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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0021075**
Facility Type	**Municipal**	APS ID	**23201**
Major / Minor	**Major**	Authorization ID	**1257551**

NPDES PERMIT FACT SHEET ADDENDUM

Applicant and Facility Information

Applicant Name	**Myerstown Borough**	Facility Name	**Myerstown STP**
Applicant Address	101 S Railroad Street	Facility Address	331 East Mill Avenue
	Myerstown, PA 17067-1351		Myerstown, PA 17067-2404
Applicant Contact	Barry Ludwig	Facility Contact	Barry Ludwig
Applicant Phone	(717) 866-5826	Facility Phone	(717) 866-5826
Client ID	116170	Site ID	252200
Ch 94 Load Status	Not Overloaded	Municipality	Myerstown Borough
Connection Status	No Limitations	County	Lebanon
Date Application Received	December 21, 2018	EPA Waived?	No
Date Application Accepted	January 10, 2019	If No, Reason	Major Facility

Purpose of Application: NPDES Renewal for discharge treated sewage

Summary of Review

1.0 General Discussion

This factsheet addendum supports a revision to the draft permit issued to Myerstown Borough on October 27, 2020 and published in the PA bulletin on November 7, 2020 This is the 3rd draft being developed for the facility. The 2nd draft permit that was issued to the permittee on October 27, 2020 was not finalized due to comments from permittee concerning Total Arsenic limit proposed in the permit. The permit is being re-drafted to address draft comments.

1.1 Total Arsenic Analysis

Myerstown Borough submitted additional Total Arsenic data that had been collected over that last five years. DEP used TOXCON and Toxics Management Spreadsheet(TMS) to re-evaluate the need for Total Arsenic limit and determined that monitor and report is appropriate for the next permit cycle. The results of the analysis are presented in attachment A and B

Myerstown Borough submitted 25 samples, but DEP excluded one sample reported at 0.054 mg/l from the analysis because it was considered an outlier. The sample was collected during an extreme wet weather period when groundwater levels were high in the area of Whitmoyer labs. Whitmoyer labs is an active Superfund site currently engaged in a cleanup effort for pollutants including Total Arsenic. Myerstown Borough has completed some work on the collection system to repair a leak around Whitmoyer site. More recent data shows a decline in the Total Arsenic levels. Consistent data collection twice per month over the next permit cycle will generate enough data for further analysis to better evaluate the need for a limit in the future.

Approve	Deny	Signatures	Date
X		*J. Pascal Kwedza* J. Pascal Kwedza, P.E. / Environmental Engineer	February 3, 2021
X		Daniel W. Martin, P.E. / Environmental Engineer Manager	February 3, 2021
X		Maria D. Bebenek, P.E. / Program Manager	February 3, 2021

Summary of Review

1.2 Whitmoyer Superfund Site

It appears the source of the Total Arsenic is from the Whitmoyer Site, The Department will work with EPA and the Responsible Parties in regard to the Whitmoyer Site. Myerstown Borough will consider doing additional work on the collection system in and around Whitmoyer site if necessary.

1.3 Public Participation

DEP will re-publish 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.

1.4 Other Limits in the Permit

All other limits in the permit in exception of Total Arsenic are based on the factsheet developed is support of the second draft permit dated April 21, 2020 and October 22, 2020.

2.0 Proposed Effluent Limitations and Monitoring Requirements

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

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
CBOD5 Nov 1 - Apr 30	417	667	XXX	25	40	50	2/week	24-Hr Composite
CBOD5 May 1 - Oct 31	283	450	XXX	17	27	34	2/week	24-Hr Composite
BOD5 Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS Raw Sewage Influent	Report	Report Daily Max	XXX	Report	XXX	XXX	2/week	24-Hr Composite
TSS	500	750	XXX	30	45	60	2/week	24-Hr Composite
Total Dissolved Solids	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/week	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/week	Grab
Total Nitrogen	XXX	XXX	XXX	Report Avg Qrtly	XXX	XXX	1/quarter	24-Hr Composite
Ammonia Nov 1 - Apr 30	265	XXX	XXX	15.9	XXX	31.8	2/week	24-Hr Composite

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

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Weekly Average	Daily Minimum	Average Monthly	Weekly Average	Instant. Maximum		
Ammonia May 1 - Oct 31	88	XXX	XXX	5.3	XXX	10.6	2/week	24-Hr Composite
Total Phosphorus	16.7	XXX	XXX	1.0	XXX	2	2/week	24-Hr Composite
Total Arsenic	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
UV Dosage (mWsec/cm^2)	XXX	XXX	Report	XXX	XXX	XXX	1/day	Measured

Compliance Sampling Location: At Outfall 001

Other Comments: 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

Attachments

A. TOXCON DATA

Facility:	Myerstown Borough WWTP	
NPDES #:	PA0021075	
Outfall No:	001	
n (Samples/Month):	8	
Reviewer/Permit Engineer:	Pascal Kwedza	

Parameter Name	Total Arsenic
Units	mg/L
Detection Limit	
Sample Date	***When entering values below the detection limit, enter "ND" or use the < notation (eg. <0.02)***
3/16/2016	0.006
4/20/2016	0.004
5/25/2016	0.004
8/17/2016	0.002
11/16/2016	0.002
3/16/2017	0.002
4/20/2017	0.03
6/13/2017	0.003
11/16/2017	0.005
3/15/2018	0.022
4/19/2018	0.009
5/31/2018	0.016
8/16/2018	0.03
11/21/2018	0.024
3/21/2019	0.007
4/22/2019	0.007
5/16/2019	0.012
8/22/2019	0.005
11/21/2019	0.008
3/19/2020	0.004
4/23/2020	0.004
5/19/2020	0.005
8/19/2020	0.008
11/18/2020	0.003

