Pennsylvania Department of Environmental Protection

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**New**	Application No.	**PA0294578**
Facility Type	**Non-Municipal**	APS ID	**1124980**
Major / Minor	**Minor**	Authorization ID	**1505215**

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE AND INDUSTRIAL STORMWATER

Applicant and Facility Information

Applicant Name	**JVI, LLC**	Facility Name	**JVI LLC Krumsville Warehouse**
Applicant Address	1265 Miller Road Wind Gap, PA 18091-9765	Facility Address	Krumsville Road (PA-737) & Long Lane Road Lenhartsville, PA 19534
Applicant Contact	James Vozar, Principal, JVI, LLC	Facility Contact	James Vozar
Applicant Phone	(484) 788-5704/ jimvozar@jvi-llc.com	Facility Phone	(484) 788-5704
Client ID	334575	Site ID	876079
Ch 94 Load Status		Municipality	Greenwich Township
Connection Status		County	Berks
Date Application Received	October 29, 2024 and January 20, 2025	EPA Waived?	No
Date Application Accepted	January 23, 2025	If No, Reason	Discharge is upstream of a TMDL water
Purpose of Application	discharge of treated sewage from new warehouse + stormwater discharges		

*Anthony Coval, Project Leader, JHA Companies, acoval@jhacompanies.com, 814-553-7954

Summary of Review

This facility is a new warehouse potentially employing 430 persons. It will include an on-site sewage treatment system with discharge to an adjacent stream. Mr. Vozar, the applicant contact, stated in a phone conversation on April 1, 2025, that there would not be truck washwater generated and that there would not be floor drains in the warehouse. Discharges of stormwater associated with industrial activity will be authorized by the same NPDES permit as the treated sewage discharge.

DEP Sewage planning approval was obtained January 22, 2024 (see attached).

Design Flow:

DEP sewage planning approval was granted for 0.015 MGD. The permit application also indicates a design flow of 0.015 MGD.

Variances:

None.

Sludge use and disposal description and location(s):

To be hauled off-site for further treatment and disposal

Unresolved Violations:

As of the writing of this Fact Sheet, there are no open violations against this client.

Approve	Deny	Signatures	Date
X		*Bonnie Boylan* Bonnie Boylan / Environmental Engineering Specialist	April 29, 2025
X		*Daniel W. Martin* Daniel W. Martin, P.E. / Environmental Engineer Manager	May 2, 2025

Summary of Review

Delaware River Basin Commission (DRBC):

The discharge is within the Delaware River watershed. A copy of the draft permit and Fact Sheet will therefore be sent to the DRBC for their review in accordance with State regulations and an interagency agreement. Any comments from the DRBC will be considered.

Public Participation:

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

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.015
Latitude	40° 34' 52.6"	Longitude	-75° 48' 19.6"
Quad Name		Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary of Maiden Creek (TSF, MF)	Stream Code	UNT 063888
NHD Com ID	25978104	RMI	0.38
Drainage Area	0.18 sq.mi.	Yield (cfs/mi^2)	0.044
Q_{7-10} Flow (cfs)	0.008	Q_{7-10} Basis	USGS/PA Stream Stats
Elevation (ft)	680' approx.	Slope (ft/ft)	
Watershed No.	3-B	Chapter 93 Class.	TSF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Attaining Use(s) – but Maiden Creek flows into an impaired lake for which there is a TMDL (see below)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final 8/9/2004	Name	Lake Ontelaunee TMDL (see below)

Secondary Waters: UNT 63888 flows into UNT 63887 (at 1.4 RMI, TSF, not impaired)
which flows into UNT 02079 of Maiden Creek (at 2.5 RMI, TSF, not impaired)
which flows into UNT 02078 to Maiden Creek (at 0.55 RMI, TSF, not impaired)*
which flows into Maiden Creek (@ 14.8 RMI,TSF, impaired for Recreational Use due to pathogens)
which flows into Lake Ontelaunee (at 9 RMI, WWF, impaired, TMDL for nutrients and TSS)

(none of above waters have 'existing uses', only designated uses)

Background/Ambient Data - none		Data Source - none
pH (SU)		
Temperature (°F)		
Hardness (mg/L)		
Other:		

Nearest Downstream Public Water Supply Intake		Reading Area Water Authority	
PWS Waters	Maiden Creek /Lake Ontelaunee	Flow at Intake (cfs)	
PWS RMI	3 (new) 0.65 (existing)	Distance from Outfall (mi)	Over 16 miles

-Receiving water and downstream UNT 063887 are considered 'Trout Natural Reproduction' according to DEP's eMapPA
-Receiving water and downstream waters are not considered Class A Stream by PFBC
-No nearby sewage dischargers (to include in modeling)
-No nearby WQN stations for background data

- Qs:Qd ratio is approx. 1:3 (stream flow of 0.0052 MGD versus discharge flow of 0.015 MGD)

Treatment Facility Summary				
Treatment Facility Name: JVI Krumsville Warehouse				
WQM Permit No.	**Issuance Date**			
0624207	Not yet issued			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Tertiary; Phosphorus Reduction	Activated Sludge	Chlorine With Dechlorination	0.015
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.015	37.5			

Description provided in NPDES application:

- The proposed system will consist of three units. Tank 1 is the flow equalization tank and Sludge Digester tank. Tank 2 will house the pre-anoxic tank, aerobic bioreactor (IFAS), post anoxic tank, secondary clarifiers, disinfection chlorine tablet feeder, secondary water storage, clear well, post-treatment aeration and de-chlorination tablet feeder. The third unit is the modular equipment building and will house laboratory/office, control panels, blowers, chemical feed pumps and tertiary filters.

- Expected removal efficiencies are 97% for BOD5, 97% for TSS, 95% for Phosphorus, and 90% for Nitrogen

A flow diagram included in the NPDES application is attached to this Fact Sheet.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.015
Latitude 40º 34' 52.6" **Longitude** -75º 48' 19.6"
Wastewater Description: Sewage Effluent

Permit limits can be Technology Based Effluent Limitations (TBELs) or Water Quality Based Effluent Limitations (WQBELs). Both are discussed in this Fact Sheet, in separate sections. Typically the limits imposed in the NPDES permit are the more stringent of the TBELs or the WQBELs as needed. (Best Professional Judgement limits are a type of TBELs.)

Technology-Based Effluent Limitations (TBELs)

The following technology-based limitations based on regulations apply (also see the discussion below the table):

Pollutant	Limit (mg/l, unless otherwise indicated)	Statistical Base Code (SBC)	Federal Regulation	State Regulation	DRBC [a]
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)	
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)	
BOD_5 / $CBOD_5$	Secondary treatment at a minimum			92a.47(a)	18 CFR Part 410, 3.10.4
	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)	
Total Suspended Solids	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)	
Total Phosphorus [b]	2.0 [b]	Avg. Monthly		96.5(c)	
Total Dissolved Solids	1000 [c]	Average Monthly	-		18 CFR Part 410, 3.10.4 and 3.10.3.B

[a] DEP has an interagency agreement with the Delaware River Basin Commission (DRBC) and incorporates their requirements (18 CFR Part 410 Water Quality Regulations and approved dockets) into our permits where appropriate.

[b] applicable to discharges to a receiving water that is known to be impaired for nutrients

[c] or a concentration that will not cause the TDS in the receiving water to exceed the lesser of 500 mg/l or 133% of background

The TBELs shown in the above table have been included in the draft permit for **pH** and **Fecal Coliform** except that no less stringent Fecal Coliform limits have been included for colder months consistent with DEP's Technical Guidance document 386-2000-013 which is discussed below.

For **Total Dissolved Solids (TDS)**, the State regulatory limit of 2000 mg/l as a monthly average provided in Pa Code § 95.10 (c) is not applicable because the new discharge's TDS load is not expected to be over 5000 lbs/day as an annual average daily load. Pa Code § 95.10 (a) specifies this exclusion.

Because of DRBC regulations, a monitoring requirement has been included in the draft renewal permit for **TDS** but no limits, consistent with other non-municipal minor sewage treatment works permits in the Delaware River watershed.

Consistent with DEP's Standard Operating Procedure (SOP) Establishing Effluent Limitations for Individual Sewage Permits and DEP's Technical Guidance document 386-2000-013, Advanced Treatment requirements are appropriate for new discharges to receiving waters with little flow. The Technical Guidance document explains that these treatment requirements are necessary "*to compensate for the lack of available assimilative capacity and to minimize the potential for nuisance conditions….For discharges of treated sewage and similar oxygen-consuming wastes, effluent limits should include and be at least as stringent as these, or equivalent:*

> ***CBOD5*** *– 10 mg/L as a monthly average;*
> ***TSS*** *– 10 mg/L as a monthly average;*
> ***Total N*** *– 5 mg/L as a monthly average;*
> ***Dissolved oxygen*** *- minimum 6 mg/L at all times;*
> ***Phosphorus*** *– 0.5 mg/L as a monthly average.*
>
> *All discharges of treated sewage require effective disinfection sufficient to meet Chapter 93 bacteria criteria at the point of discharge.*
> *Seasonal adjustments should not be applied to effluent limits based on the advanced treatment requirements contained in this guidance."*

The advanced treatment TBELs are more stringent than the regulatory TBELs and have been included in the draft NPDES permit.

For Total Residual Chlorine (TRC), the WQBELs are more stringent than the TBELs and are discussed in the next section of the Fact Sheet.

Water Quality-Based Limitations

Lake Ontelaunee Total Maximum Daily Load (TMDL):

Lake Ontelaunee was placed on Pennsylvania's 1996 303(d) list of impaired waterbodies. It is considered impaired due to nutrients and suspended solids. A study of the lake identified phosphorus as the limiting nutrient. A contractor for the EPA prepared the TMDL and Pennsylvania DEP provided some of the information. A TMDL is a calculation of the maximum amount of a pollutant(s) that a body of water can receive and still safely meet water quality standards.

Also of significance, the lake is a public water supply including for the City of Reading.

Federal regulations at 40 CFR 122.44(d)(1)(vii)(B), require effluent limitations to be consistent with the assumptions and requirements of any available wasteload allocation (WLA) in an approved TMDL as provided at 40 CFR 130.7. Federal regulations, 40 CFR 130.7(d)(1), specify that "All WLAs/LAs and TMDLs established under paragraph (c) for water quality limited segments shall continue to be submitted to EPA for review and approval." (LA in the citation is an abbreviation for Load Allocation which refers to loads from non-point sources such as pastures and croplands, storm runoff, and onlot septic systems.)

The 2004 Lake Ontelaunee TMDL included WLAs for Total Phosphorus for 10 point source discharges and WLAs for TSS for 13 point source discharges (Tables 5-6 and 5-12 of the 2004 TMDL).

After the TMDL's approval, Maxatawny Sewage Treatment Plant (NPDES permit PA0260151) was added to the TMDL as a point source discharge. The new treatment plant had been included in the Township's Act 537 Plans which DEP approved but had not been included in the TMDL. In a letter from EPA to DEP dated December 9, 2008 (see attached), the revision to the TMDL for the phosphorous Wasteload Allocation (WLA) was approved as follows:

	TMDL (metric tons/year)	WLA (metric tons/year)	Load Allocation (metric tons/year)	Margin of Safety (MOS) (metric tons/year)
Original	10.65	2.77 (EPA letter)	7.36	0.52
Revised	10.65	**2.963**	7.167	0.52

Since the TMDL's approval in 2004, two of the point source dischargers listed in the tables no longer discharge, Hawk Mt B&B (NPDES permit PA0053708) and Moselem Development Corp. (NPDES permit PA0031348). These two NPDES permits were terminated.

The JVI Krumsville Warehouse facility would generate a TSS load of:
0.015 MGD x 10 mg/l x 8.34 conversion factor x 365 lbs/day = 456.6 lbs/year TSS (= 0.21 metric tons/year)
The two terminated permits relinquished TSS loads of 0.29 lbs/year combined, more than enough to accommodate the new load from the JVI Krumsville Warehouse (0.08 mtons/year for PA0053708 + 0.21 mtons/year for PA0031348, per Table 5-12 of the 2004 TMDL).

The JVI Krumsville Warehouse facility would generate a TP load of:
0.015 MGD x 0.5 mg/l TP x 8.34 conversion factor x 365 lbs/day = 22.8 lbs/year TP (= 0.010 metric tons/year)

To note, the amount of TP load to accommodate this new warehouse is significantly less than the above MOS load: 0.010 metric tons/year versus 0.52 metric tons/year.

Removing the terminated permits and adding Maxatawny STP and this facility to the list of point source discharges (Table 5-6 of the TMDL) results in the following WLAs for TP which total to less than the 2008 EPA-approved Total WLA of 2.963 metric tons/year:

Permit No.	Permitted Facility	WLA (metric tons/year)	Annual Load limit in NPDES Permit (lbs/year)
PA0031135	Kutztown STP	2.074	4566
PA0070122	Highland Estates MHP	0.115	253.4
PA0085171	Lyons STP	0.207	456.6
PA0085430	Robin Hill Campground	0.014	30.0
PA0086878	Hamburg MA Water Filtration Plant	0.041	91
PA0088021	Christman Lake STP*	0.109	239
PA0246921	Lenhartsville STP	0.058	129
PA0260975	Richmond Twp Virginville STP	0.026	57.2
PA0070254	Lynn Twp WWTP	0.111	244.0
PA0260151	Maxatawny Twp STP	0.193**	426
PA0294578	JVI Krumsville Warehouse	0.010	22.8
	TOTAL	**2.958 *** **	**6515**

*The facility name has changed to Blue Heron Village STP.

**The WLA would be 0.192 metric tons/year (the equivalent of 423.3 lbs/year) if it were adjusted for the distance traveled before reaching the Lake (see attached calculations) but the NPDES permit already includes a TP load limit of 426 lbs/year.

***2.958 metric tons/year is the equivalent of 6521 lbs/year

DEP's proposal to issue a NPDES permit for the JVI Krumsville Warehouse's point source discharge was discussed with EPA in multiple phone conversations. Because a) the total WLA for TP will still be less than the 2008 EPA-approved WLA for TP, b) the TSS WLAs of 0.29 metric tons/year for two permits who have ceased discharging can be re-assigned to this facility, and c) the 10.65 metric tons/year load for TP (point sources + non-point sources) and the 19,587 metric tons/year load for TSS (point sources + non-point sources) have not changed from the original 2004 TMDL, EPA agreed that the new permit could be issued.

The draft permit will be public noticed in the PA Bulletin with the necessary mandatory comment period.

Other WQBELs:

DEP uses a model known as **WQM 7.0** to determine appropriate limits for CBOD5, Ammonia (NH3-N), and Dissolved Oxygen (DO). DEP's 'Implementation Guidance for Section 93.7 Ammonia Criteria', document #386-2000-022, provides

the methods and calculations contained in the WQM 7.0 model for conducting wasteload allocation and for determining recommended NPDES effluent limits for point source discharges. For more explanation of the WQM 7.0 model, see 'Technical Reference Guide WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen', document #386-2000-016. Because there are no other nearby sewage treatment plants, no other discharges were included in the model simulation.

The source of the River Mile Indices (RMI's) and elevations that were used in the WM 7.0 model was DEP's eMapPA while the source of the Drainage Areas and stream design low-flows was the USGS PA Stream Stats online tool (see attached). Low Flow Yield (LFY) is calculated as stream low-flow Q7-10 divided by Drainage Area.

DEP's uses a **TRC model** (Excel spreadsheet) to determine WQBELs for TRC: the model utilizes the equations and calculations provided in DEP's 'Implementation Guidance Total Residual Chlorine (TRC) Regulation' for TRC, document #386-2000-011.

Some default values were used in the models in the absence of site-specific data including:

Stream Temperature = 20°C
Stream pH = 7 s.u.
Background $CBOD_5$ in stream = 2 mg/l
Background Ammonia in stream = 0 mg/l
Background DO in stream = 8.24 mg/l
Stream chlorine demand = 0.3
Discharge chlorine demand = 0
Discharge Temperature = 25°C
Discharge pH = 7 s.u.

In addition the WQM 7.0 models estimated the stream width, depth, and velocity.

The following limitations and monitoring requirements were determined through water quality modeling (input values used and output files **attached**). Also see the discussion below the tables:

Parameter	Limit (mg/l)	Statistical Base Code	Model
Total Residual Chlorine (TRC)	0.06 / 0.19	Avg. Monthly / IMAX	TRC Excel Spreadsheet
Ammonia	2.2 / 4.4	Avg. Monthly / Max.	WQM 7.0

Because the receiving water is considered 'Trout Natural Reproduction', the WQM 7.0 model was also run to ensure the limitations would be adequate to protect salmonids during early life stages. PA Code § 93.7 (b) and § 93.7 a) provide that a DO stream concentration of 8.0 mg/l be used as the standard for October 1 through May 31 for naturally reproducing salmonids.

