04/15/2024 | |
| 01/03/2023 | 302.202 | Operator Certification - Failure to submit annual system fee | 02/09/2023 | Received 2022 Chapter 302 fees |
| 09/07/2022 | 92A.62 | NPDES - Failure to pay annual fee | 04/15/2024 | |
| 11/16/2020 | 92A.44 | NPDES - Violation of effluent limits in Part A of permit | 10/29/2021 | |

**Open Violations by Client ID:**

No open violations for Client ID 356612

**Enforcement Summary:**

| ENF TYPE | ENF TYPE DESC | EXECUTED DATE | VIOLATIONS | ENF FINAL STATUS | ENF CLOSED DATE |
|---|---|---|---|---|---|
| NOV | Notice of Violation | 09/06/2023 | 92A.62 | Comply/Closed | 04/15/2024 |
| NOV | Notice of Violation | 01/03/2023 | 302.202 | Comply/Closed | 02/09/2023 |
| ADORD | Administrative Order | 10/06/2022 | 92A.62 | Comply/Closed | 04/15/2024 |
| NOV | Notice of Violation | 09/07/2022 | 92A.62 | Comply/Closed | 04/15/2024 |

**Effluent Violation Summary:**

| MON_PD | OUTFALL | PARAMETER | SAMPLE | PERMIT | UNIT | STAT_BASE_CODE | FACILITY_COMMENTS |
|---|---|---|---|---|---|---|---|
| 9/1/2020 | 001 | Total Suspended Solids | 115 | 60 | mg/L | Instantaneous Maximum | the second sample collected on 9-21-20 had a tss result of 115. I discussed this result with the lab. They indicated that there was a white precipitate that appeared in the sample. I am not sure what caused this issue. The effluent was clear during the sample collection. I collected a second effluent sample after finding out this result and let it sit for several days without observing any precipitate. What ever caused this issue seems to have cleared up. |
| 9/1/2020 | 001 | Total Suspended Solids | 60 | 30 | mg/L | Average Monthly | the second sample collected on 9-21-20 had a tss result of 115. I discussed this result with the lab. They indicated that there was a white precipitate that appeared in the sample. I am not sure what caused this issue. The effluent was clear during the sample collection. I collected a second effluent sample after finding out this result and let it sit for several days without observing any precipitate. What ever caused this issue seems to have cleared up. |

**Compliance Status:** Facility is generally in compliance with no open violations or pending enforcements.

**Completed by:** Amanda Illar **Completed date:** 7/25/24

## Compliance History

**DMR Data for Outfall 001 (from May 1, 2023 to April 30, 2024)**

| Parameter | APR-24 | MAR-24 | FEB-24 | JAN-24 | DEC-23 | NOV-23 | OCT-23 | SEP-23 | AUG-23 | JUL-23 | JUN-23 | MAY-23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flow (MGD) Average Monthly | 0.002 | 0.002 | 0.003 | 0.003 | 0.002 | 0.002 | 0.003 | 0.002 | 0.003 | 0.002 | 0.003 | 0.003 |
| pH (S.U.) Minimum | 6.2 | 6.2 | 6.1 | 6.2 | 6.0 | 6.2 | 6.3 | 6.2 | 6.4 | 6.6 | 6.2 | 6.1 |
| pH (S.U.) Maximum | 7.3 | 7.1 | 7.1 | 7.9 | 7.1 | 7.3 | 7.2 | 7.0 | 7.0 | 7.4 | 7.0 | 6.8 |
| DO (mg/L) Minimum | 4.5 | 4.7 | 5.7 | 5.5 | 5.6 | 6.5 | 6.2 | 4.5 | 4.6 | 4.4 | 4.8 | 6.8 |
| CBOD5 (mg/L) Average Monthly | 5.6 | 3.4 | 4.2 | 3.7 | 3.4 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.5 |
| CBOD5 (mg/L) Instantaneous Maximum | 6.6 | 3.8 | 5.5 | 4.4 | 3.8 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.5 |
| TSS (mg/L) Average Monthly | 6.0 | 8.0 | 5.0 | 14.2 | 7.8 | 6.4 | 4.8 | 7.8 | 2.8 | 4.4 | 4.0 | 3.4 |
| TSS (mg/L) Instantaneous Maximum | 7.2 | 11.6 | 5.6 | 22.4 | 13.2 | 11.2 | 7.2 | 10.4 | 3.2 | 4.8 | 4.4 | 4.5 |
| Fecal Coliform (CFU/100 ml) Geometric Mean | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 18.9 | 10.5 | 25 | 47.1 | 93 | 1.9 |
| Total Nitrogen (mg/L) Average Monthly | | | | | 49.6 | | | | | | | |
| Ammonia (mg/L) Average Monthly | 0.6 | 0.15 | 0.28 | 0.18 | 0.12 | 0.63 | 0.1 | 0.2 | 0.23 | 0.63 | 0.4 | 0.16 |
| Ammonia (mg/L) Instantaneous Maximum | | | | | | | 0.1 | 0.2 | 0.26 | 0.91 | 0.6 | 0.21 |
| Total Phosphorus (mg/L) Average Monthly | | | | | 6.2 | | | | | | | |
| UV Dosage (mjoules/cm$^2$) Average Monthly | 14.4 | 11.7 | 8.9 | 3.7 | 2.5 | 4.9 | 6.1 | 2.2 | 4.3 | 5.4 | 3.1 | 10.8 |