DATA INPUT SHEET | DOCUMENTATION | OUTPUT SHEET | SUMMARY STATISTICS | DETAILED CALCULATIONS | Z-VALUES

		Reviewer/Permit Engineer:	Pascal Kwedza
Facility:	Myerstown Borough WWTP		
NPDES #:	PA0021075		
Outfall No:	001		
n (Samples/Month):	8		

Parameter	Distribution Applied	Coefficient of Variation (daily)	Avg. Monthly
Total Arsenic (mg/L)	Lognormal	0.9929439	0.0191763

B. TMS

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Toxics Management Spreadsheet
Version 1.1, October 2020

Discharge Information

Instructions | Discharge | Stream

Facility: **Myerstown Borough** NPDES Permit No.: **PA002075** Outfall No.: **001**

Evaluation Type: **Major Sewage / Industrial Waste** Wastewater Description: **Sewage**

Discharge Characteristics								
Design Flow (MGD)*	Hardness (mg/l)*	pH (SU)*	Partial Mix Factors (PMFs)				Complete Mix Times (min)	
			AFC	CFC	THH	CRL	Q_{7-10}	Q_h
2	291.3	7.7						

					0 if left blank		0.5 if left blank		0 if left blank			1 if left blank	
	Discharge Pollutant	Units	Max Discharge Conc		Trib Conc	Stream Conc	Daily CV	Hourly CV	Stream CV	Fate Coeff	FOS	Criteria Mod	Chem Transl
Group 1	Total Dissolved Solids (PWS)	mg/L											
	Chloride (PWS)	mg/L											
	Bromide	mg/L											
	Sulfate (PWS)	mg/L											
	Fluoride (PWS)	mg/L											
Group 2	Total Aluminum	µg/L											
	Total Antimony	µg/L											
	Total Arsenic	µg/L		19.2			0.99						
	Total Barium	µg/L											
	Total Beryllium	µg/L											
	Total Boron	µg/L											
	Total Cadmium	µg/L											
	Total Chromium (III)	µg/L											
	Hexavalent Chromium	µg/L											
	Total Cobalt	µg/L											
	Total Copper	µg/L											
	Free Cyanide	µg/L											
	Total Cyanide	µg/L											

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Toxics Management Spreadsheet
Version 1.1, October 2020

Stream / Surface Water Information

Myerstown Borough, NPDES Permit No. PA002075, Outfall 001

Instructions | Discharge | *Stream*

Receiving Surface Water Name: **Tulpehocken Creek**

No. Reaches to Model: **1**

- (●) Statewide Criteria
- ( ) Great Lakes Criteria
- ( ) ORSANCO Criteria

Location	Stream Code*	RMI*	Elevation (ft)*	DA (mi^2)*	Slope (ft/ft)	PWS Withdrawal (MGD)	Apply Fish Criteria*
Point of Discharge	001846	32.5	415	27.8			Yes
End of Reach 1	001846	25.2	354	62			Yes

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

Location	RMI	LFY (cfs/mi^2)*	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness*	pH*	Hardness	pH
Point of Discharge	32.5	0.37										280	7		
End of Reach 1	25.2	0.37													

Q_h

Location	RMI	LFY (cfs/mi^2)	Flow (cfs)		W/D Ratio	Width (ft)	Depth (ft)	Velocity (fps)	Travel Time (days)	Tributary		Stream		Analysis	
			Stream	Tributary						Hardness	pH	Hardness	pH	Hardness	pH
Point of Discharge	32.5														
End of Reach 1	25.2														

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Toxics Management Spreadsheet
Version 1.1, October 2020

Model Results

Myerstown Borough, NPDES Permit No. PA002075, Outfall 001

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

☐ ***Hydrodynamics***

☑ ***Wasteload Allocations***

☑ ***AFC*** CCT (min): 15 PMF: 0.487 Analysis Hardness (mg/l): 284.31 Analysis pH: 7.16

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Arsenic	0	0		0	340	340	891	Chem Translator of 1 applied

☑ ***CFC*** CCT (min): 63.234 PMF: 1 Analysis Hardness (mg/l): 282.61 Analysis pH: 7.09

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Arsenic	0	0		0	150	150	649	Chem Translator of 1 applied

☑ ***THH*** CCT (min): 63.234 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Arsenic	0	0		0	10	10.0	43.2	

☑ ***CRL*** CCT (min): 35.726 PMF: 1 Analysis Hardness (mg/l): N/A Analysis pH: N/A

Pollutants	Stream Conc (µg/L)	Stream CV	Trib Conc (µg/L)	Fate Coef	WQC (µg/L)	WQ Obj (µg/L)	WLA (µg/L)	Comments
Total Arsenic	0	0		0	N/A	N/A	N/A	

☑ ***Recommended WQBELs & Monitoring Requirements***

No. Samples/Month: 8

	Mass Limits		*Concentration Limits*						
Pollutants	AML (lbs/day)	MDL (lbs/day)	AML	MDL	IMAX	Units	Governing WQBEL	WQBEL Basis	Comments
Total Arsenic	Report	Report	Report	Report	Report	µg/L	43.2	THH	Discharge Conc > 10% WQBEL (no RP)

☑ ***Other Pollutants without Limits or Monitoring***

The following pollutants do not require effluent limits or monitoring based on water quality because reasonable potential to exceed water quality criteria was not determined and the discharge concentration was less than thresholds for monitoring, or the pollutant was not detected and a sufficiently sensitive analytical method was used (e.g., <= Target QL).

Pollutants	Governing WQBEL	Units	Comments