For this purpose:

-8.0 mg/l was used in the model as the target DO concentration;

-stream temperature was adjusted to 12.8°C (55°F) for an October simulation and to 6.7°C (44°F) for a November simulation;

-the stream flow was adjusted to 0.01 cfs (the Q_{7-10} x 1.2 multiplier) for the October simulation and to 0.013 cfs (the Q_{7-10} x 1.6 multiplier) for the November simulation;

- in the absence of site-specific data, Tables 2 and 3 from DEP's Technical Guidance document 386-2000-001 (Implementation Guidance for Temperature Criteria) were used to **estimate** the stream flows and temperatures during salmonid early life stages (the lowest stream flow between October and May is likely to occur in October; the next lowest stream flow between October and May is likely to occur in November)

These simulations did not indicate more stringent Ammonia limits are needed during October through May. The Ammonia limits shown in the above table and the $CBOD_5$ TBELs are adequate to protect the early life stages of salmonids.

Anti-Backsliding

Not applicable for new dischargers.

Mass Load vs. Concentration Limits

Consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, average monthly mass loading limits have been established for $CBOD_5$, TSS, Ammonia, TP, and TN..

Mass Loading Limitations

All effluent mass loading limits have been based on the formula: design flow x concentration limit x conversion factor of 8.34.

Sample Types and Frequencies

Sample Types and Frequencies are consistent with the Technical Guidance for the Development and Specification of Effluent Limitations, document #386-0400-001, or with other NPDES permits for similar facilities.

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Influent BOD5 & TSS Monitoring

Influent monitoring for BOD5 and TSS are required by DEP in NPDES permits for sewage treatment facilities of this size (and those larger). This information is useful for evaluating treatment performance.

E. Coli Monitoring

Consistent with the SOP Establishing Effluent Limitations for Individual Sewage Permits and due to the regulatory change in the State Water Quality Standards, PA Code Chapter 93, E. Coli monitoring has been included in the draft renewal permit. The statutory basis for this requirement is provided at PA Code § 92a.61. The monitoring frequency of once per year is consistent with DEP's SOP Establishing Effluent Limitations for Individual Sewage Permits for a facility of this size.

Other Permit Conditions

Conditions standard for Minor Sewage facilities are included in Part C of the draft renewal permit, including solids management requirements and minimizing use of chlorine. Because the facility is in the Delaware River watershed, the condition that DRBC may have other requirements has been included.

Class A Waters

The receiving water (and downstream waters) are not considered Class A Trout Waters.

Trout Natural Reproduction Waters

The receiving water is considered Trout Natural Reproduction Waters. As discussed in the WQBEL section of the Fact Sheet, a stream Dissolved Oxygen target concentration of 8.0 mg/l was used in the model when calculating WQBELs to ensure the salmonids would be protected during early life stages.

Anti-degradation Requirements

All effluent limitations and monitoring requirements have been developed such that the designated stream uses and the level of water quality necessary to protect the designated uses are maintained and protected. No High Quality or Exceptional Value waters are impacted by this discharge.

Stormwater

Stormwater leaving the site is subject to the federal regulations at 40 CFR 122.26(b)(14)(xi) requiring a NPDES permit for the discharge of "stormwater associated with industrial activity". The permittee's SIC is 4225 for "General Warehousing and Storage". This NPDES permit authorizes the facility's discharges of stormwater including runoff to streams, ditches, or swales and any overflow from detention basins.

Their permit application for industrial stormwater represents that the site is 2,283,851 square feet and 43% impervious. The originally submitted application for industrial stormwater was revised by an email received April 18, 2025. The revised application and drainage map include 5 stormwater-only outfalls, all of which discharge to UNT 063888 of Maiden Creek. (Whereas the application and drainage map identified these outfalls as 001-005, outfall 001 in the NPDES permit is reserved for the discharge of treated stormwater. The stormwater outfalls have been renumbered from the application as outfalls 002 through 005.)

Semi-annual monitoring in accordance with Part A of the draft permit is required at the stormwater-only outfalls. After the facility is constructed and enough stormwater sampling results are available, the facility may be able to request a reduction in the number of stormwater-only outfalls that need to be monitored if some stormwater-only outfalls can reasonably represent other stormwater-only outfalls in which case the representative outfalls would be required to be monitored on an on-going basis but not all of the stormwater-only outfalls. Such a change could be effected with the next renewal of the NPDES permit, for example.

The parameters and sampling frequency in the draft permit for the stormwater outfalls are consistent with Appendices J and L of the DEP's general permit for industrial stormwater, known as the PAG-03, which was public noticed and is in effect.

Besides monitoring, Part C of the draft permit includes requirements to prepare and maintain a Preparedness, Prevention and Contingency (PPC) Plan, to follow Best Management Practices (BMPs) to prevent exposure of stormwater to pollutants, and to conduct routine inspections. Part C also specifies conditions for stormwater sample collection and the following benchmark values:

pH	9.0 s.u.
COD	120 mg/l
TSS	100 mg/l
Oil and Grease	30 mg/l

These benchmark values are not effluent limitations; exceedances of the benchmark values do not constitute permit violations. However, if the permittee's sampling demonstrates exceedances of benchmark values for two or more consecutive monitoring periods, the permittee shall take action in accordance with Part C. of the permit .

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined by models or 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, unless otherwise indicated)		Concentrations (mg/L, unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.06	XXX	0.19	1/day	Grab
CBOD5	1.2	XXX	XXX	10.0	XXX	20	2/month	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
TSS Raw Sewage Influent	Report	Report	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Total Suspended Solids	1.2	XXX	XXX	10.0	XXX	20	2/month	24-Hr Composite
Total Suspended Solids (Total Load) (lbs)	Report Total Month	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Suspended Solids (Total Load) (lbs)	XXX	456.6 Total Annual	XXX	XXX	XXX	XXXXX	1/year	Calculation
Total Dissolved Solids	XXX	XXX	XXX	Report Avg Qrtrly	XXX	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml)	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

Outfall 001, Continued (from Permit Effective Date through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day, unless otherwise indicated)		Concentrations (mg/L, unless otherwise indicated)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Ammonia	0.3	XXX	XXX	2.2	XXX	4.4	2/month	24-Hr Composite
Nitrate-Nitrite*	Report*	XXX	XXX	Report*	XXX	XXX	2/month	24-Hr Composite
Total Kjeldahl Nitrogen*	Report*	XXX	XXX	Report*	XXX	XXX	2/month	24-Hr Composite
Total Nitrogen*	0.6*	XXX	XXX	5.0*	XXX	10 *	2/month	Calculation
Total Phosphorus	0.06	XXX	XXX	0.5	XXX	1	2/month	24-Hr Composite
Total Phosphorus (Total Load) (lbs)	Report Total Month	XXX	XXX	XXX	XXX	XXX	1/month	Calculation
Total Phosphorus (Total Load) (lbs)	XXX	22.8 Total Annual	XXX	XXX	XXX	XXXXX	1/year	Calculation

*Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

Compliance Sampling Location: after treatment

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 as needed and BPJ. Instantaneous Maximum (IMAX) limits are generally determined by models or 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.

Outfalls 002-006 (stormwater only), Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day, unless otherwise indicated)		Concentrations (mg/L, unless otherwise indicated))				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Instantaneous Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
pH (S.U.)	XXX	XXX	XXX	XXX	XXX	Report	1/6 months	Grab
COD	XXX	XXX	XXX	XXX	XXX	Report	1/6 months	Grab
TSS	XXX	XXX	XXX	XXX	XXX	Report	1/6 months	Grab
Oil and Grease	XXX	XXX	XXX	XXX	XXX	Report	1/6 months	Grab
Nitrate-Nitrite*	XXX	XXX	XXX	XXX	XXX	Report*	1/6 months	Grab
Total Kjeldahl Nitrogen*	XXX	XXX	XXX	XXX	XXX	Report*	1/6 months	Grab
Total Nitrogen*	XXX	XXX	XXX	XXX	XXX	Report*	1/6 months	Calculation
Total Phosphorus	XXX	XXX	XXX	XXX	XXX	Report	1/6 months	Grab

*Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

Compliance Sampling Location: at outfall

Other Comments: See Part C. III. of permit.