## Development of Effluent Limitations

**Outfall No.** 001 **Design Flow (MGD)** .008
**Latitude** 40º 9' 59.00" **Longitude** -79º 36' 26.00"
**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) |

### Water Quality-Based Limitations

The discharge was modeled using WQM 7.0 to evaluate the CBOD5, Ammonia Nitrogen and Dissolved Oxygen parameters. The modeling results show technology based effluent limitations for CBOD5 are appropriate.

The modeling results also confirm that the limits for Ammonia-Nitrogen and Dissolved Oxygen are becoming more stringent than previously enforced in order to meet in-stream water quality criterion. Based on eDMR data, however, the facility will be able to comply with the new limits.

| Parameter | Limit (mg/l) | | SBC | Model |
|---|---|---|---|---|
| Ammonia-Nitrogen May-October | 2.5 | 5.0 | Average Monthly / IMAX | WQM 7.0 |
| Ammonia-Nitrogen November- April | 4.0 | 8.5 | Average Monthly / IMAX | WQM 7.0 |
| CBOD5 | 25 | 50 | Average Monthly / IMAX | WQM 7.0 |
| Dissolved Oxygen | 5 | | Instantaneous Minimum | WQM 7.0 |

### 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.

**Additional Considerations**

Daily monitor and report for UV dosage will again be imposed per section I.A, Note 4, SOP No. BCW-PMT-033, Establishing Effluent Limitations for Individual Sewage Permits; Where ultraviolet (UV) disinfection is used, TRC limits are not applicable, but the limits table(s) in Part A will generally contain, at a minimum, routine monitoring of UV transmittance (%), UV dosage (µWs/cm2 or mWs/cm2 or mjoules/cm2 ) or UV intensity (µW/cm2 or mW/cm2 ) at the same monitoring frequency that would be used for TRC.

Sewage discharges will include monitoring, at a minimum, for *E. Coli*, in new and reissued permits, with a monitoring frequency of 1/year for facilities with design flows of 0.002 – 0.05 MGD.

An annual sampling frequency for total phosphorus and total nitrogen will again be imposed per 25 PA Code §92a.61.

## 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 | Average Weekly | Minimum | Average Monthly | Maximum | Instant. Maximum | | |
| Flow (MGD) | 0.004 | XXX | XXX | XXX | XXX | XXX | 1/week | Measured |
| pH (S.U.) | XXX | XXX | 6.0 Inst Min | XXX | XXX | 9.0 | 1/day | Grab |
| DO | XXX | XXX | 5.0 Inst Min | XXX | XXX | XXX | 1/day | Grab |
| CBOD5 | XXX | XXX | XXX | 25 | XXX | 50 | 2/month | Grab |
| TSS | XXX | XXX | XXX | 30 | XXX | 60 | 2/month | Grab |
| Fecal Coliform (No./100 ml) Oct 1 - Apr 30 | XXX | XXX | XXX | 2000 Geo Mean | XXX | 10000 | 2/month | Grab |
| Fecal Coliform (No./100 ml) May 1 - Sep 30 | XXX | XXX | XXX | 200 Geo Mean | XXX | 1000 | 2/month | Grab |
| E. Coli (No./100 ml) | XXX | XXX | XXX | XXX | XXX | Report | 1/year | Grab |
| Total Nitrogen | XXX | XXX | XXX | XXX | XXX | Report | 1/year | Grab |
| Ammonia-Nitrogen Nov 1 - Apr 30 | XXX | XXX | XXX | 4.0 | XXX | 8.5 | 2/month | Grab |
| Ammonia-Nitrogen May 1 - Oct 31 | XXX | XXX | XXX | 2.5 | XXX | 5.0 | 2/month | Grab |
| Total Phosphorus | XXX | XXX | XXX | XXX | XXX | Report | 1/year | Grab |
| UV Dosage (mjoules/cm²) | XXX | XXX | Report | XXX | XXX | XXX | 1/day | Measured |

