

Application Type Renewal
Facility Type Municipal
Major / Minor Minor

**NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE**

Application No. PA0229253
APS ID 1102273
Authorization ID 1464290

Applicant and Facility Information

Applicant Name	<u>Karthaus Burnside Joint Sewer Authority</u>	Facility Name	<u>Karthaus Burnside WWTP</u>
Applicant Address	<u>PO Box 97</u> <u>Karthaus, PA 16845-0097</u>	Facility Address	<u>89 Tipple Road</u> <u>Karthaus, PA 16845</u>
Applicant Contact	<u>Shane Barnyak</u>	Facility Contact	<u>Shane Barnyak</u>
Applicant Phone	<u>(814) 571-5519</u>	Facility Phone	<u>(814) 571-5519</u>
Client ID	<u>259996</u>	Site ID	<u>697579</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Karthaus Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Clearfield</u>
Date Application Received	<u>December 4, 2023</u>	EPA Waived?	<u>Yes</u>
Date Application Accepted	<u>December 8, 2023</u>	If No, Reason	<u></u>
Purpose of Application	<u>Renewal of existing NPDES permit</u>		

Summary of Review

The above permittee has submitted an NPDES renewal application for their existing wastewater treatment plant (WWTP) that serves Burnside Township and Karthaus Township. The existing WWTP is a 0.115 MGD dual train extended aeration WWTP. Only one train is operated due to low flows. Following an equalization tank (29,623 gallons) and a bar screen, wastewater is conveyed to one of the treatment trains via a distribution box. Each train consists of an anoxic tank (15,697 gallons), an aeration tank (63,308 gallons), and a clarifier (19,479 gallons). A single chlorine disinfection system, made up of sodium hypochlorite (liquid) injection and a chlorine contact tank (3,554 gallons), a dechlorination system (969-gallon contact tank), a polishing tank (3,554 gallons) and an aerated sludge holding/digestion tank (53,328 gallons) follow the dual treatment trains. Caustic soda is added for pH adjustment while Alum is added for Phosphorus removal. This WWTP was designed to provide biological nutrient reduction (BNR).

Sludge use and disposal description and location(s): Pine Creek Township WWTP and Kelly Township WWTP

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		<i>Chad A. Fabian</i> Chad A. Fabian / Project Manager	January 8, 2026
X		<i>Nicholas W. Hartranft, P.E.</i> Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	January 9, 2026

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>0.115</u>
Latitude	<u>41° 07' 04.20"</u>	Longitude	<u>-78° 06' 28.63"</u>
Quad Name	<u>Karthaus, PA</u>	Quad Code	<u>41078</u>
Wastewater Description: <u>Sewage Effluent</u>			
Receiving Waters	<u>West Branch Susquehanna River</u>	Stream Code	<u>18668</u>
NHD Com ID	<u>61828895</u>	RMI	<u>131.4</u>
Drainage Area	<u>1460</u>	Yield (cfs/mi ²)	<u>0.1607</u>
Q ₇₋₁₀ Flow (cfs)	<u>234.679</u>	Q ₇₋₁₀ Basis	<u>USGS Gage #01542500</u>
Elevation (ft)	<u>850</u>	Slope (ft/ft)	<u>N/A</u>
Watershed No.	<u>8-D</u>	Chapter 93 Class.	<u>WWF</u>
Existing Use	<u>None</u>	Existing Use Qualifier	<u>N/A</u>
Exceptions to Use	<u>None</u>	Exceptions to Criteria	<u>N/A</u>
Assessment Status	<u>Attaining Use(s)</u>		
Cause(s) of Impairment	<u>Metals</u>		
Source(s) of Impairment	<u>AMD</u>		
TMDL Status	<u>Final</u>	Name	<u>West Branch Susquehanna</u>
Nearest Downstream Public Water Supply Intake	<u>Pennsylvania-American Water Company at Milton, PA</u>		
PWS Waters	<u>West Branch Susquehanna River</u>	Flow at Intake (cfs)	<u>679.73</u>
PWS RMI	<u>10.66</u>	Distance from Outfall (mi)	<u>120</u>

Changes Since Last Permit Issuance: None

Compliance History	
Summary of DMRs:	eDMRs have been reviewed for the previous 12 months. A summary table of results can be found in a table on the next page. One effluent violation occurred for an exceedance of TSS on 7/31/2015. The violation can be found in the non-compliance table on the next page.
Summary of Inspections:	The most recent inspection was performed by the Department on July 7, 2015. No violations were found during the inspection.

