

 Application Type
 Renewal

 Facility Type
 Industrial

 Major / Minor
 Minor

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

 Application No.
 PA0261891

 APS ID
 787575

 Authorization ID
 1307316

Applicant and Facility Information

Applicant Name	Bear Valley Franklin County PA Joint Authority	Facility Name	Fort Loudon WTP
Applicant Address	218 School House Road	Facility Address	Brooklyn Road Peters Twp
	St Thomas, PA 17252-0308		Ft Loudon, PA 17224
Applicant Contact	Glynn Kindelan	Facility Contact	Glynn Kindelan
Applicant Phone	(717) 369-2828	Facility Phone	(717) 389-2828
Client ID	37850	Site ID	764170
SIC Code	4941	Municipality	Peters Township
SIC Description	Trans. & Utilities - Water Supply	County	Franklin
Date Application Rece	eived January 31, 2020	EPA Waived?	Yes
Date Application Acce	epted March 4, 2020	If No, Reason	
Purpose of Applicatio	n NPDES Renewal.		

Summary of Review

Bear Valley Franklin County PA Joint Authority (Bear Valley) has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its NPDES permit. The permit was originally issued on May 21, 2015 and became effective on June 1, 2015. The permit will expire on May 31, 2020.

Based on the review, it is recommended that the permit be drafted.

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
		Jinsu Kim / Environmental Engineering Specialist	April 17, 2020
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Program Manager	

NPDES Permit Fact Sheet Fort Loudon WTP

Discharge, Receiving Waters and Water Supply Information							
Outfall No. 001		Design Flow (MGD)	0.0364				
Latitude 39° 54	4' 0.00"	Longitude	77° 52' 56.50"				
Quad Name Mc	Connellsburg	Quad Code	1922				
Wastewater Descrip	otion: Water Treatment Effluent						
	Unnamed Tributary of West Branch						
Receiving Waters	Conococheague Creek (TSF, MF)	Stream Code	_59565				
NHD Com ID	49482890	RMI	0.40				
Drainage Area	0.24	Yield (cfs/mi ²)	0.111				
Q ₇₋₁₀ Flow (cfs)	Q ₇₋₁₀ Flow (cfs) 0.0266		USGS Gage 01614500				
Elevation (ft)		Slope (ft/ft)					
Watershed No.	13-C	Chapter 93 Class.	TSF, MF				
Existing Use	TSF, MF	Existing Use Qualifier					
Exceptions to Use		Exceptions to Criteria					
Assessment Status	Attaining Use(s)						
Cause(s) of Impairm	nent						
Source(s) of Impairr	nent						
TMDL Status		Name					
		_					
Nearest Downstrear	m Public Water Supply Intake	agerstown, Maryland					
PWS Waters F	Potomac River	Flow at Intake (cfs)					
PWS RMI		Distance from Outfall (mi)					

Drainage Area

The discharge is to UNT of West Branch Conococheague Creek at RM 0.40. A drainage area upstream of the point of discharge is estimated to be 0.24 sq.mi. using USGS StreamStats available at <u>https://streamstats.usgs.gov/ss/</u>. A Point of First Use survey was conducted by DEP biologist on December 5, 2012 and indicated that the point of first use is at the discharge location. The survey however indicated that the stream is expected to lose surface flow in many summers due to the low macroinvertebrate diversity, the taxa found, and the physical characteristics of the stream.

Streamflow

USGS StreamStats produced a Q7-10 flow of 0.00295 cfs. However, the estimated drainage area is lower than the minimum required drainage area to accurately compute the low flow statistics in which USGS StreamStats calculated low flow statistics with unknown errors. As a result, a low flow yield method using a nearby USGS gage station no. 01614500 is used to calculate the Q7-10 flow as follows:

Low Flow Yield = 55.2 cfs / 494 sq. mi. = 0.111 cfs/sq.mi. Q7-10 = 0.111 cfs/sq.mi. * 0.24 sq.mi. = 0.0266 cfs.

Unnamed Tributary of West Branch Conococheague Creek

Under 25 Pa Code §93.9z, all unnamed tributaries to West Branch Conococheague Creek from US 30 Bridge to PA-MD State Border are designated as trout stocking fishes and support migratory fishes. No special protection water is impacted by this discharge. DEP's latest integrated water quality report developed in 2018 indicates that the discharge is located within a stream segment listed as attaining use(s).

Public Water Supply Intake

The neared downstream public water supply intake is on the Potomac River near Hagerstown, MD. Given the distance and nature of the discharge, the discharge is not expected to impact the water supply.