Compliance Sampling Location: Outfall 001
Other Comments:

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# Attachment 1
# USGS StreamStat Data

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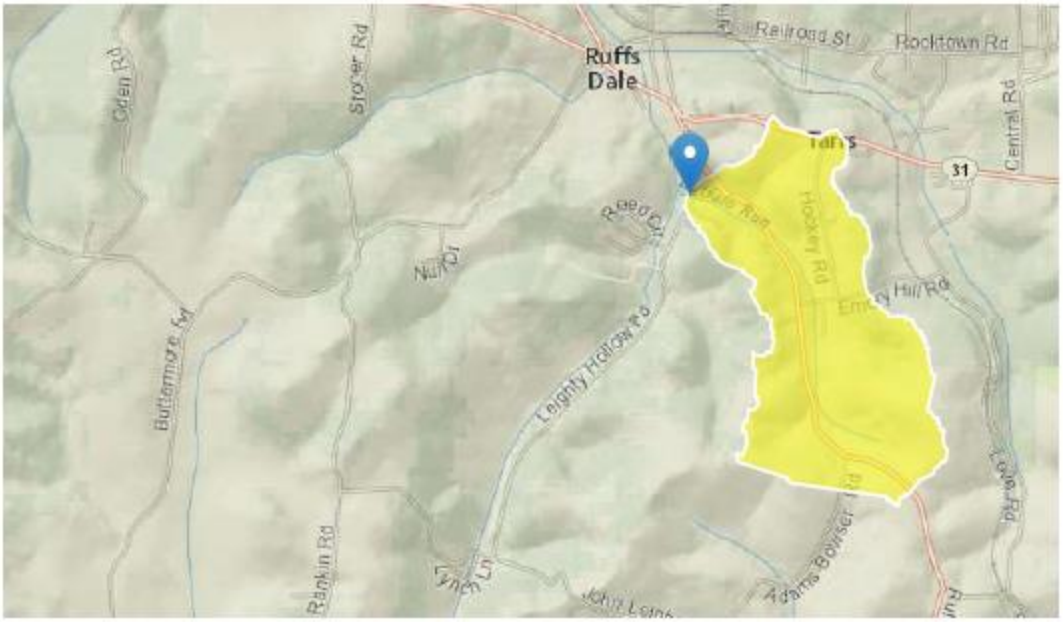
# StreamStats Report

**Region ID:** PA
**Workspace ID:** PA20211013135330202000
**Clicked Point (Latitude, Longitude):** 40.16740, -79.60599
**Time:** 2021-10-13 09:53:50 -0400




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 0.48 | square miles |
| ELEV | Mean Basin Elevation | 1150 | feet |

Low-Flow Statistics Parameters [Low Flow Region 4]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 0.48 | square miles | 2.26 | 1400 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| ELEV | Mean Basin Elevation | 1150 | 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 | 0.0117 | ft^3/s |
| 30 Day 2 Year Low Flow | 0.0234 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.00324 | ft^3/s |
| 30 Day 10 Year Low Flow | 0.00731 | ft^3/s |
| 90 Day 10 Year Low Flow | 0.0154 | ft^3/s |