Tools and References Used to Develop Permit	
☒	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☒	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 386-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 386-2000-019, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 386-2000-018, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 386-2183-001, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 386-2183-002, 12/97.
☐	Pennsylvania CSO Policy, 386-2000-002, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 386-2000-008, 4/97.
☒	Determining Water Quality-Based Effluent Limits, 386-2000-004, 12/97.
☒	Implementation Guidance Design Conditions, 386-2000-007, 9/97.
☒	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 386-2000-016, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 386-2000-012, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 386-2000-009, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 386-2000-015, 5/2004.
☒	Implementation Guidance for Section 93.7 Ammonia Criteria, 386-2000-022, 11/97.
☒	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 386-2000-013, 4/2008.
☒	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 386-2000-011, 11/1994.
☒	Implementation Guidance for Temperature Criteria, 386-2000-001, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 386-2000-021, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 386-2000-020, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 386-2000-005, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 386-2000-010, 3/1999.
☒	Design Stream Flows, 386-2000-003, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 386-2000-006, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 386-3200-001, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	SOP: New and Reissuance Industrial Waste and Industrial Stormwater Individual NPDES Permit Applications, revised 2/5/2024.
☒	SOP: New and Reissuance Sewage Individual NPDES Permit Applications, revised 2/3/2022.
☒	SOP: Establishing Effluent Limitations for Individual Sewage Permits, revised 2/5/2024.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

January 22, 2024

Greenwich Township
c/o Diane Hollenbach
775 Old Route 22
Lenhartsville, PA 19534

Re: Approval Letter – Revision
Act 537 Planning
JVI, LLC Krumsville Warehouse Development (WWTP)
DEP CODE NO. A3-06933-231-3
APS ID No. 1096667; AUTH ID No. 1454515
Greenwich Township, Berks County

Dear Township Supervisors:

The Department of Environmental Protection (DEP) has reviewed the proposed Official Plan revision. The proposed development is located on the west side of Krumsville Road near the intersection of Long Lane Road in Greenwich Township and consists of constructing a commercial warehouse/distribution facility with sewage flows of 15,000 gallons per day to be served by a package wastewater treatment facility with a discharge to an unnamed tributary to Maiden Creek.

The plan revision is approved with the following comments:

1. The approved project will require an NPDES (Part I) permit for the proposed effluent discharge. The permit application must be submitted in the name of the property owner (JVI, LLC). The Part I permit application can be downloaded from DEP's eLibrary at - DEP eLibrary (state.pa.us).
2. The approved project will require a Water Quality Management (Part II) permit for the construction and operation of the proposed sewage facilities. The permit application must be submitted in the name of the property owner (JVI, LLC). Issuance of a Part II permit will be based upon a technical evaluation of the permit application and supporting documentation. Starting construction prior to obtaining a permit is a violation of the Clean Streams Law. The Part II permit application can be downloaded from DEP's eLibrary at - DEP eLibrary (state.pa.us)
3. This plan approval does not include approval of the system design. The system design will be evaluated and approved as part of the Water Quality Management (Part II) permit application review.
4. If there are mapped wetlands within your proposed development, you are hereby notified that an encroachment permit under Title 25, Chapter 105 of the Rules and Regulations of DEP must be obtained from DEP prior to any construction that will encroach on wetlands. Please contact the Waterways and Wetlands Program for permit application procedures.
5. Be advised, as previously notified in DEP's October 3, 2023 letter regarding preliminary effluent limits, this proposed discharge may be impacted by the Total Maximum Daily Load (TMDL) for Lake Ontelaunee. More stringent limits on certain discharge parameters are possible.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Clean Water Program
Southcentral Regional Office | 909 Elmerton Avenue | Harrisburg, PA 17110-8200 | 717.705.4707 | F 717.705.4760
www.dep.pa.gov

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at http://ehb.courtapps.com or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

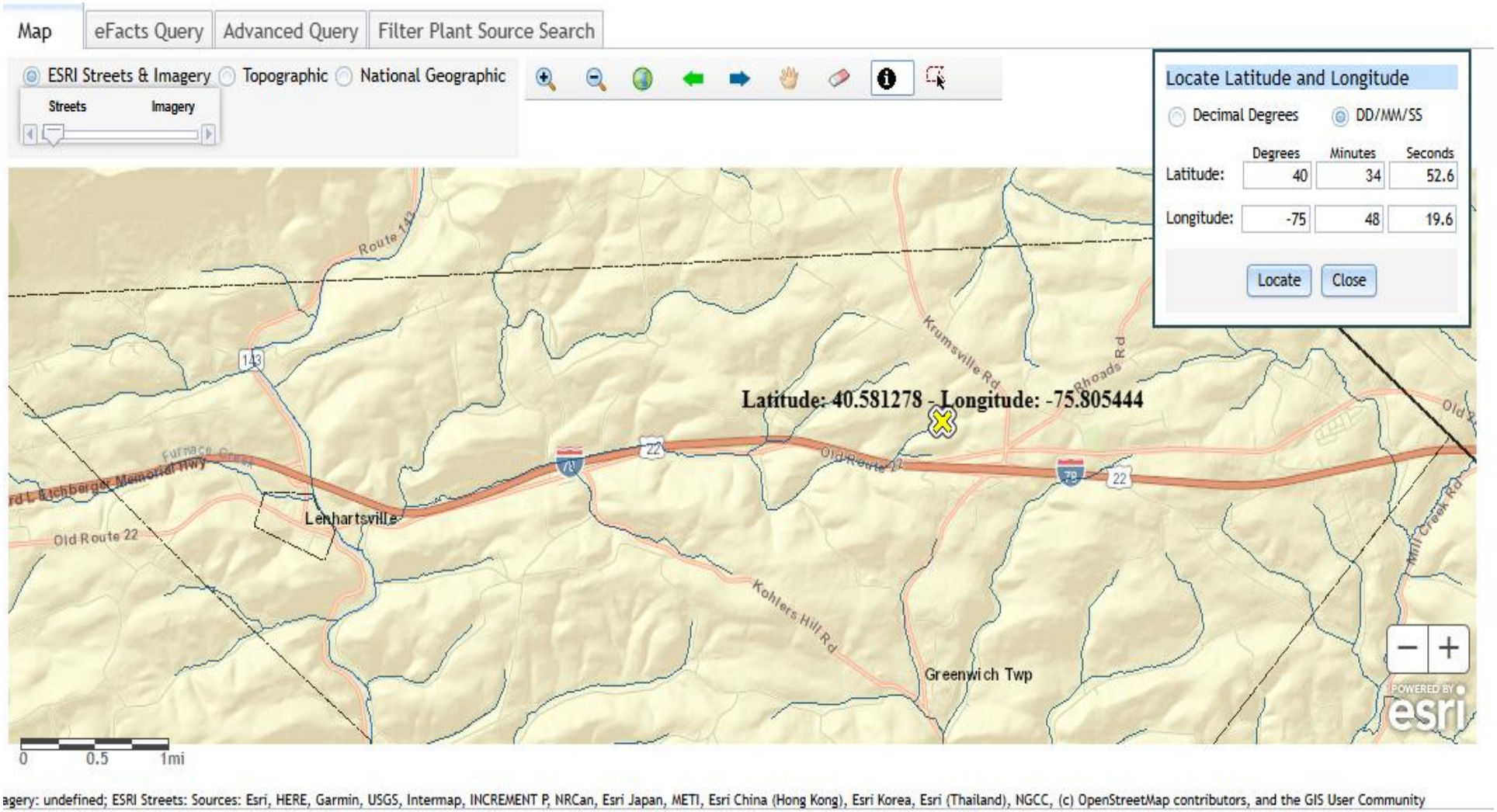
If you have any questions or concerns, please contact Lindsay Graeff at ligraeff@pa.gov or (717)705-4866 and refer to DEP Code No. A3-06933-231-3, Application No. 1096667, and Authorization No. 1454515.