	Tre	atment Facility Summa	ary	
Treatment Facility Na	me: Bear Valley Authority V	Vater System		
WQM Permit No.	Issuance Date			
2814401	05/21/2015			
	Degree of			
Waste Type	Treatment	Process Type	Disinfection	Flow (MGD)
Industrial	Physical (Industrial Waste)	Sedimentation	N/A	0.0364
Hydraulic Capacity (MGD)	Organic Capacity (Ibs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.0728	0.01	N/A	N/A	N/A

Bear Valley owns and operates a municipal water treatment plant. Any waste generated during the water treatment process is sent to an onsite wastewater treatment plant which is a waste holding tank and sand drying beds. Filter backwash from membrane filtration units and wastes from flocculation/sedimentation process are sent to a waste holding tank. Effluent from this holding tank is discharged via Outfall 001 to the stream. Supernatant from drying beds which receive solids from the waste holding tank is also sent to Outfall 001. Any overflow from clearwell (WTP) is sent to Outfall 001 during the emergency situations. Dechlorination is provided in a manhole prior to stream discharge. Solids from the drying beds will be hauled to disposal site.

Compliance History										
Summary of DMRs:	A summary	A summary of past 12-month DMR data is presented on the next page.								
Summary of Inspections:	1/16/2018: inspection of inspectio	1/16/2018: Patrick Bowen, former DEP Water Quality Specialist, conducted a routine inspection and noted that effluent appeared clear. No violations were identified at the time of inspection.								
Other Comments:	DEP's database revealed that there is no open violation associated with this facility or permittee. Since the issuance of the original permit, the facility had two (2) permit violations 4/11/2017 (failure to use a format or process required by DEP for self-monitoring results) 1/22/2020 (failure to submit an application at least 180 days prior to commencing a discharge). These violations were resolved and closed. The facility also had the following effluent violations since the commencement of discharge									
	Date	PARAMETER	Results	Limits	Units	SBC				
	Nov-18	Aluminum, Total	2.57	1.4	mg/L	Daily Maximum				
	Nov-18	Aluminum, Total	1.44	0.7	mg/L	Average Monthly				
	May-19	Aluminum, Total	4.47	1.4	mg/L	Daily Maximum				
	May-19	Aluminum, Total	1.8	0.7	mg/L	Average Monthly				
	Feb-20	Aluminum, Total	2.1	1.4	mg/L	Daily Maximum				
	Feb-20	Aluminum, Total	0.85	0.7	mg/L	Average Monthly				

Effluent Data

DMR Data for Outfall 001 (from March 1, 2019 to February 29, 2020)

Parameter	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19
Flow (MGD)												
Average Monthly	0.013	0.014	0.012	0.015	0.018	0.014		0.028	0.023	0.020	0.022	0.019
Flow (MGD)												
Daily Maximum	0.028	0.018	0.024	0.022	0.030	0.023		0.037	0.033	0.033	0.031	0.026
pH (S.U.)												
Minimum	7.0	6.4	6.7	6.3	6.9	7.4		7.4	6.7	7.4	6.6	7.2
pH (S.U.)												
Maximum	8.0	7.8	7.9	7.8	7.6	7.7		7.7	7.8	8.0	7.7	7.6
TRC (mg/L)												
Average Monthly	0.04	0.06	0.05	0.04	0.03	0.02		0.06	0.01	0.02	0.03	0.02
TRC (mg/L)												
Instantaneous												
Maximum	0.09	0.10	0.18	0.07	0.07	0.04		0.10	0.06	0.06	0.08	0.12
TSS (mg/L)												
Average Monthly	13.1	5.50	5.04	< 4.38	2.40	6.50		2.50	3.63	< 6.00	5.40	2.87
TSS (mg/L)												
Daily Maximum	41.5	6.50	12	8.00	5.00	8.00		4.00	5.50	14.0	10	4.00
Nitrate-Nitrite (lbs/day)												
Annual Average			< 0.23									
Nitrate-Nitrite (mg/L)			4.40									
Average Monthly			< 1.49					-				
I otal Nitrogen												
(IDS/day)												
Annual Average			< 0.39									
I otal Nitrogen												
(IDS/day)			102									
			< 103									
Average Monthly			- 2.10									
Total Nitrogon (lbs)			< 2.49									
Total Annual						- 99.64						
						< 33.04						
Appual Average			< 0.16									
TKN (mg/L)			< 0.10									
Average Monthly			< 1.00									
Total Phosphorus			< 1.00									
(lbs/dav)												
Annual Average			< 0.007									