*Low-Flow Statistics Citations*

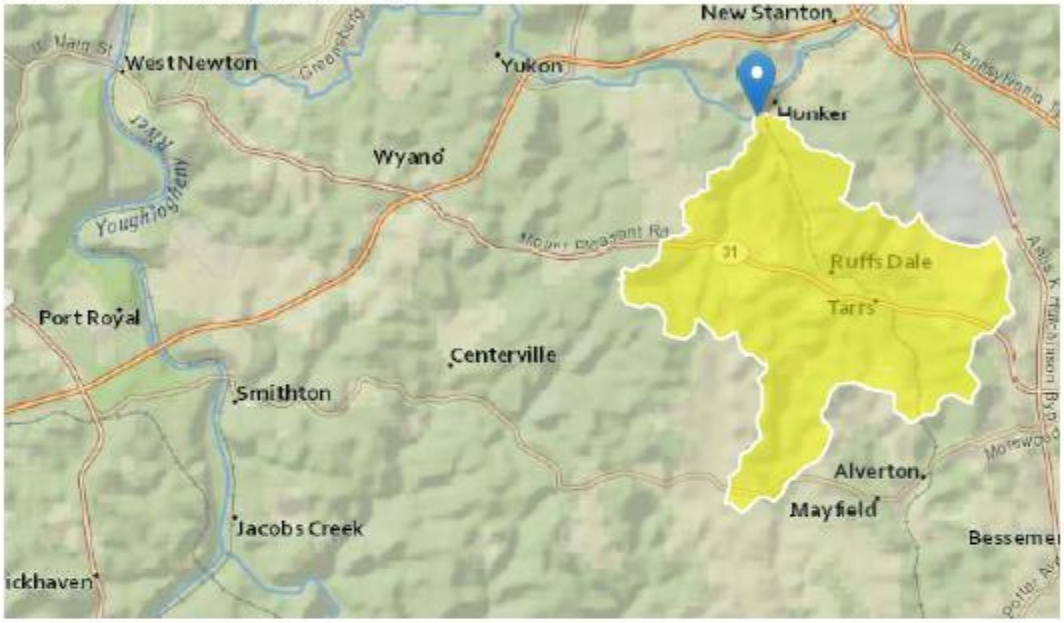
**Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)**



Application Version: 4.6.2
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

# StreamStats Report

**Region ID:** PA
**Workspace ID:** PA20211013135809139000
**Clicked Point (Latitude, Longitude):** 40.20194, -79.62517
**Time:** 2021-10-13 09:58:29 -0400




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 10.1 | square miles |
| ELEV | Mean Basin Elevation | 1164 | feet |

Low-Flow Statistics Parameters [Low Flow Region 4]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 10.1 | square miles | 2.26 | 1400 |

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| ELEV | Mean Basin Elevation | 1164 | feet | 1050 | 2580 |

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

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SE | ASEp |
|---|---|---|---|---|
| 7 Day 2 Year Low Flow | 0.382 | ft^3/s | 43 | 43 |
| 30 Day 2 Year Low Flow | 0.659 | ft^3/s | 38 | 38 |
| 7 Day 10 Year Low Flow | 0.14 | ft^3/s | 66 | 66 |
| 30 Day 10 Year Low Flow | 0.251 | ft^3/s | 54 | 54 |
| 90 Day 10 Year Low Flow | 0.456 | ft^3/s | 41 | 41 |

*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
NSS Services Version: 2.1.2

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# Attachment 2
# WQM 7.0 Summer Results

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## 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 |
|---|---|---|---|---|---|---|---|---|
| 19D | 37662 | BUFFALO RUN | **2.830** | 1036.00 | 0.48 | 0.00000 | 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 | 0.004 | 0.00 | 0.00 | 0.000 | 0.000 | 10.0 | 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 |
|---|---|---|---|---|---|---|---|
| Jones Estates | PA0216852 | 0.0080 | 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 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 4.00 | 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 |
|---|---|---|
| 19D | 37662 | BUFFALO 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** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | .259 | 2.41 | 9.3 | 0.03 | 6.885 | 21.04 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | NA | NA | NA | 0.02 | 7.191 | 20.72 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | NA | NA | NA | 0.03 | 6.613 | 21.31 | 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 |
|---|---|---|
| 19D | 37662 | BUFFALO 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 |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | 15.79 | 18.44 | 15.79 | 18.44 | 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 |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | 1.73 | 2.35 | 1.73 | 2.35 | 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) | | |
| 2.83 | Jones Estates | 25 | 25 | 2.35 | 2.35 | 5 | 5 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19D | 37662 | BUFFALO RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (ºC) | Analysis pH |
|---|---|---|---|
| 2.830 | 0.008 | 21.037 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 2.408 | 0.259 | 9.295 | 0.025 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 20.23 | 0.320 | 1.86 | 0.758 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 5.673 | 22.870 | Owens | 5 |
| **Reach Travel Time (days)** | | | |
| 6.885 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.689 | 16.05 | 1.11 | 8.09 |
| 1.377 | 12.73 | 0.66 | 8.09 |
| 2.066 | 10.10 | 0.39 | 8.09 |
| 2.754 | 8.02 | 0.23 | 8.09 |
| 3.443 | 6.36 | 0.14 | 8.09 |
| 4.131 | 5.05 | 0.08 | 8.09 |
| 4.820 | 4.00 | 0.05 | 8.09 |
| 5.508 | 3.18 | 0.03 | 8.09 |
| 6.197 | 2.52 | 0.02 | 8.09 |
| 6.885 | 2.00 | 0.01 | 8.09 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19D | 37662 | BUFFALO 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) |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | PA0216852 | 0.008 | CBOD5 | 25 | | |
| | | | | NH3-N | 2.35 | 4.7 | |
| | | | | Dissolved Oxygen | | | 5 |

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# Attachment 3
# WQM 7.0 Winter Results

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## 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 |
|---|---|---|---|---|---|---|---|---|
| 19D | 37662 | BUFFALO RUN | **2.830** | 1036.00 | 0.48 | 0.00000 | 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 | 0.007 | 0.00 | 0.00 | 0.000 | 0.000 | 10.0 | 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 |
|---|---|---|---|---|---|---|---|
| Jones Estates | PA0216852 | 0.0080 | 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 | 25.00 | 2.00 | 0.00 | 1.50 |
| Dissolved Oxygen | 4.00 | 12.51 | 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 |
|---|---|---|
| 19D | 37662 | BUFFALO 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** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | .259 | 2.41 | 9.3 | 0.03 | 6.885 | 12.93 | 7.00 |
| **Q1-10 Flow** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | NA | NA | NA | 0.02 | 7.191 | 13.56 | 7.00 |
| **Q30-10 Flow** | | | | | | | | | | | | |
| 2.830 | 0.00 | 0.00 | 0.00 | .0124 | 0.00813 | NA | NA | NA | 0.03 | 6.613 | 12.37 | 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 |
|---|---|---|
| 19D | 37662 | BUFFALO 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 |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | 24.1 | 28.14 | 24.1 | 28.14 | 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 |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | 3.09 | 4.18 | 3.09 | 4.18 | 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) | | |
| 2.83 | Jones Estates | 25 | 25 | 4.18 | 4.18 | 4 | 4 | 0 | 0 |

# WQM 7.0 D.O.Simulation

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19D | 37662 | BUFFALO RUN |

| RMI | Total Discharge Flow (mgd) | Analysis Temperature (°C) | Analysis pH |
|---|---|---|---|
| 2.830 | 0.008 | 12.925 | 7.000 |
| **Reach Width (ft)** | **Reach Depth (ft)** | **Reach WDRatio** | **Reach Velocity (fps)** |
| 2.408 | 0.259 | 9.295 | 0.025 |
| **Reach CBOD5 (mg/L)** | **Reach Kc (1/days)** | **Reach NH3-N (mg/L)** | **Reach Kn (1/days)** |
| 20.23 | 0.465 | 3.32 | 0.406 |
| **Reach DO (mg/L)** | **Reach Kr (1/days)** | **Kr Equation** | **Reach DO Goal (mg/L)** |
| 5.766 | 18.868 | Owens | 5 |
| **Reach Travel Time (days)** | | | |
| 6.885 | | | |

**Subreach Results**

| TravTime (days) | CBOD5 (mg/L) | NH3-N (mg/L) | D.O. (mg/L) |
|---|---|---|---|
| 0.689 | 16.05 | 2.51 | 9.50 |
| 1.377 | 12.73 | 1.90 | 9.50 |
| 2.066 | 10.10 | 1.43 | 9.50 |
| 2.754 | 8.02 | 1.08 | 9.50 |
| 3.443 | 6.36 | 0.82 | 9.50 |
| 4.131 | 5.05 | 0.62 | 9.50 |
| 4.820 | 4.00 | 0.47 | 9.50 |
| 5.508 | 3.18 | 0.35 | 9.50 |
| 6.197 | 2.52 | 0.27 | 9.50 |
| 6.885 | 2.00 | 0.20 | 9.50 |

# WQM 7.0 Effluent Limits

| SWP Basin | Stream Code | Stream Name |
|---|---|---|
| 19D | 37662 | BUFFALO 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) |
|---|---|---|---|---|---|---|---|
| 2.830 | Jones Estates | PA0216852 | 0.008 | CBOD5 | 25 | | |
| | | | | NH3-N | 4.18 | 8.36 | |
| | | | | Dissolved Oxygen | | | 4 |