pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southcentral Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0083020**
Facility Type	**Non-Municipal**	APS ID	**293**
Major / Minor	**Minor**	Authorization ID	**1190180**

Applicant and Facility Information

Applicant Name	**Forbes Road School District**	Facility Name	**Forbes Road High School & Elementary School**
Applicant Address	159 Red Bird Drive	Facility Address	159 Red Bird Drive
	Waterfall, PA 16689-7137		Waterfall, PA 16689-7137
Applicant Contact	Chris Seymore	Facility Contact	Chris Seymorre
Applicant Phone	(814) 685-3866	Facility Phone	(814) 685-3866
Client ID	63858	Site ID	451513
Ch 94 Load Status	Not Overloaded	Municipality	Taylor Township
Connection Status		County	Fulton
Date Application Received	June 30, 2017	EPA Waived?	Yes
Date Application Accepted	July 19, 2017	If No, Reason	

Purpose of Application: NPDES permit Renewal.

Summary of Review

Forbes Road High School & Elementary School has applied to the Pennsylvania Department of Environmental Protection (DEP) for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit. The permit was issued on November 13, 2012 and became effective on December 1, 2012. The permit expired on November 30, 2017 and has been administratively extended since that time.

The design discharge flow from the facility is 0.012 MGD. The facility is closed during the summer when the school is not in session. The discharge is to a dry swale that is Unnamed Tributary to Elders Branch of Wooden Bridge Creek. The Elders Branch is classified as High Quality - Cold Water Fishes (HQ-CWF). The previous protection indicates that, the facility pre-dates the classification of the stream as High Quality Tributary, therefore, HQ limits do not apply to the discharge. The limits were developed following the old Implementation Guidance for Evaluating Wastewater Discharges to Drainage Swales and Ditches (Document ID 391-2000-014).

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.

Based on the review outlined in this fact sheet, it is recommended that the permit be drafted. A public notice of the draft permit will be published in the *Pennsylvania Bulletin* for public comments for 30 days. Any additional information or public review of documents associated with the discharge or the applicant may be available at the PA DEP Southcentral Regional Office (SCRO), 909 Elmerton Avenue, Harrisburg, PA 17110. To make an appointment for file reviews, contact the SCRO File Review Coordinator at 717.705.4700.

Approve	Deny	Signatures	Date
X		Hilary H. Le / Environmental Engineering Specialist	September 12, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. /Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	0.012
Latitude	40º 5' 8.64"	Longitude	-78º 4' 9.66"
Quad Name	Hustontown	Quad Code	
Wastewater Description:	Sewage Effluent		
Receiving Waters	Elders Branch (HQ-CWF)	Stream Code	None (12976)
NHD Com ID	66213475	RMI	2.9 miles
Drainage Area	0.18 mi.^{2}	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	988.24	Slope (ft/ft)	
Watershed No.	12-C	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Mifflintown Borough Municipal Authority, Juniata County		
PWS Waters	Juniata River	Flow at Intake (cfs)	
PWS RMI	37.2 miles	Distance from Outfall (mi)	Approximate 88 miles

Changes Since Last Permit Issuance: The USGS PA StreamStats is showing a drainage area of 0.18 mi.^{2} and a Q_{7-10} flow of 0.0006 ft^3/s at the point of discharge.

Drainage Area
The discharge is to Unnamed Tributary 12976 of Elders Branch of Wooden Bridge Creek at RMI 2.9 miles. A drainage area upstream of the discharge is estimated to be 0.18 mi.^{2}, according to USGS PA StreamStats available at https://streamstats.usgs.gov/ss/.

Unnamed Tributary Elders Branch of Wooden Bridge Creek
Under 25 Pa Code § 93.9n, the Unnamed Tributary Elders Branch of Wooden Bridge Creek is designated as High Quality-Cold Water Fishes (HQ-CWF). However, the Wooden Bridge Creek is a tributary to Sideling Hill Creek. Approximately 200 feet from the discharge point, a spring emerges from under a tree trunk. The stream was observed to be perennial at this point. The confluence with Elders Branch is approximately 200 yds from this point. This facility pre-dates the classification of the stream as High Quality, therefore, HQ limits do not apply to the discharge.

Potable Water Supply Intake
The nearest downstream public water supply intake is the Mifflintown Borough Municipal Authority, Juniata County intake on the Juniata River, approximately 88 miles from the point of discharge. Given the nature and dilution, the discharge is not expected to significantly impact the water supply.