NPDES Permit Fact Sheet Fort Loudon WTP

NPDES Permit No. PA0261891

Total Phosphorus											
(lbs/day)											
Total Annual			< 2.08								
Total Phosphorus											
(mg/L)											
Average Monthly			< 0.05								
Total Phosphorus (lbs)											
Total Annual						< 2.03					
Total Aluminum											
(mg/L)											
Average Monthly	0.85	0.53	0.50	0.48	0.46	0.38	0.39	0.49	1.80	0.55	0.47
Total Aluminum											
(mg/L)											
Daily Maximum	2.10	0.73	0.98	1.18	0.84	0.48	0.41	0.75	4.47	1.07	0.70
Total Iron (mg/L)											
Average Monthly	< 0.06	< 0.05	< 0.08	< 0.09	< 0.08	< 0.05	< 0.08	< 0.06	< 0.10	< 0.06	< 0.05
Total Iron (mg/L)											
Daily Maximum	0.08	0.06	0.12	0.14	0.18	< 0.05	0.10	0.08	0.14	0.08	< 0.05
Total Manganese											
(mg/L)											
Average Monthly	0.35	0.15	0.28	0.20	0.16	0.18	0.07	< 0.03	< 0.02	< 0.02	< 0.02
Total Manganese											
(mg/L)											
Daily Maximum	0.47	0.20	0.86	0.32	0.20	0.30	0.07	0.03	0.03	< 0.02	< 0.02
Total Zinc (mg/L)											
Average Monthly	0.008	< 0.007	< 0.005	< 0.007	0.007	0.019	< 0.007	< 0.008	< 0.009	< 0.008	0.008
Total Zinc (mg/L)											
Daily Maximum	0.013	0.010	0.007	0.012	0.008	0.029	0.008	0.010	0.015	0.013	0.009

Existing Effluent Limits and Monitoring Requirements

The table below summarizes effluent limitations and monitoring requirements specified in the current NPDES permit renewal.

		Monitoring Requirements						
Baramotor	Mass Units	s (Ibs/day) ⁽¹⁾		Concentrat	ions (mg/L)		Minimum ⁽²⁾	Required
Farameter	Annual			Average	Daily	Instant.	Measurement	Sample
	Average	Total Annual	Minimum	Monthly	Maximum	Maximum	Frequency	Туре
	Report	Report						
Flow (MGD)	Avg Mo	Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	ххх	XXX	6.0	xxx	XXX	9.0	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.08	XXX	0.25	1/day	Grab
								8-Hr
Total Suspended Solids	XXX	XXX	XXX	30	60	75	1/week	Composite
								8-Hr
Nitrate-Nitrite as N	Report	XXX	XXX	Report	XXX	XXX	1/year	Composite
Total Nitrogen	Report	Report	XXX	Report	XXX	XXX	1/year	Calculation
								8-Hr
Total Kjeldahl Nitrogen	Report	XXX	XXX	Report	XXX	XXX	1/year	Composite
Total Phosphorus	Report	Report	XXX	Report	xxx	XXX	1/year	8-Hr Composite
·		•		•				8-Hr
Total Aluminum	XXX	XXX	XXX	0.70	1.40	1.75	1/week	Composite
								8-Hr
Total Iron	XXX	XXX	XXX	2.0	4.0	5.0	1/week	Composite
								8-Hr
Total Manganese	XXX	XXX	XXX	1.0	2.0	2.5	1/week	Composite
	VVV	VVV	~~~~	0.00	0.40	0.50	4 /	8-Hr
I OTAI ZINC	XXX	XXX	XXX	0.20	0.40	0.50	1/WEEK	Composite

Development of Effluent Limitations

Outfall No.	001		Design Flow (MGD)	.0364
Latitude	39º 54' 0.00"		Longitude	-77º 52' 56.50"
Wastewater D	escription:	Water Treatment Effluent		

Technology-Based Limitations

DEP's technical guidance no. 362-2183-003 addresses technology-based control requirements along with the following recommended Best Practicable Control Technology Currently Available (BPT) effluent requirements for WTP sludge and filter backwash:

Parameter	Limit (mg/l)	SBC	
Supponded Solida	30	Average Monthly	
Suspended Solids	60	Daily Maximum	
Iron Total	2.0	Average Monthly	
ITON, TOTAL	4.0	Daily Maximum	
	4.0	Average Monthly	
Aluminum, Totai	8.0	Daily Maximum	
Manganaga Tatal	1.0	Average Monthly	
Manganese, Totai	2.0	Daily Maximum	
Flow	Monitor	Average Monthly	
	6.0	Minimum	
рп	9.0	Maximum	
Total Basidual Chlorina	0.5	Average Monthly	
Total Residual Chionne	1.0	Daily Maximum	

These requirements apply, subject to water quality analysis and/or BPJ.

Water Quality-Based Limitations

WQM 7.0

CBOD5 and NH3-N are not pollutants of concern for the water treatment waste as the discharge of these pollutants is not resulting from the water treatment process. Therefore, WQM 7.0 modeling is not necessary and permit requirements for these pollutants are not recommended.

Total Residual Chlorine

Chlorine is used prior to filtrations. Also, any overflow from clearwell is sent to Outfall 001. DEP's TRC_CALC worksheet showed existing effluent limits are still adequate. No change is therefore recommended.

Toxics

Total Aluminum, Total Iron, and Total Manganese are existing toxic pollutants of concern and have numerical effluent limits in the permit. These effluent limits as mentioned earlier are also required by the technical guidance. PENTOXSD indicated that existing WQBELs for these pollutants are still protective of water quality. No change is therefore recommended. Previously, DEP developed WQBELs (0.2 mg/L average monthly, 0.4 mg/L daily maximum and 0.5 mg/L IMAX) for Total Zinc as zinc orthophosphate is using as a corrosion inhibitor. This is a reasonable approach and PENTOXSD showed that existing effluent limits are still protective of water quality. No change is therefore recommended.

Additional Considerations

Flow Monitoring Flow monitoring will remain in the permit and is required by 40 CFR § 122.44(i)(1)(ii).

Chesapeake Bay TMDL

The facility has monitored nutrients during the last permit term. The results are shown on the table below:

Parameter	2018	2019
Total Nitrogen, mg/L	<4.98	<2.49
Total Nitrogen Annual Average lbs/day	<1.12	<0.39
Total Nitrogen Total Annual lbs	<257	<99.64
Total Phosphorus, mg/L	<0.05	<0.05
Total Phosphorus Annual Average, lbs/day	<0.01	<0.007
Total Phosphorus Total Annual, lbs	<2.55	<2.03

In general, the discharge from water treatment plants do not contain high levels of nutrients unless the facility uses nutrientbased chemicals for maintenance/treatment purposes or intake water already contains high levels of nutrients. DEP's Supplement to Phase III Watershed Implementation Plan (WIP) indicates that monitoring and reporting of TN and TP are necessary for non-significant IW facilities throughout the permit term anytime the facility has the potential to introduce a net TN or TP increase to the load contained within the intake water used in processing. Based on previous sample results and activities performed at the site, nutrient monitoring is no longer required. The existing nutrient monitoring requirement will therefore be removed from the permit.

Mass Loading Effluent Limitations

DEP's technical guidance no. 362-0400-001 recommends mass loading effluent limits for those pollutants that have water quality based limits and monitoring requirements for those that have technology based concentration limits. Accordingly, mass loading effluent limits based on the flow of 0.0364 MGD are recommended for Total Aluminum and Total Zinc and mass loading monitoring requirements are recommended for Total Iron, Total Manganese and Total Suspended Solids.

Anti-Degradation requirements

The effluent limits for this discharge have been developed to ensure the existing in-stream uses and the level of water quality necessary to protect the existing uses are maintained and protected.

Class A Wild Trout Fishery

No Class A Wild Trout is impacted by this discharge.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

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

		Monitoring Re	quirements					
Baramatar	Mass Units	(lbs/day) ⁽¹⁾		Concentrat	Minimum ⁽²⁾	Required		
Farameter	Average Monthly	Average Weekly	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report Daily Max	XXX	XXX	xxx	xxx	Continuous	Measured
pH (S.U.)	ххх	xxx	6.0	XXX	xxx	9.0	1/day	Grab
TRC	XXX	XXX	XXX	0.08	XXX	0.25	1/day	Grab
TSS	Report	Report Daily Max	XXX	30	60	75	1/week	8-Hr Composite
Total Aluminum	0.21	0.42	XXX	0.70	1.40	1.75	1/week	8-Hr Composite
Total Iron	Report	Report Daily Max	XXX	2.0	4.0	5	1/week	8-Hr Composite
Total Manganese	Report	Report Daily Max	XXX	1.0	2.0	2.5	1/week	8-Hr Composite
Total Zinc	0.06	0.12	XXX	0.20	0.40	0.5	1/week	8-Hr Composite

Tools and References Used to Develop Permit	
	WQM for Windows Model (see Attachment
	PENTOXSD for Windows Model (see Attachment)
	TRC Model Spreadsheet (see Attachment
	Temperature Model Spreadsheet (see Attachment
	Toxics Screening Analysis Spreadsheet (see Attachment
	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness 391-2000-021 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, 391-2000-022, 3/1999.
	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP:
	Other: