

PUBLIC NOTICED PORT EDWARDS WWTF FACT SHEET

GENERAL INFORMATION	
Permit Number: WI-0020451-10	FID: 772008930
Permittee Name and Address (if different from discharge location): Village of Port Edwards, 201 Market Ave, Port Edwards, WI 54469	
Discharge Location: 691 Old Hwy 73, Port Edwards, WI 54469	
Receiving Waters: the surface waters of the Wisconsin River in the Wisconsin Rapids Watershed of the Wisconsin River Central Sub-Basin located in Wood County.	
Flows:	0.538 MGD Annual Average Design Flow <u>0.427 MGD</u> Actual Annual Average Discharge (2019)
Discharge Type: Continuous	
Stream Classification: Warm water sport fish, non-public water supply	
Q(4,3): 999 cfs	
Application waivers? No.	
Sample Point Designation	
Influent Sample No: 701	Sample Description: Representative influent samples shall be collected at the headworks.
Surface Water Sample No: 001	Sample Description: Representative effluent samples shall be collected at the flume outlet before disinfection, except for fecal coliform and E. coli samples that shall be taken after disinfection. Average discharge in 2019 was 0.427 MGD.
Receiving Water Sample No: 601	Sample Description: Representative river samples shall be collected from the Wisconsin Rapids Dam or the Centralia Dam.
Land Application Sample No: 003	Sample Description: Representative sludge samples shall be collected annually from the sludge storage tank (while aerating) and monitored for List 1, 2, 3, and 4 and once in 2022 for PCBs. Annual average sludge production 1.85 dry U.S. tons.

FACILITY DESCRIPTION

Facility Description: The Village of Port Edwards owns and operates a wastewater treatment facility with discharge to the Wisconsin River. The annual average design flow is 0.538 million gallons per day (MGD) and discharged an average flow of 0.427 MGD in 2019. Wastewater is pretreated through a fine screen and grit removal, then treated through 2 oxidation ditches followed by 2 final clarifiers and disinfected via UV light prior to discharge. Sludge is treated in an aerobic digester and land applied on Department approved fields. Monitoring changes proposed for this permit issuance include 1) new influent flow monitoring, 2) new phosphorus mass effluent limit based on the Total Maximum Daily Load (TMDL) for the Wisconsin River Basin using site-specific criteria (SSC) to address phosphorus water quality impairments within the TMDL area, 3) new effluent total nitrogen series monitoring, and 4) fecal coliform effluent monitoring and limits will be replaced with Escherichia coli (E. coli) monitoring and limits established in s. NR 210.06 (2), Wis. Adm Code with an associated compliance schedule.
Publishing Newspaper: Daily Tribune, 220 1 st Ave S, Wisconsin Rapids, WI 54494-8090 See associated public notice document for additional contact and procedural information.
Are there any general permits that should be rolled into this specific permit?
Significant Industrial Loading?

SUBSTANTIAL COMPLIANCE DETERMINATION - OVERALL

	Compliance	Comments
Discharge Limits	Yes	
Sampling/testing requirements	Yes	
Groundwater standards	NA	
Reporting requirements	Yes	
Compliance schedules	Yes	
Operator at proper grade	Yes	
Other:	NA	
Enforcement considerations	NA	
In substantial compliance? Yes	Name: Peter Pfefferkorn Date: July 13, 2020	

SUBSTANTIAL COMPLIANCE DETERMINATION – Land Application

	Compliance - Sludge	Comments
Discharge Limits	Yes	
Sampling/testing requirements	Yes	
Groundwater standards	N/A	
Reporting requirements	Yes	
Compliance schedules	Yes	
Other:	N/A	
Enforcement considerations	None	
In substantial compliance? Yes	Name: Danielle Luke Date: July 20 th , 2020	

PROPOSED PERMIT MONITORING AND LIMITATIONS – INFLUENT

Sample Location: Facility influent on north side of control building.			
Sample No: 701	Sample Description: Representative influent samples shall be collected at the headworks.		
PARAMETER	UNIT	SAMPLE FREQ.	SAMPLE TYPE
Flow	MGD	Continuous	
BOD ₅	mg/L	3/WEEK	24 hr flow prop comp
Suspended Solids	mg/L	3/WEEK	24 hr flow prop comp
Explanation of influent changes from previous permit: New flow monitoring requirement. The parameters are standard monitoring requirements and frequency for minor municipal facilities with a biological treatment plant. Tracking of BOD ₅ , and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code			

PROPOSED PERMIT MONITORING AND LIMITATIONS – EFFLUENT

Outfall Location: North bank of the Wisconsin River south of the treatment plant	
Sample No: 001	Sample Description: Representative effluent samples shall be collected at the flume outlet before disinfection, except for fecal coliform and E. coli samples that shall be taken after disinfection.

PARAMETER	LIMITATION	SAMPLE FREQUENCY	SAMPLE TYPE
Flow	MGD	Continuous	
Suspended Solids	45 mg/L Weekly avg 30 mg/L Monthly avg	3 X Weekly	24 hr flow prop comp
¹BOD₅	45 mg/L Weekly avg 30 mg/L Monthly avg	3 X Weekly	24 hr flow prop comp
Wasteload Allocation Limit May-Oct.	251 lbs/day daily max	3 X Weekly	Calculated
¹WLA BOD₅	See Tables Below	3 X Weekly	Calculated

pH	9.0 su Daily Max 6.0 su Daily Min	Daily	Grab
Phosphorus	1.0 mg/L monthly avg 4.7 lbs/day Monthly Avg	3/Week 3/Week	24-Hr Flow Prop Comp Calculated
Phosphorus, Total Calculate the Total Monthly Discharge of phosphorus and report on the last day of the month on the DMR. See Phosphorus section(s) below.	lbs/month	Monthly	Calculated
Phosphorus, Total Calculate the 12-month rolling sum of total monthly mass of phosphorus discharged and report on the last day of the month on the DMR. See Phosphorus section(s) below.	lbs/yr	Monthly	Calculated
Nitrogen, Total Jan-Mar 2021 Apr-Jun 2022 July-Sept 2023 Oct Dec 2024 Jan-Mar 2025	mg/L	Annual, Rotating Quarters	Calculated
Nitrogen, Nitrite + Nitrate Total Jan-Mar 2021 Apr-Jun 2022 July-Sept 2023 Oct Dec 2024 Jan-Mar 2025	mg/L	Annual, Rotating Quarters	24-Hr Flow Prop Comp
Nitrogen, Total Kjeldahl Jan-Mar 2021 Apr-Jun 2022 July-Sept 2023 Oct Dec 2024 Jan-Mar 2025	mg/L	Annual, Rotating Quarters	24-Hr Flow Prop Comp
Fecal Coliform Interim limit effective May – September annually until the final E. coli limit goes into effect per the Effluent Limitations for E. coli Schedule.	400 #/100 ml Geometric Mean - Monthly	2/Week	Grab
E. coli Monitoring only May – September annually until the final limit goes into effect per the Effluent Limitations for E. coli Schedule.	#/100 ml	2/Week	Grab
E. coli Limit Effective May - September annually per the Effluent Limitations for E. coli Schedule.	126 #/100 ml Geometric Mean - Monthly	2/Week	Grab

<p>E. coli Limit Effective May– September annually per the Effluent Limitations for E. coli Schedule. See the E. coli Percent Limit section below. Enter the result in the DMR on the last day of the month.</p>	<p>10 Percent of samples over 410 #/100 ml Percent Exceedance - Monthly</p>	<p>Monthly</p>	<p>Calculated</p>
<p>Explanation of effluent changes from last permit: 1) new phosphorus mass effluent limit based on the Total Maximum Daily Load (TMDL) for the Wisconsin River Basin using site-specific criteria (SSC) to address phosphorus water quality impairments within the TMDL area, 2) addition of effluent total nitrogen series monitoring, and 3) fecal coliform monitoring and limits will be replaced with Escherichia coli (E. coli) monitoring and limits established in s. NR 210.06 (2), Wis. Adm Code with and associated compliance schedule. E. coli monitoring is required at the permit effective date. An interim fecal coliform limit of 400 #/100 ml as a monthly geometric mean will apply from the permit effective date and follow the compliance schedule which determines when the E. coli limits of 126 #/100 ml as a monthly geometric mean that may never be exceeded and 410 #/100 ml as a daily maximum that may not be exceeded more than 10 percent of the time in any calendar month will apply.</p>			
<p>E. Coli Revisions to bacteria surface water quality criteria to protect recreational uses and accompanying E. coli WPDES permit implementation procedures became effective May 1, 2020. The new rule requires that WPDES permits for facilities with required disinfection include monitoring for E. coli while facilities are disinfecting during the recreation period, and establish effluent limitations for E. coli established in s. NR 210.06 (2), Wis. Adm Code. The administrative code rule changes included the following actions: revised the bacteria water quality criteria from fecal coliform to E. coli to protect recreation in ch. NR 102, Wis. Adm. Code.; removed fecal coliform criteria for certain individual waters from ch. NR 104, Wis. Adm. Code.; revised permit requirements for publicly and privately owned sewage treatment works in ch. NR 210, Wis. Adm. Code.; and, updated approved analytical methods for bacteria in ch. NR 219, Wis. Adm. Code.</p>			
<p>Explanation of limits and monitoring: Limits were determined using chs. NR 102, 105, 106, 205, 210, and 217 of the Wisconsin Administrative Code (where applicable). The effluent limits for BOD5 are based on tables in NR 212, and TSS, fecal coliform, E. coli, and pH are based on NR 210. Limitations for these substances are protective of the receiving water uses and associated water quality criteria. For more information see the memo from Wade Strickland to Angela Parkhurst, titled “Water Quality Based Effluent Limitations for the Port Edwards Wastewater Treatment Facility” dated June 26, 2020.</p>			
<p>Total Nitrogen Monitoring (NO₂+NO₃, TKN and Total N): The Department has included effluent monitoring for Total Nitrogen in the permit through the authority under §§ 283.55(1)(e), Wis. Stats., which allows the department to require the permittee to submit information necessary to identify the type and quantity of any pollutants discharged from the point source, and through s. NR 200.065(1)(h), Wis. Adm. Code, which allows for this monitoring to be collected during the permit term. More information on the justification to include total nitrogen monitoring in wastewater permits can be found in the “Guidance for Total Nitrogen Monitoring in Wastewater Permits” dated October 1, 2019.</p>			
<p>Ammonia monitoring or limits: Ammonia limits or routine monitoring are not included in the reissued permit due to low detection levels. The wastewater treatment plant should continue to be operated in a manner that optimizes the removal of ammonia within the design capabilities of the wastewater treatment plant.</p>			

Phosphorus monitoring and Wisconsin River Total Maximum Daily Load (TMDL) Limits: The permitted facility is included within the Wisconsin River Basin TMDL, which was approved by EPA April 26, 2019. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin originally included in Appendix K of the TMDL report and approved by the U.S. Environmental Protection Agency on July 9, 2020. The permittee's approved SSC-based limits are consistent with the assumptions and requirements of the EPA-approved WLA in the TMDL, which is 599 lbs/yr for the permitted facility, which results in a limit of 4.7 lbs/day monthly average.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the department's TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Program, mass limits must be given in the permit that are consistent with the TMDL WLA and the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at <https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175>). Continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. If the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits (averaging period of May through October and November through April) are also included. The equivalent effluent concentration of 0.37 mg/L was calculated for the facility, thus, TMDL based mass limits are expressed only as 4.7 lbs/day monthly average. The existing Technology Based Effluent Limit (TBEL) of 1.0 mg/L as a monthly average will be maintained in this permit term to prevent backsliding.

Facilities with WRB TMDL based effluent limits for phosphorus must report the 12-month rolling sum of total monthly discharge (lbs/yr). If reported 12-month rolling sums exceed the facility's max annual WLA, the facility's mass limits (monthly average and six-month average) may be recalculated using more appropriate CVs or monitoring frequencies when the permit is reissued to bring discharge levels into compliance with the facility's given WLA.

Temperature: There is no reasonable potential for the calculated limits to be exceeded and neither a temperature limit nor monitoring is included in the reissued permit.

¹BOD₅ Wasteload Allocation Requirements and Tables (from NR 212):

The BOD₅ limit of 251 lbs/day daily max is a wasteload allocation limit (WLA) which applies May – October each year, depending on the Wisconsin River temperature and flow conditions (see tables below). Except as provided under 2.2.4.1, the WLA BOD₅ value shall be reported for outfall 001, and the corresponding Wisconsin River flow and temperature values shall be reported for outfall 601.

Daily Maximum Limitation BOD ₅ (lbs/day)/May - June							
River Flow (cfs)	Previous Day Mean River Temperature ² (°F)						
	69 >	65/68	61/65	57/60	56/53	52/49	48/45
000/999	251	251	251	251	251	251	251
1000/1199	251	251	251	251	251	251	
1200/1499	251	251	251	251	251		
1500/1999	251	251	251	251			

2000/2499	251	251					
Daily Maximum Limitation BOD ₅ (lbs/day)/July - August							
River Flow (cfs)	Previous Day Mean River Temperature ² (°F)						
	73 >	72/69	68/65	64/61			
0000/2499	251	251	251	251			
2500/2999	251	251	251				
3000/3999	251						
Daily Maximum Limitation BOD ₅ (lbs/day)/September - October							
River Flow (cfs)	Previous Day Mean River Temperature ² (°F)						
	69 >	65/68	61/65	57/60	56/53	52/49	48/45
000/1199	251	251	251	251	251	251	251
1200/1499	251	251	251	251	251	251	
1500/1999	251	251	251	251	251		
2000/2499	251	251	251	251			
2500/2999	251	251	251				
3000/3999	251						

BIOMONITORING REQUIREMENTS

Is biomonitoring required at this outfall? None is required because the Qs:Qe is greater than 100:1. See the WQBEL memo for more information.	IWC=N/a	Primary Control Water Location: N/a
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DISINFECTION

Is disinfection required for this discharge? Yes, with new E. coli limits and compliance schedule to meet them.	
Frequency: May-Sept annually.	Type of disinfection: UV

PROPOSED RECEIVING WATER MONITORING

Sample Location: WI RIVER @ DAM	
Sample No: 601	Sample Location: Representative river samples shall be collected from the Wisconsin Rapids Dam or the Centralia Dam. See footnote below for more information.

PARAMETER	LIMITATION	SAMPLE FREQUENCY	SAMPLE TYPE
WLA Previous Day River Flow	cfs, daily average	3 X Week	Measure
WLA Previous Day River Temp.	F	3 X Week	Measure

Explanation of effluent changes from last permit: None. The footnote below will continue to be in the permit.

Receiving Water Outfall Monitoring Requirements:

Under Outfall 601, flow shall be defined as the daily average flow value derived from continuous river flow monitoring data for the Wisconsin River collected at the Wisconsin Rapids Dam. If such flow data is unavailable for any day, flow shall be derived from continuous stream flow monitoring data for the Wisconsin River collected at the Centralia Dam. Daily average flow values reported by the Wisconsin Valley Improvement Company for the Wisconsin Rapids Dam and Centralia Dam locations are acceptable.

Temperature shall be defined as the daily average temperature value derived from continuous river temperature monitoring data for the Wisconsin River collected at the Wisconsin Rapids Dam. If such temperature data is unavailable for any day, the daily average temperature value shall be derived from continuous river temperature monitoring data for the Wisconsin River collected at the Weston Dam. Daily average temperature values reported by the Wisconsin Valley Improvement Company for the Wisconsin Rapids Dam and Weston Dam locations are acceptable.

The same 24-hour period shall be utilized for the collection of composite and continuous samples for river flow and temperature and all effluent characteristics including effluent flow and BOD₅. The river temperature and flow for outfall 601 and WLA BOD does not need to be reported if BOD₅ sample from outfall 001 is not at or exceeding the WLA limit.

LAND APPLICATION SECTION

SLUDGE REQUIREMENTS

All sludge management requirements were determined by ch. NR 204 Wis Adm. Code

Sludge # (3 digits)	Sludge Class (A or B)	Liquid or Cake	Pathogen Reduction Method	Vector Attraction Reduction Method	Reuse Option
003	B	Liquid	anaerobic digestion	Injection	Land Applied

PROPOSED SLUDGE MONITORING/LIMITATIONS

Location/Waste Type/ Treatment Type: LIQUID SLUDGE	
Sample No: 003	Sample Description: Representative sludge samples shall be collected annually from the sludge storage tank (while aerating) and monitored for List 1, 2, 3, and 4 and once in 2022 for PCBs.
Sludge Management Adequate? yes	
Radium Requirements: Is radium-226 present in the water supply at a level greater than 2 pCi/L? No	

Is a priority pollutant scan required? No
Quantity of sludge used/disposed of annually: 1.85 dry U.S. tons
Explanation of changes: none

PROPOSED COMPLIANCE SCHEDULES

Effluent Limitations for *E. coli* (Outfall 001)

The permittee shall comply with surface water limitations for *E. coli* as specified. No later than 14 days following each compliance date, the permittee shall notify the Department in writing of its compliance or noncompliance. If a submittal is required, a timely submittal fulfills the notification requirement.

Required Action	Due Date
Status Update: The permittee shall submit information within the discharge monitoring report (DMR) comment section documenting the steps taken in preparation for properly monitoring and testing for <i>E. coli</i> including, but not limited to, selected test method and location of sampling.	12/21/2020
<p>Operational Evaluation Report: The permittee shall prepare and submit an Operational Evaluation Report to the Department for review and approval. The report shall include an evaluation of collected effluent data and proposed operational improvements that will optimize efficacy of disinfection at the treatment plant during the period prior to complying with final <i>E. coli</i> limitations and, to the extent possible, enable compliance with the final <i>E. coli</i> limitations. The report shall include a plan and schedule for implementation of the operational improvements. These improvements shall occur as soon as possible, but not later than 04/30/2022. The report shall state whether the operational improvements are expected to result in compliance with the final <i>E. coli</i> limitations.</p> <p>The permittee shall implement the operational improvements in accordance with the approved plan and schedule specified in the Operational Evaluation Report and in no case later than 04/30/2022. If the Operational Evaluation Report concludes that the operational improvements are expected to result in compliance with the final <i>E. coli</i> limitations, the permittee shall comply with the final <i>E. coli</i> limitations by 04/30/2022 and the permittee is not required to comply with subsequent milestones identified below in this compliance schedule ('Submit Facility Plan', 'Final Plans and Specifications', 'Treatment Plant Upgrade to Meet Limitations', 'Construction Upgrade Progress Report', 'Complete Construction', 'Achieve Compliance').</p> <p>FACILITY PLAN - If the Operational Evaluation Report concludes that operational improvements alone are not expected to result in compliance with the final <i>E. coli</i> limitations, the permittee shall initiate development of a facility plan for meeting final <i>E. coli</i> limitations and comply with the remaining required actions in this schedule of compliance.</p> <p>If the Department disagrees with the conclusion of the report, and determines that the permittee can achieve final <i>E. coli</i> limitations using the existing treatment system with only operational improvements, the Department may reopen and modify the permit to include an implementation schedule for achieving the final <i>E. coli</i> limitations sooner than 04/30/2025.</p>	10/31/2021
Submit Facility Plan: If the Operational Evaluation Report concluded that the permittee cannot achieve final <i>E. coli</i> limitations with operational improvements alone, the permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan if the Department determines that the modifications are minor.	04/30/2022
Final Plans and Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to ch. NR 108, Wis. Adm. Code, specifying treatment plant upgrades that must be constructed to achieve compliance with final <i>E. coli</i> limitations and a schedule for completing construction of the upgrades by the complete construction date specified below.	03/31/2023

Treatment Plant Upgrade to Meet Limitations: The permittee shall initiate bidding, procurement, and/or construction of the project. The permittee shall obtain approval of the final construction plans and schedule from the Department pursuant to s. 281.41, Stats., prior to initiating activities defined as construction under ch. NR 108, Wis. Adm. Code. Upon approval of the final construction plans and schedule by the Department pursuant to s. 281.41, Stats., the permittee shall construct the treatment plant upgrades in accordance with the approved plans and specifications.	09/30/2023
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades.	09/30/2024
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	03/31/2025
Achieve Compliance: The permittee shall achieve compliance with final <i>E. coli</i> limitations.	04/30/2025

Explanation of Schedule

A compliance schedule is included in the permit to provide time for the permittee to investigate options for meeting new effluent *E. coli* water quality-based effluent limits while coming into compliance with the limits as soon as reasonably possible.

OTHER COMMENTS

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Expiration date: 09/30/2025
Prepared by: Angela Parkhurst
Date: 07/08/2020