Compliance History

DMR Data for Outfall 001 (from December 1, 2024 to November 30, 2025)

Parameter	NOV-25	OCT-25	SEP-25	AUG-25	JUL-25	JUN-25	MAY-25	APR-25	MAR-25	FEB-25	JAN-25	DEC-24
Flow (MGD) Average Monthly	0.0237	0.0205	0.0202	0.019	0.0326	0.0374	0.0517	0.034	0.0425	0.0349	0.0304	0.033
Flow (MGD) Daily Maximum	0.0411	0.0331	0.0297	0.0277	0.0433	0.0802	0.105	0.0685	0.0789	0.0839	0.0443	0.0503
pH (S.U.) Instantaneous Minimum	6.97	6.78	6.34	6.11	6.41	6.81	6.34	6.77	6.41	6.52	6.47	6.82
pH (S.U.) Instantaneous Maximum	7.81	7.15	7.18	7.06	7.43	7.8	7.91	7.36	7.29	7.69	7.69	8.0
DO (mg/L) Instantaneous Minimum	3.52	3.45	3.44	3.87	3.55	3.71	3.51	3.61	3.42	3.81	3.93	3.69
TRC (mg/L) Average Monthly	0.33	0.34	0.34	0.33	0.35	0.34	0.35	0.35	0.34	0.33	0.34	0.33
TRC (mg/L) Instantaneous Maximum	0.40	0.45	0.40	0.40	0.45	0.45	0.47	0.51	0.49	0.43	0.56	0.43
CBOD5 (lbs/day) Average Monthly	1	1	0.8	1	< 0.5	< 0.7	1	< 0.8	0.7	< 0.8	2	2
CBOD5 (lbs/day) Weekly Average	2	2	1.0	1	0.6	1	2	1.0	1	0.8	2	2
CBOD5 (mg/L) Average Monthly	8.0	8.0	5.0	7.0	< 3.0	< 3.0	3.0	< 3.0	2.0	< 3.0	7.0	6.0
CBOD5 (mg/L) Weekly Average	10.0	11.0	6.0	9.0	4.0	3.0	3.0	5.0	3.0	4.0	8.0	8.0
BOD5 (lbs/day) Raw Sewage Influent Average Monthly	11	8	7	7	15	17	21	17	20	24	26	23
BOD5 (mg/L) Raw Sewage Influent Average Monthly	64	45	43	52	81	54	52	63	69	93	100	88
TSS (lbs/day) Average Monthly	3	4	3.0	3	3	2	5	2	2	2	4	3
TSS (lbs/day) Raw Sewage Influent Average Monthly	8	7	5	4	19	17	53	22	56	49	64	44

**NPDES Permit Fact Sheet
Karthaus Burnside WWTP**

NPDES Permit No. PA0229253

TSS (lbs/day) Weekly Average	3	5	4.0	5	9	2.0	9	3	2	3	6	5
TSS (mg/L) Average Monthly	15.0	21.0	17.0	23.0	21.0	6.0	11.0	10.0	6.0	10.0	14.0	13.0
TSS (mg/L) Raw Sewage Influent Average Monthly	45	39	30	30	100	51	152	81	176	221	252	153
TSS (mg/L) Weekly Average	16.0	29.0	24.0	31.0	58.0	10.0	15.0	15.0	9.0	13.0	21.0	16.0
Fecal Coliform (No./100 ml) Geometric Mean	227	183	100	63	< 6	19	< 10	< 3	< 18	2	< 5	< 3
Fecal Coliform (No./100 ml) Instantaneous Maximum	471	3960	835	650	161.6	98.5	201.4	61.3	2419.6	8.6	40.4	26
Total Aluminum (mg/L) Daily Maximum												0.548
Total Iron (mg/L) Daily Maximum												< 0.200
Total Manganese (mg/L) Daily Maximum												0.0457

Compliance History

Effluent Violations for Outfall 001, from: January 1, 2025 To: November 30, 2025

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TSS	07/31/25	Wkly Avg	58.0	mg/L	45.0	mg/L

Other Comments: There are not any open violations, according to a WMS open violations report.

Development of Effluent Limitations				
Outfall No.	001	Design Flow (MGD)	.115	
Latitude	41° 7' 6.40"	Longitude	-78° 6' 30.40"	
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: Previous TRC spreadsheet modeling indicates the above technology standard is protective of water quality standards.

Water Quality-Based Limitations

The Department’s WQM7.0 model allows the Department to evaluate point source discharges of dissolved oxygen (DO), carbonaceous BOD (CBOD₅), and ammonia-nitrogen (NH₃-N) into free-flowing streams and rivers. To accomplish this, the model simulates two basic processes: the mixing and degradation of NH₃-N in the stream and the mixing and consumption of DO in the stream due to the degradation of CBOD₅ and NH₃-N. WQM7.0 modeling was previously performed for the discharge to the West Branch of the Susquehanna River. No changes to the receiving water body have occurred. Additionally, no changes to the characteristics of the discharge have changed. Per the Department’s SOP for reissuance of NPDES permits, no additional WQM7.0 modeling is required.

A “Reasonable Potential Analysis” was not performed since the facility is not required to test for toxics due to the low flow design of the discharge and lack of industrial contributors.

Best Professional Judgment (BPJ) Limitations

Comments: None

Anti-Backsliding

This draft permit does not propose to relax any of the existing limitations.

Chesapeake Bay TMDL

Despite 25 years of extensive restoration efforts, the Chesapeake Bay Total Maximum Daily Load (TMDL) was prompted by insufficient progress and continued poor water quality in the Chesapeake Bay and its tidal tributaries. This TMDL, required by the Clean Water Act, is the largest ever developed by the Environmental Protection Agency (EPA). This document identifies the necessary pollution reductions of nitrogen, phosphorus and sediment across Delaware, Maryland, New York, Virginia, West Virginia, District of Columbia and Pennsylvania. It also sets pollution limits necessary to meet applicable water quality standards in the Bay, tidal rivers and embayments.

Pennsylvania explains how and when it will meet its pollution allocations in its Watershed Implementation Plan (WIP), which is incorporated into the TMDL. Pennsylvania’s permitting strategy for significant dischargers has been outlined in

the Phase I WIP and incorporated in the Phase II WIP by reference and imposes Total Nitrogen (TN) and Total Phosphorus (TP) cap loads on the significant dischargers.

The design of this facility is less than 0.2 MGD and is considered this an existing Phase 5 sewage facility for the purposes of implementing the Chesapeake Bay TMDL. According to the Department's Wastewater Supplement to Phase II WIP (last revised November 08, 2018), renewed Phase 5 facilities are required to contain monitoring and reporting for TN and TP throughout the permit term at a frequency of no less than annually, unless the facility has conducted at least two years of nutrient monitoring.

The facility performed the required 2 years of nutrient monitoring in 2011 and 2012. Therefore, no monitoring for nutrients is proposed within this permit term.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Metered
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	Report Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
CBOD5	23	38	XXX	25.0	40.0	50	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	28	43	XXX	30.0	45.0	60	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
Total Aluminum	XXX	XXX	XXX	Report Annl Avg	Report Daily Max	XXX	1/year	Grab
Total Iron	XXX	XXX	XXX	Report Annl Avg	Report Daily Max	XXX	1/year	Grab
Total Manganese	XXX	XXX	XXX	Report Annl Avg	Report Daily Max	XXX	1/year	Grab
E. Coli	Report	XXX	XXX	Report	XXX	XXX	1/quarter	Grab

Compliance Sampling Location: 001

Other Comments:

- All the above proposed effluent limits and monitoring frequencies are the same as the existing permit.
- The above proposed monitoring for metals is to show that the discharge is not contributing to the impairment.

It is recommended the permit be drafted as described herein.



Approve	Deny	Signatures	Date
X		<i>Chad A. Fabian</i> Chad A. Fabian / Project Manager	January 8, 2026
X		<i>Nicholas W. Hartranft, P.E. /</i> Nicholas W. Hartranft, P.E. / Environmental Engineer Manager	January 9, 2026