Treatment Facility Summary				
Treatment Facility Name: Forbes Road HS & Elementary				
WQM Permit No.	**Issuance Date**			
2974401	9/30/1974			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Sewage	Secondary	Extended Aeration	Hypochlorite	0.012
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.012		Not Overloaded	Aerobic Digestion	Other WWTP

Changes Since Last Permit Issuance: none

The process includes: Comminutor (1) – Bar Screen (1) – Aeration Tank (1) – Setting Tank (1) – Chlorine Contact Tank (1) – Sludge Holding Tank (1) – Blowers (2) – Outfall to Unnamed Tributary (12976) of Elders Branch of Wooden Bridge Creek.

The system incorporates chemical addition in the form of chlorine tablets (for disinfection), soda ash (for pH control), and dechlorane tablets (for reducing Chlorine). Two sludge holding tanks are used for solids storage.

Compliance History	
Summary of DMRs:	A summary of the past 12-month DMR effluent data is present on the next page of this fact sheet.
Summary of Inspections:	1/13/2016: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. The effluent appeared clear with fine solids. Field tested within permit limits. There were no violations identified during inspection. 10/20/2016: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. The effluent appeared clear with fine solids. Field tested within permit limits. There were no violations identified during inspection. 10/23/2017: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. The effluent appeared clear with fine solids. Field tested within permit limits. There were no violations identified during inspection. 11/19/2018: Mr. Clark, DEP WQS, conducted a compliance evaluation inspection. The effluent appeared clear with fine solids. Field tested within permit limits. The results presented report were summarized in the Table below.
Other Comments:	There was an open violation failure to comply with a permit condition (Safe Drinking Water Permit) by James O'Shea, DEP SCRO, dated 5/23/2019. There were no open violations in Clean Water permit.

Other Comments: DMRs for the past 12 months indicate compliance with permit limits. The sample dated 11/19/2018 laboratory results report in the Table indicated that they met limits in the permit. The facility appears to be operating satisfactorily.

Date	Flow MDG	pH S.U.	DO mg/L	TRC mg/L	Temp ^{0}C	$CBOD_5$ mg/L	TSS mg/L	Fecals No./100ml	NH3-N mg/L	TP mg/L	TN mg/L
11/19/2018	0.003	7.52	11.42	0.00	7.4	3.5	< 5	25	0.05	2.66	< 1.0

Compliance History

DMR Data for Outfall 001 (from August 1, 2018 to July 31, 2019)

Parameter	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18	SEP-18	AUG-18
Flow (MGD) Average Monthly	0.001721	0.000881	0.002685	0.002316	0.003477	0.002729	0.002726	0.0028035	0.003674	0.003617	0.003755	0.001429
Flow (MGD) Daily Maximum	0.009924	0.002892	0.00453	0.004139	0.007771	0.004264	0.004907	0.005377	0.007095	0.0071	0.006184	0.004584
pH (S.U.) Minimum	7.2	7.03	6.83	6.66	6.68	6.46	6.7	6.66	6.92	6.16	6.96	7.42
pH (S.U.) Maximum	8.58	7.52	7.32	7.62	7.14	7.32	7.28	7.35	7.34	7.78	7.63	8.87
DO (mg/L) Minimum	7.24	7.31	5.32	6.72	8.08	11.15	12.17	10.15	8.89	6.5	7.26	7.06
TRC (mg/L) Average Monthly	< 0.1	< 0.1	< 0.03	< 0.02	< 0.02	0.04	< 0.04	< 0.1	< 0.01	0.03	0.03	< 0.01
TRC (mg/L) Instantaneous Maximum	0.32	0.22	0.06	0.04	0.08	0.08	0.09	0.16	0.18	0.09	0.04	0.98
CBOD5 (mg/L) Average Monthly	3.0	< 2.0	< 3.0	< 2	2	2	< 2	2	< 2	2	2	2
TSS (mg/L) Average Monthly	3.0	< 2.0	10	7	6	7	9	6	7	4	5	4
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1	< 1	< 1	< 9	< 1	< 1	< 1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1	< 1	< 1	84	< 1	< 1	< 1
Total Nitrogen (lbs) Total Annual								< 0.9				
Total Nitrogen (mg/L) Annual Average								27.67				
Total Phosphorus (lbs) Total Annual								0.1				
Total Phosphorus (mg/L) Annual Average								2.26				

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.012
Latitude 40º 5' 2.94" **Longitude** -78º 4' 0.21"
Wastewater Description: Sewage Effluent

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
$CBOD_5$	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended Solids	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
pH	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform (5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform (5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform (10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform (10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The discharge is to a dry swale. Previous protection reports indicate that modeling of the Point of First Use (POFU) is not necessary because the dry stream limits are significantly more stringent than the effluent limits that would be protective at the POFU. Because the discharge is to a dry swale, limits will also be established based on the Implementation Guidance for Evaluating Wastewater Discharges to Drainage Swales and Ditches (Document ID 391-2000-014).