Sincerely,

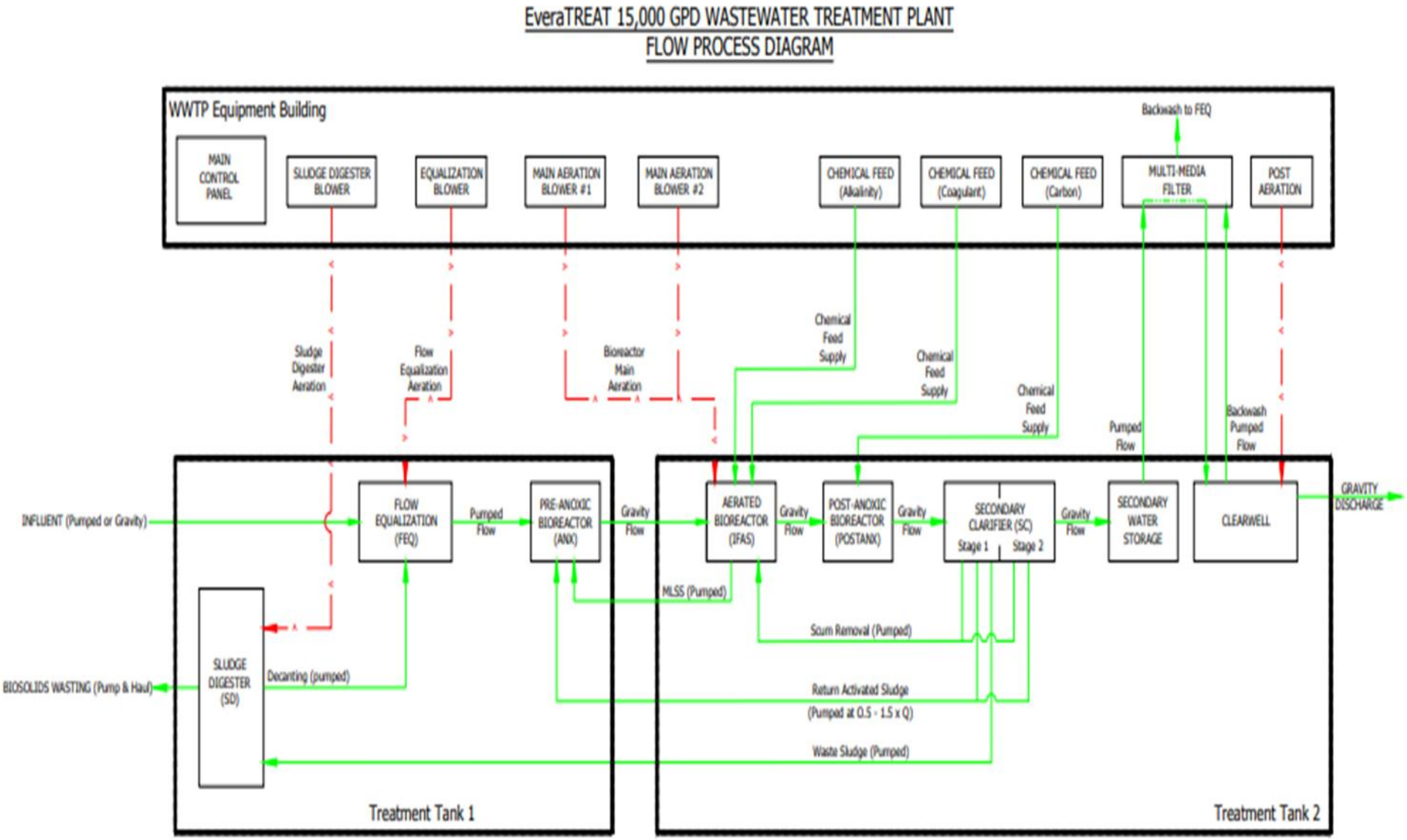
Timothy K Wagner

for Maria D. Bebenek, P.E.
Program Manager

cc: James A. Vozar - JVI, LLC. - Developer (pdf)
Corey Rilk - JHA Companies - Consultant, Project Leader (pdf)
Daniel Fortak, EIT - JHA Companies - Consultant (pdf)
Berks County Planning Commission (pdf)



(location given in NPDES application)


EveraTREAT 15,000 GPD WASTEWATER TREATMENT PLANT
FLOW PROCESS DIAGRAM
WWTP Equipment Building
MAIN CONTROL PANEL
SLUDGE DIGESTER BLOWER
EQUALIZATION BLOWER
MAIN AERATION BLOWER #1
MAIN AERATION BLOWER #2
CHEMICAL FEED (Alkalinity)
CHEMICAL FEED (Coagulant)
CHEMICAL FEED (Carbon)
MULTI-MEDIA FILTER
POST AERATION
Backwash to FEQ
Sludge Digester Aeration
Flow Equalization Aeration
Bioreactor Main Aeration
Chemical Feed Supply
Chemical Feed Supply
Chemical Feed Supply
Pumped Flow
Backwash Pumped Flow
INFLUENT (Pumped or Gravity)
FLOW EQUALIZATION (FEQ)
Pumped Flow
PRE-ANOXIC BIOREACTOR (ANX)
Gravity Flow
AERATED BIOREACTOR (IFAS)
Gravity Flow
POST-ANOXIC BIOREACTOR (POSTANX)
Gravity Flow
SECONDARY CLARIFIER (SC)
Stage 1
Stage 2
Gravity Flow
SECONDARY WATER STORAGE
CLEARWELL
GRAVITY DISCHARGE
MLSS (Pumped)
Scum Removal (Pumped)
SLUDGE DIGESTER (SD)
Decanting (pumped)
BIOSOLIDS WASTING (Pump & Haul)
Return Activated Sludge
(Pumped at 0.5 - 1.5 x Q)
Waste Sludge (Pumped)
Treatment Tank 1
Treatment Tank 2

USGS PA Stream Stats:

StreamStats Output Report

State/Region ID	PA		
Workspace ID	PA20250324175444852000		
Latitude	40.58101		
Longitude	-75.80635		
Time	3/24/2025	1:55:07 PM	

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.18	square miles
PRECIP	Mean Annual Precipitation	47	inches
ROCKDEP	Depth to rock	3	feet
STRDEN	Stream Density -- total length of streams	0.5	miles per square mile

Low-Flow Statist	100.0 Percent Low Flow Region 2	
Statistic	Value	Unit
7 Day 2 Year Low	0.0308	ft^3/s
30 Day 2 Year Lov	0.0485	ft^3/s
7 Day 10 Year Lov	0.00759	ft^3/s
30 Day 10 Year Lc	0.0132	ft^3/s
90 Day 10 Year Lc	0.0294	ft^3/s

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JSGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

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Downstream, next node…….at RMI 0 for UNT 063888, confluence with UNT 063887

StreamStats Output Report			
State/Region ID	PA		
Workspace ID	PA20250324180746324000		
Latitude	40.57881		
Longitude	-75.8112		
Time	3/24/2025	2:08:14 PM	
Basin Characteristics			
Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.26	square miles
PRECIP	Mean Annual Precipitation	47	inches
ROCKDEP	Depth to rock	3	feet
STRDEN	Stream Density -- total length of streams divi	1.55	miles per square mile
Low-Flow Statistics Flow R	100.0 Percent Low Flow Region 2		
Statistic	Value	Unit	
7 Day 2 Year Low Flow	0.0164	ft^3/s	
30 Day 2 Year Low Flow	0.0273	ft^3/s	
7 Day 10 Year Low Flow	0.0037	ft^3/s	
30 Day 10 Year Low Flow	0.00671	ft^3/s	
90 Day 10 Year Low Flow	0.0148	ft^3/s	

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Application Version: 4.28.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

0.008	= Q stream (cfs)	0.5	= CV Daily
0.015	= Q discharge (MGD)	0.5	= CV Hourly
30	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations		Reference	CFC Calculations	
TRC	1.3.2.iii	WLA afc =	0.129	1.3.2.iii	WLA cfc =	0.118
PENTOXSD TRG	5.1a	LTAMULT afc =	0.373	5.1c	LTAMULT cfc =	0.581
PENTOXSD TRG	5.1b	LTA_afc=	0.048	5.1d	LTA_cfc =	0.069

Source		Effluent Limit Calculations		
PENTOXSD TRG	5.1f	AML MULT =	1.231	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) =	0.059	AFC
		INST MAX LIMIT (mg/l) =	0.193	

WLA afc	**(.019/e(-k*AFC_tc)) + [(AFC_Yc*Qs*.019/Qd*e(-k*AFC_tc))...** **...+ Xd + (AFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT afc	EXP((0.5*LN(cvh^2+1))-2.326*LN(cvh^2+1)^0.5)
LTA_afc	wla_afc*LTAMULT_afc
WLA_cfc	**(.011/e(-k*CFC_tc) + [(CFC_Yc*Qs*.011/Qd*e(-k*CFC_tc))...** **...+ Xd + (CFC_Yc*Qs*Xs/Qd)]*(1-FOS/100)**
LTAMULT_cfc	EXP((0.5*LN(cvd^2/no_samples+1))-2.326*LN(cvd^2/no_samples+1)^0.5)
LTA_cfc	wla_cfc*LTAMULT_cfc
AML MULT	EXP(2.326*LN((cvd^2/no_samples+1)^0.5)-0.5*LN(cvd^2/no_samples+1))
AVG MON LIMIT	MIN(BAT_BPJ,MIN(LTA_afc,LTA_cfc)*AML_MULT)
INST MAX LIMIT	**1.5*((av_mon_limit/AML_MULT)/LTAMULT_afc)**

(0.011/EXP(-K*CFC_tc/1440))+(((CFC_Yc*Qs*0.011)/(1.547*Qd)....
....*EXP(-K*CFC_tc/1440)))+Xd+(CFC_Yc*Qs*Xs/1.547*Qd))*(1-FOS/100)

Input Data WQM 7.0

General Data

General | Stream | Discharge and Parameters

Stream Code	RMI	Elevation (ft)	Drainage Area (sq mi)	LFY (cfsm)	Slope (ft/ft)	PWS With (mgd)	Apply FC
63888	0.380	680	0.18	0.044	0	0	☑
63888	0.000	620	0.26	0.014	0	0	☑

Add Record
Delete Record

Input Data WQM 7.0

Stream Data

General | Stream | Discharge and Parameters

Design Condition ◉ Q7-10 ○ Q1-10 ○ Q30-10

RMI	Trib Flow (cfs)	Stream Flow (cfs)	Rch Trav Time (days)	Rch Velocity (fps)	WD Ratio	Rch Width (ft)	Rch Depth (ft)	Tributary Temp (ºC)	Tributary pH	Stream Temp (ºC)	Stream pH
0.380	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00
0.000	0.00	0.00	0.000	0.00	0	0.00	0.00	20.00	7.00	0.000	0.00

Input Data WQM 7.0

Discharge and Parameter Data

General | Stream | Discharge and Parameters

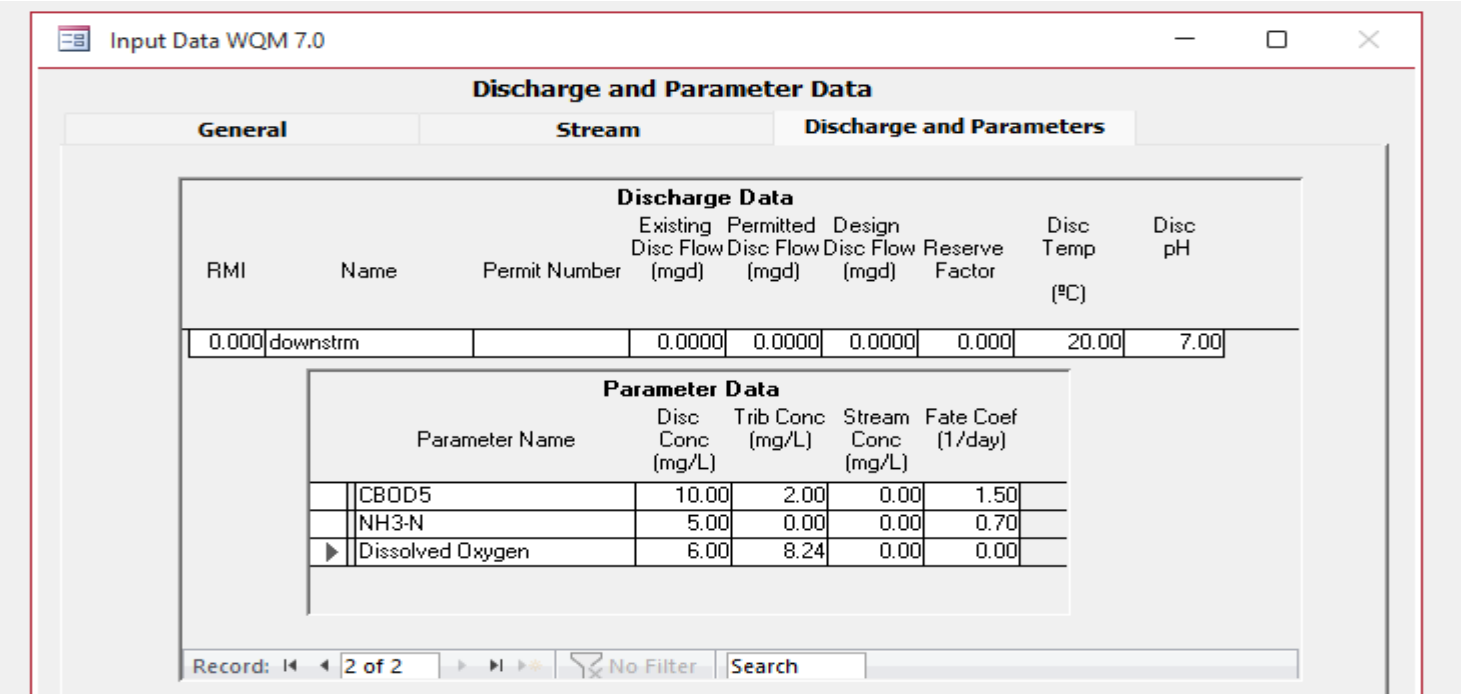
Discharge Data

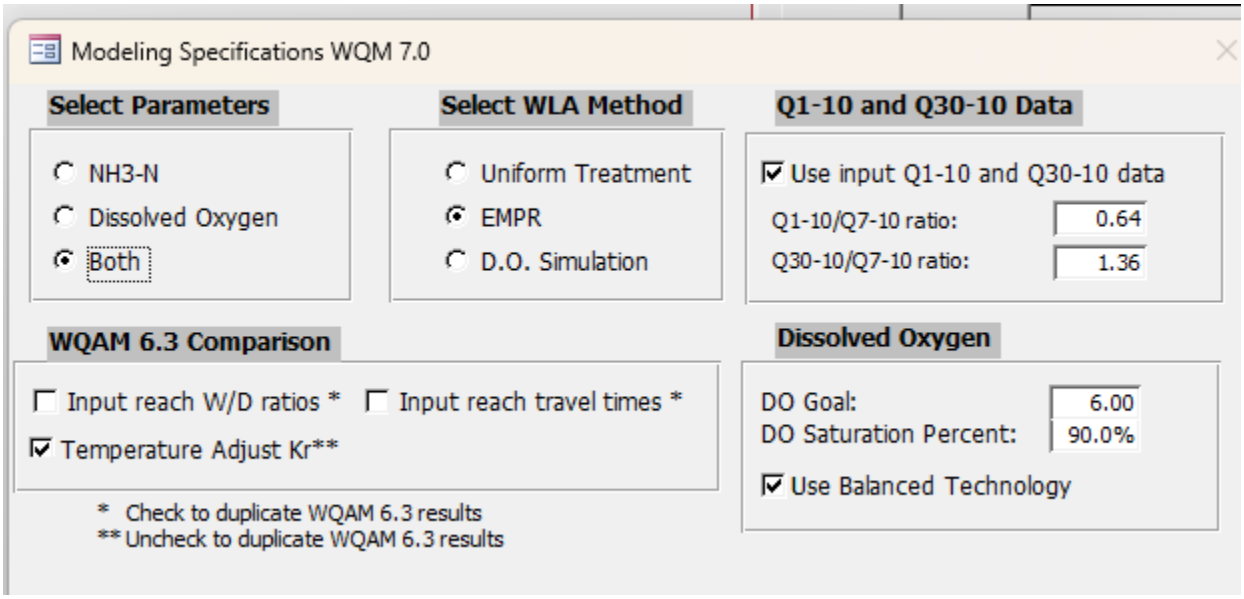
RMI	Name	Permit Number	Existing Disc Flow (mgd)	Permitted Disc Flow (mgd)	Design Disc Flow (mgd)	Reserve Factor	Disc Temp (ºC)	Disc pH
0.380	JVI Krumsville	PA0294578	0.0000	0.0150	0.0000	0.000	25.00	7.00

Parameter Data

Parameter Name	Disc Conc (mg/L)	Trib Conc (mg/L)	Stream Conc (mg/L)	Fate Coef (1/day)
CBOD5	10.00	2.00	0.00	1.50
NH3-N	5.00	0.00	0.00	0.70
Dissolved Oxygen	6.00	8.24	0.00	0.00

Record: 1 of 2 | No Filter | Search


Input Data WQM 7.0
Discharge and Parameter Data
General
Stream
Discharge and Parameters
Discharge Data
RMI
Name
Permit Number
Existing Disc Flow (mgd)
Permitted Disc Flow (mgd)
Design Disc Flow (mgd)
Reserve Factor
Disc Temp (ºC)
Disc pH
0.000
downstrm
0.0000
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/day)
CBOD5
10.00
2.00
0.00
1.50
NH3-N
5.00
0.00
0.00
0.70
Dissolved Oxygen
6.00
8.24
0.00
0.00
Record: 2 of 2
No Filter
Search


Modeling Specifications WQM 7.0
Select Parameters
NH3-N
Dissolved Oxygen
Both
Select WLA Method
Uniform Treatment
EMPR
D.O. Simulation
Q1-10 and Q30-10 Data
Use input Q1-10 and Q30-10 data
Q1-10/Q7-10 ratio:
0.64
Q30-10/Q7-10 ratio:
1.36
WQAM 6.3 Comparison
Input reach W/D ratios *
Input reach travel times *
Temperature Adjust Kr**
* Check to duplicate WQAM 6.3 results
** Uncheck to duplicate WQAM 6.3 results
Dissolved Oxygen
DO Goal:
6.00
DO Saturation Percent:
90.0%
Use Balanced Technology

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

Design Condition: (•) Q7-10 ( ) Q1-10 ( ) Q30-10

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 (ºC)	Analysis pH
0.380	0.01	0.00	0.01	.0232	0.02990	.301	2.03	6.75	0.051	0.456	23.73	7.00

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Total Discharge Flow (mgd)	Analysis Temperature (ºC)	Analysis pH
0.380	0.015	23.728	7.000
Reach Width (ft)	**Reach Depth (ft)**	**Reach WD Ratio**	**Reach Velocity (fps)**
2.031	0.301	6.745	0.051
Reach C-BOD5 (mg/L)	**Reach Kc (1/days)**	**Reach NH3-N (mg/L)**	**Reach Kn (1/days)**
7.96	1.358	1.65	0.933
Reach DO (mg/L)	**Reach Kr (1/days)**	**Kr Equation**	**Reach DO Goal (mg/L)**
6.571	29.716	Owens	6

Reach Travel Time (days): 0.456

Subreach Results

TravTime (days)	CBOD5 (mg/L)	NH3-N (mg/L)	D.O. (mg/L)
0.046	7.40	1.58	7.42
0.091	6.88	1.52	7.68
0.137	6.39	1.45	7.71
0.182	5.94	1.39	7.71
0.228	5.52	1.34	7.71
0.274	5.12	1.28	7.71
0.319	4.76	1.23	7.71
0.365	4.42	1.18	7.71
0.410	4.11	1.13	7.71
0.456	3.82	1.08	7.71

Analysis Results WQM 7.0

Hydrodynamics | NH3-N Allocations | D.O. Allocations | D.O. Simulation | Effluent Limitations

RMI	Discharge Name	Permit Number	Disc Flow (mgd)
0.38	JVI Krumsville	PA0294578	0.0000

Parameter	Effluent Limit 30 Day Average (mg/L)	Effluent Limit Maximum (mg/L)	Effluent Limit Minimum (mg/L)
CBOD5	10		
NH3-N	2.22	4.44	
Dissolved Oxygen			6

Record: 1 of 1 | No Filter | Search

Reach ID	Drainage Area (km^2)	Cumulative Length (km)	Individual Segment Length (km)	Discharge (cms)	Average Velocity (m/s)		Velocity (m/s weighted by Segment Length)
4779039		1.47	1.47		0.35	0.114	0.352
4779043		4.89	3.42		0.33	0.265	
4779041		6.45	1.56		0.34	0.121	
4779047		9.80	3.35		0.35	0.260	
4779053		11.40	1.60		0.40	0.124	
4779059		12.90	1.50		0.37	0.116	
	Distance Traveled	**12.90**	12.90			1	
Distance to lake (km)	**14.00**						
Calculation of delivered load							
Average velocity (m/s)	**0.35**						
Kilometers traveled	**12.90**						
Meters traveled	12,900.00						
$D_1 = D_0 * (e^{-kt})$							
D_0 = edge-of-pipe load	**0.1930**						
D_1 = load delivered to lake							
distance (m) = velocity (m/s) * time (seconds)							
time (seconds) = distance (m)/velocity (m/s)	36,606						
Travel time (days)	0.424						
$e^{(-kt)}$	0.996						
$D_1 = D_0 * (e^{-kt})$	**0.1922**		0.00082				**MAXATAWNY STP**

Warehouse 1							
Reach ID	Drainage Area (km^2)	Cumulative Length (km)	Segment Length (km)	Discharge (cms)	Average Velocity (m/s)		Velocity (m/s weighted by Segment Length)
4778977	7.64			0.15			
4778989	19.53	4.85	4.85	0.371	0.29	0.346	0.306
4779005	245.09	7.88	3.03	4.83	0.31	0.216	
4779015	252.1	8.64	0.76	4.95	0.32	0.054	
4779045	262.14	10.70	2.06	5.12	0.31	0.147	
4779053	410.13	12.30	1.60	7.52	0.32	0.114	
4779059	420.46	14.00	1.70	7.70	0.31	0.121	
	Distance Traveled	**14.00**	**14.00**		**0.31**		**0.31**

Calculation of delivered load	
Average velocity (m/s)	**0.31**
Kilometers traveled	**14.00**
Meters traveled	14,000.00
$D_1 = D_0 * (e^{-kt})$	
D_0 = edge-of-pipe load	**0.0100**
D_1 = load delivered to lake	

0.015 MGD. 0.5 mg/l TP average monthly limit, TP load = 22.8 lbs/year

distance (m) = velocity (m/s) * time (seconds)			
time (seconds) = distance (m)/velocity (m/s)	45,750		
Travel time (days)	0.530		
$e^{(-kt)}$	0.995		
$D_1 = D_0 * (e^{-kt})$	**0.0099**		0.00005

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

DEC 0 9 2008

Mr. Lee McDonnell, Program Manager
Water Management Program
PA DEP, South Central Regional Office
909 Elmerton Avenue
Harrisburg, Pennsylvania 17110-8200

Dear Mr. McDonnell:

The U.S. Environmental Protection Agency (EPA) has reviewed your request to amend the wasteload allocations and load allocations for the phosphorus Total Maximum Daily Load (TMDL) in the Lake Ontelaunee Basin. As indicated in your letter, Maxatawney Township has requested permission to construct a 140,000 GPD Wastewater Treatment Plant that will take 313 homes off the on-lot septic systems. To accommodate this new treatment plant, the wasteload allocation will need to be increased by 0.193 t/year, from 2.77 t/year to 2.963 t/year. The 0.193 t/year increase in the wasteload allocation for the new treatment plant will be removed from the load allocation. First, the 0.004 t/year allocated to on-lot septic systems will be reduced when the facility is operational. Further, the Pennsylvania Department of Environmental Protection is reducing the hay/pasture load allocation another 0.189 t/year, from 1.0 t/year in the 2004 TMDL, to 0.811 t/year. This would leave the phosphorus TMDL at 10.65 t/year.

In the original TMDL established by EPA on August 9, 2004, simulation modeling demonstrated that a TMDL of 10.65 t/year would be protective of applicable water quality standards. Based upon this information, and reasonable assurance provided in the TMDL and TMDL amendment, EPA approves the requested modifications to the TMDL.

If you have any questions or comments concerning this letter, please do not hesitate to call me at 215 814-5796.

Sincerely,

Helene Drago

Helene Drago, TMDL Program Manager
Office of Standards, Assessment & TMDLs

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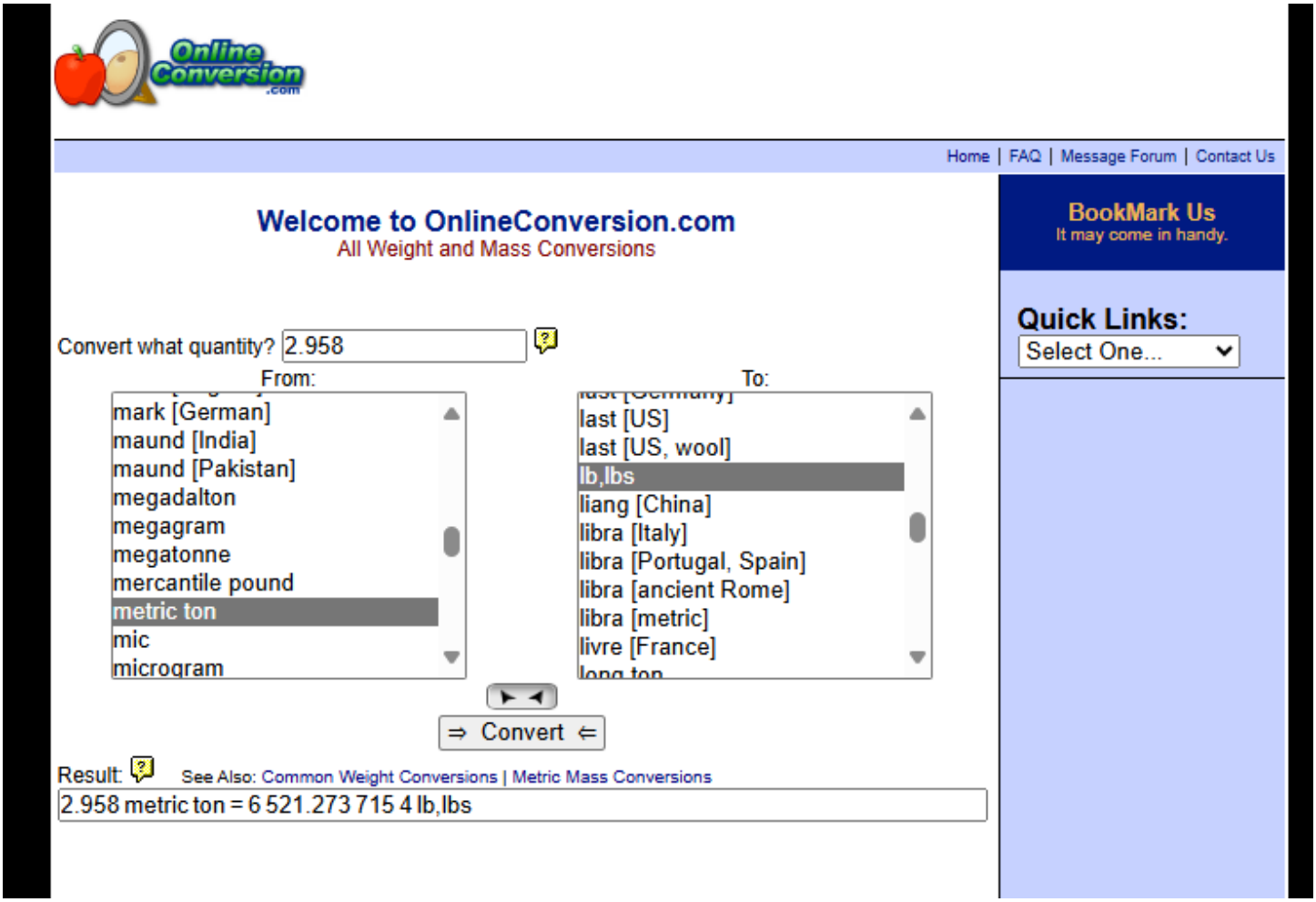
WATERSHED MANAGEMENT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microgram
To:
last [US]
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lb,lbs
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libra [Portugal, Spain]
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libra [metric]
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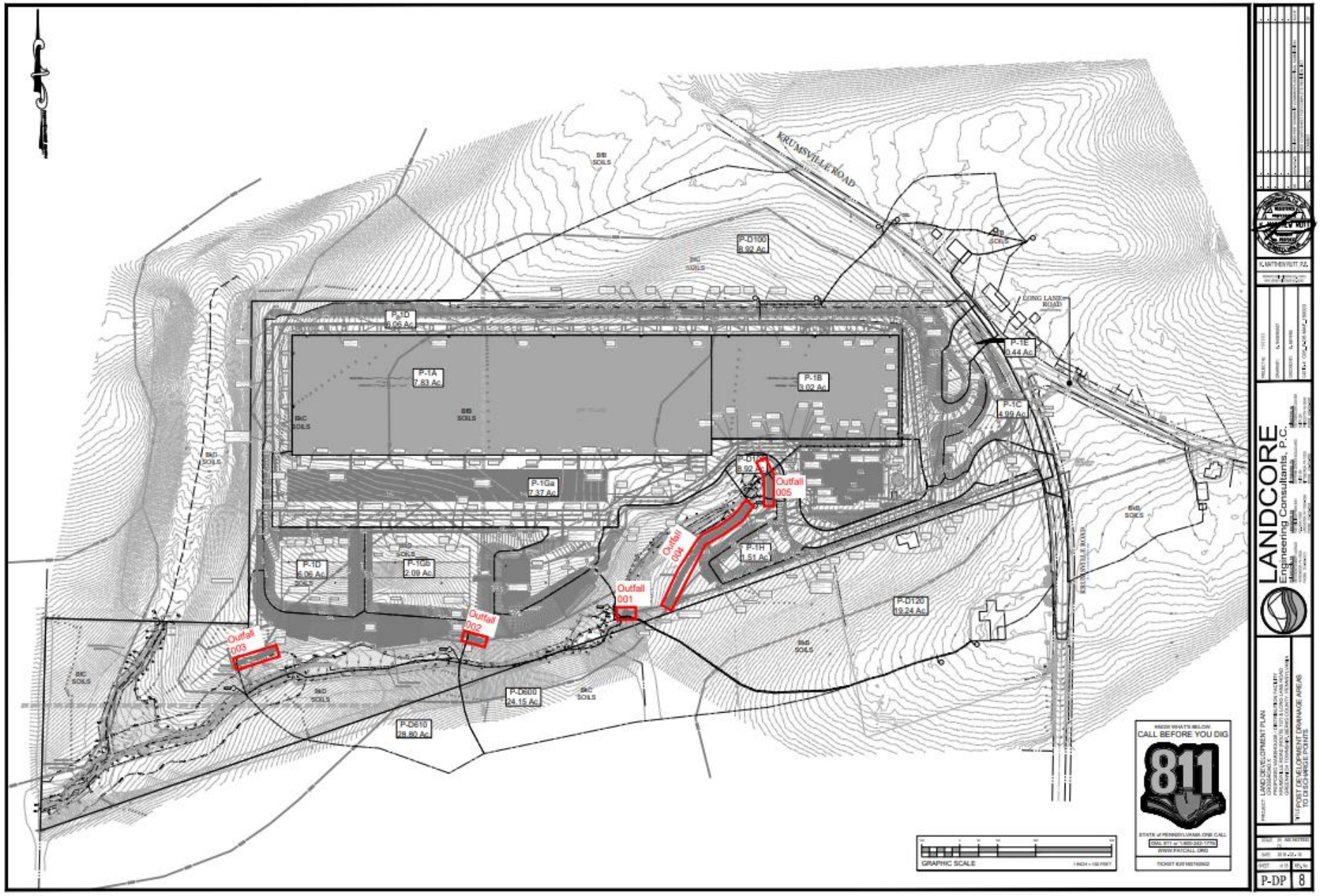
⇒ Convert ⇐
Result:
See Also: Common Weight Conversions | Metric Mass Conversions
2.958 metric ton = 6 521.273 715 4 lb,lbs


KRUMSVILLE ROAD
LONG LANE ROAD
P-1A 7.83 Ac
P-1B 3.02 Ac
P-1C 4.99 Ac
P-1D 5.06 Ac
P-1E 0.44 Ac
P-1F 2.09 Ac
P-1G 7.37 Ac
P-1H 1.51 Ac
P-DT100 8.92 Ac
P-DT10 8.92
P-DT20 19.24 Ac
P-D600 24.15 Ac
P-D610 28.80 Ac
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