Additionally, Implementation Guidance for Evaluating Wastewater Discharges to Drainage Swales and Ditches (Document ID 391-2000-014) are as follows.

1. Section IV A.3. states: *Whenever an existing wastewater discharge permit is being developed as part of the NPDES renewal process and no significant change in waste-load (pollution load) is indicated, the Regional Permitting Section will review the case file to see if the files have information indicating that the discharge caused public health and/or nuisance problems. If no adverse data exists, it may be assumed that the discharge is not causing public health and/or nuisance problems*.
2. Section IV.B.1a(4) states: "*Minimum treatment" requirements should be required if any of the above three conditions are met for a new or proposed discharge. In cases where there is an existing discharge, then Conditions IV.A.3 and 4 should be considered before recommending that a discharge upgrade to meet "minimum treatment" requirements.*

The data and the stream were evaluated in 1997, 2002, 2012, 2017, and for this renewal. No adverse effects have been documented, therefore the existing limits will remain in the proposed permit.

Total Residual Chlorine (TRC):
As per the TRC Guidance dated May 1, 2003, a BAT limit of 0.5 mg/L monthly average and 1.6 mg/L max will be placed in the proposed permit.

pH:
The effluent discharge pH should remain above 6.0 and below 9.0 standard units according to 25 Pa Code § 95.2(2).

Fecal Coliform:
The recent coliform guidance in 25 PA code § 92a.47.(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean and an instantaneous maximum not greater than 1,000/100 ml and § 92a.47.(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean and an instantaneous maximum not greater than 10,000/100 ml.

Total Suspended Solids (TSS):
The existing dry stream limits of 20.0 mg/L monthly average and 30.0 mg/L instantaneous maximum will remain in the proposed permit as per guidance document 391-2000-014. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Dissolved Oxygen (D.O.):
A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

Carbonaceous Biochemical Oxygen Demand ($CBOD_5$):
The existing limits of 20.0 mg/L monthly average and 40.0 mg/L instantaneous maximum will remain in the proposed permit as per guidance document 391-2000-014. Recent DMRs and inspection reports show that the facility has been consistently achieving these limits.

Chesapeake Bay Strategy:
The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases I, II, and III) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase IV (0.2 - 0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase V (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases IV and V that undergoes expansion is subjected to cap load right away. This plant is classified as a phase V, the monitor and report TP and TN once a year will remain in the proposed permit.

Anti-Degradation (93.4):
The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. The Point of First Use is classified as a High Quality Stream. The facility pre-dates the designation. No Exceptional Value Waters are impacted by this discharge.

Class A Wild Trout Fisheries:
No Class A Wild Trout Fisheries are impacted by this charge.

303d Listed Streams:
The discharge from this facility is not to a stream listed on the 1998 303d list.

Toxic:
This is a minor sewage facility receiving domestic wastewater only and the current application does not require sampling of toxic pollutants (or heavy metals) for those facilities with design flows less than 0.1 MGD. Therefore, no reasonable potential analysis for toxic pollutants has been performed for this permit renewal.

Additional Consideration

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

Monitoring Frequency and Sample Type
The facility currently is required to collect daily effluent grab samples for DO, TRC, and pH; bi-monthly effluent 24-hr composite samples of $CBOD_5$, and TSS; bi-monthly effluent grab samples of fecal coliform, annually effluent 24-hr composite samples of TP; and annually effluent calculation samples of TN. Based on the best professional judgement of the author, the existing monitoring frequencies are sufficient and necessary. Therefore, the renewal permit monitoring frequencies will remain the same as those specified in the existing permit.

Anti-Backsliding
Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as existing permit requirements in accordance with 40 CFR §122.44(l)(1).

A copy of the 2007 Protection Report is attached.

Water quality
Protection Report 2(

Permit No. PA0083020

Existing Effluent Limitations and Monitoring Requirements

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day)		Concentrations (mg/L)				Minimum Measurement Frequency	Required Sample Type
	Average Monthly	Total Annual	Minimum	Average Monthly		Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	20	XXX	40	2/month	24-Hr Composite
Total Suspended Solids	XXX	XXX	XXX	20	XXX	30	2/month	24-Hr Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Total Nitrogen	XXX	Report	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	XXX	Report	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite

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	Total Annual	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
$CBOD_5$	XXX	XXX	XXX	20.0	XXX	40.0	2/month	24-Hr Composite
TSS	XXX	XXX	XXX	20.0	XXX	30.0	2/month	24-Hr Composite
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Total Nitrogen	XXX	Report	XXX	Report Annl Avg	XXX	XXX	1/year	Calculation
Total Phosphorus	XXX	Report	XXX	Report Annl Avg	XXX	XXX	1/year	24-Hr Composite

Compliance Sampling Location:

Other Comments:

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 Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	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: