

## Modified Permit Fact Sheet

\*\*The final BOD5 and Total Suspended Solids limits and related schedule have been removed pursuant to the March 15, 2024 stipulation agreement. Modified sections are denoted by gray shading. \*\*

### General Information

Permit Number:	WI-0061336-08-1	
Permittee Name:	BELL SANITARY DISTRICT 1	
Address:	P.O. BOX 146	
City/State/Zip:	CORNUCOPIA WI 54827	
Discharge Location:	23400 Recycling Drive (SW¼, NW¼ of Section; T51N-R6W)	
Receiving Water:	An unnamed tributary to Lake Superior Within the Bayfield Peninsula Northwest Watershed in the Lake Superior Drainage Basin, Bayfield County	
StreamFlow (Q <sub>7,10</sub> ):	The unnamed tributary is 0 cfs  Lake Superior, a 10:1 dilution ratio was used to calculate effluent limits (NR 106.06(4)(b)2 Wis. Adm. Code.	
Stream Classification:	The unnamed tributary is a limited aquatic life (LAL) community, non-public water supply.  Lake Superior approximately 0.5 miles downstream is a cold water (CW) community, public water supply, and outstanding resource water (ORW).  All waters are within the ceded territory.	
Discharge Type:	Noncontinuous – seasonal process water (May-June and September-November)	
Design Flow(s)	Annual Average	0.02 MGD
Significant Industrial Loading?	No	
Operator at Proper Grade?	Yes	
Approved Pretreatment Program?	N/A	

### Facility Description

The Bell Sanitary District owns and operates a domestic wastewater treatment system. The plant designed to treat 20,000 gallons per day, currently treats an average of 20,000 gallons per day (2018 – 2022 data). The facility discharges seasonally March through June and September through November annually. The treatment system consists of a two-cell stabilization pond system operated one after another (in series). Within these ponds naturally occurring bacteria and enzymes present in the wastewater metabolize the organic matter. Chemical (aluminum sulfate) addition is used in the secondary lagoon prior to discharge as needed to meet permit limits. The treated wastewater (effluent) is discharged to a wooded ravine that is approximately 2,500 feet from Lake Superior.

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
701	INFLUENT An average of 0.02 MGD.	Representative samples shall be taken at the last lift station before

Sample Point Designation		
Sample Point Number	Discharge Flow, Units, and Averaging Period	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
	(2018-2022 data)	the ponds.
001	EFFLUENT An average of 0.119 MGD over an average of 48 days of discharge per year. (2018-2022 data)	Representative samples shall be taken at the effluent control structure. The permittee is authorized to discharge to a dry run leading to Lake Superior during the months of March, April, May, June, September, October, and November.
002	SLUDGE Sludge has not been removed from the facility.	Representative samples shall be collected from the accumulated sludge in the receiving pond at various locations and depths that are composited for analysis.

## 1 Influent – Monitoring Requirements

### Sample Point Number: 701- INFLUENT TO PLANT

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	2/Month	Grab	
Suspended Solids, Total		mg/L	2/Month	Grab	

### Changes from Previous Permit:

Sampling requirements and frequencies remain the same as the permit reissued December 21, 2023.

### Explanation of Limits and Monitoring Requirements

The parameters are standard for minor municipalities, as are monitoring and frequency requirements for a municipal wastewater treatment plant. Tracking of BOD5, and Suspended Solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code.

## 2 Surface Water - Monitoring and Limitations

### Sample Point Number: 001- EFFLUENT FILL AND DRAW

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Total Daily	
BOD5, Total	Weekly Avg	45 mg/L	Weekly	Grab	<del>INTERIM LIMIT</del> Limit

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					effective until October 31, 2028 when the final limit goes into effect per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
BOD5, Total	Monthly Avg	30 mg/L	Weekly	Grab	INTERIM LIMIT—Limit effective until October 31, 2028 when the final limit goes into effect per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
BOD5, Total	Weekly Avg	30 mg/L	Weekly	Grab	Final limit becomes effective November 1, 2028 per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
BOD5, Total	Monthly Avg	20 mg/L	Weekly	Grab	Final limit becomes effective November 1, 2028 per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
Suspended Solids, Total	Weekly Avg	45 mg/L	Weekly	Grab	INTERIM LIMIT—Limit effective until October 31, 2028 when the final limit goes into effect per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
Suspended Solids, Total	Monthly Avg	30 mg/L	Weekly	Grab	INTERIM LIMIT—Limit effective until October 31, 2028 when the final limit goes into effect per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
Suspended Solids, Total	Weekly Avg	30 mg/L	Weekly	Grab	Final limit becomes effective November 1, 2028 per the "Effluent Limitations for BOD5 and

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					<del>Total Suspended Solids" schedule.</del>
<del>Suspended Solids, Total</del>	<del>Monthly Avg</del>	<del>20 mg/L</del>	<del>Weekly</del>	<del>Grab</del>	Final limit becomes effective November 1, 2028 per the "Effluent Limitations for BOD5 and Total Suspended Solids" schedule.
pH Field	Daily Max	9.0 su	Weekly	Grab	
pH Field	Daily Min	6.0 su	Weekly	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	Weekly	Grab	
Nitrogen, Ammonia (NH3-N) Total	Monthly Avg	15 mg/L	Weekly	Grab	The limit is effective during the month of June.
Nitrogen, Ammonia (NH3-N) Total	Daily Max - Variable	mg/L	Weekly	Grab	Enter the daily ammonia result on the eDMR and compare to the Nitrogen, Ammonia Variable Limit to determine compliance.
Nitrogen, Ammonia Variable Limit		mg/L	Weekly	See Table	Using the daily pH result look up the applicable ammonia limit in the "Ammonia Limitation" subsection and report the variable limit on the eDMR.
Phosphorus, Total	Monthly Avg	4.8 mg/L	Weekly	Grab	
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	Grab	See the "Nitrogen Series Monitoring" subsection for testing schedule.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	Grab	See the "Nitrogen Series Monitoring" subsection for testing schedule.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Total Nitrogen = Total Nitrogen Kjeldahl (mg/L) + Nitrite + Nitrate (mg/L). See the "Nitrogen Series Monitoring" subsection for testing schedule.

## Changes from Previous Permit

Pursuant to the March 15, 2024 stipulation agreement, the final BOD5 and Total Suspended Solids final limits were removed from the modified permit term.

## Explanation of Limits and Monitoring Requirements

Information on categorical and water quality-based limits (WQBEL) are found in the “Water Quality-Based Effluent Limitations for Bell Sanitary District 1 (WI-0061336)” memo dated October 5, 2023.

*Final effluent BOD5 and Total Suspended Solids limits have been removed, along with the corresponding compliance schedules. This proposed permit modification is in response to a Wis. Stat. s. 283.63 contested case hearing petition filed by Bell on February 20, 2024.*

## 3 Land Application - Monitoring and Limitations

### Sample Point Number: 002- LAGOON SLUDGE

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Solids, Total		Percent	Once	Composite	
Arsenic Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Arsenic Dry Wt	High Quality	41 mg/kg	Once	Composite	
Cadmium Dry Wt	Ceiling	85 mg/kg	Once	Composite	
Cadmium Dry Wt	High Quality	39 mg/kg	Once	Composite	
Copper Dry Wt	Ceiling	4,300 mg/kg	Once	Composite	
Copper Dry Wt	High Quality	1,500 mg/kg	Once	Composite	
Lead Dry Wt	Ceiling	840 mg/kg	Once	Composite	
Lead Dry Wt	High Quality	300 mg/kg	Once	Composite	
Mercury Dry Wt	Ceiling	57 mg/kg	Once	Composite	
Mercury Dry Wt	High Quality	17 mg/kg	Once	Composite	
Molybdenum Dry Wt	Ceiling	75 mg/kg	Once	Composite	
Nickel Dry Wt	Ceiling	420 mg/kg	Once	Composite	
Nickel Dry Wt	High Quality	420 mg/kg	Once	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Once	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Once	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Once	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Once	Composite	
Nitrogen, Total		Percent	Per	Composite	

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Kjeldahl			<del>Per Occurrence</del> Application		
Nitrogen, Ammonium (NH4-N) Total		Percent	Per <del>Occurrence</del> Application	Composite	
Phosphorus, Total		Percent	Per <del>Occurrence</del> Application	Composite	
Phosphorus, Water Extractable		% of Tot P	Per <del>Occurrence</del> Application	Composite	
Potassium, Total Recoverable		Percent	Per <del>Occurrence</del> Application	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	
PFOA + PFOS		ug/kg	Once	Calculated	Report the sum of PFOS and PFAS. See PFAS Permit Sections for more information.

### Changes from Previous Permit:

Administrative changes were included to reflect updated nomenclature and language for sludge that is not scheduled to be removed from a lagoon system during the permit. The change doesn't modify the monitoring procedures of the permit issued December 21, 2023.

The sample frequency "Per Occurrence" has been updated to "Per Application".

### Explanation of Limits and Monitoring Requirements

Requirements for land application of municipal sludge are determined in accordance with ch. NR 204 Wis. Adm. Code. Ceiling and high quality limits for metals in sludge are specified in s. NR 204.07(5). Requirements for pathogens are specified in s. NR 204.07(6) and in s. NR 204.07 (7) for vector attraction requirements. Limitations for PCBs are addressed in s. NR 204.07(3)(k).

## 4 Schedules

### 4.1 Operator Certification

Required Action	Due Date
Phosphorus Subclass: A chemical phosphorus removal system has been added to the facility. This addition has changed the wastewater treatment plant's classification and the phosphorus subclass is needed. Per s. NR 114.56 (4), the operator-in-charge has 12 months to pass the necessary subclass examinations.	10/31/2024

## 4.2 Effluent Limitations for BOD5 and Total Suspended Solids

The permittee shall comply with surface water limitations for BOD5 and Total Suspended Solids as specified. If a submittal is required, a timely submittal fulfills the notification

Required Action	Due Date
<p><b>Operational Evaluation Report:</b> 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 the treatment plan to the extent possible enabling compliance with the final BOD5 and Total Suspended Solids limitations. The report shall include a plan and schedule for implementation of the operational improvements. These improvements shall occur as soon as possible. The report shall state whether the operational improvements are expected to result in compliance with the final BOD5 and Total Suspended Solids limitations.</p> <p>If the Operational Evaluation Report concludes that the operational improvements are expected to result in compliance with the final BOD5 and Total Suspended Solids limitations, the permittee shall comply with the final limitations by December 31, 2025 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><b>FACILITY PLAN</b>—If the Operational Evaluation Report concludes that operational improvements alone are not expected to result in compliance with the final BOD5 and Total Suspended Solid limitations, the permittee shall initiate development of a facility plan for meeting final limitations and comply with the remaining required actions in this schedule of compliance.</p>	12/31/2024
<p><b>Submit Facility Plan:</b> If the Operational Evaluation Report concluded that the permittee cannot achieve final BOD5 and Total Suspended Solids 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.</p>	12/31/2025
<p><b>Final Plans and Specifications:</b> 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 BOD5 and Total Suspended Solids limitations and a schedule for completing construction of the upgrades by the complete construction date specified below.</p>	12/31/2026
<p><b>Treatment Plant Upgrade to Meet Limitations:</b> 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.</p>	12/31/2027
<p><b>Complete Construction:</b> The permittee shall complete construction of wastewater treatment system upgrades.</p>	08/31/2028
<p><b>Achieve Compliance:</b> The permittee shall achieve compliance with final BOD and Total Suspended Solids limitations.</p>	11/01/2028

## 4.3 Effluent Phosphorus

Required Action	Due Date
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Progress Report: Submit an update on the progress of any optimization projects occurring at the facility. (A Water Quality Based Effluent Limit (WQBEL) for Phosphorus may be established pending the completion of near shore model efforts before the end of the permit term.)	12/31/2024
Progress Report : Submit a progress report on optimizing removal of phosphorus.	12/31/2025
Progress Report : Submit a progress report on optimizing removal of phosphorus.	12/31/2026
Progress Report : Submit a progress report on optimizing removal of phosphorus.	12/31/2027
Progress Report : Submit a progress report on optimizing removal of phosphorus.	12/31/2028
Progress Report: Continue to submit an annual progress report on optimizing removal of phosphorus.	

#### 4.4 Sludge Management Plan

Required Action	Due Date
<p>Submit a Sludge Management Plan: The permittee shall submit a management plan for approval if removal of sludge will occur during this permit term. The plan shall demonstrate compliance with ch. NR 204, Wis. Adm. Code and at minimum address 1) How and where is sludge sampled; 2) Available sludge storage details and location(s); 3)How will the sludge be removed with details on volume, characterization and how will the treatment plant continue to function during the drawdown; 4) Describe the type of transportation and spreading vehicles and loading and unloading practices; 5) Identify approved land application sites, apply for needed sites, site limitations, total acres needed and vegetative cover management; 6) Specify record keeping procedures including site loading; 7) Address contingency plans for adverse weather and odor/nuisance abatement; and 8) Include any other pertinent information such as other disposal options that may be used or specifications of any pretreatment processes</p> <p>Once approved, all sludge management activities shall be conducted in accordance with the plan. Any changes to the plan must be approved by the Department prior to implementing the changes. No desludging may occur unless approval from the Department is obtained. Daily logs shall be kept that record where the sludge has been disposed.</p> <p>The plan is due at least 60 days prior to desludging.</p>	

#### Explanation of Changes to the Schedules

The schedules for **Operator Certification**, **Effluent Phosphorus**, and **Sludge Management Plan** have not changed from the permit reissued December 21, 2023.

Pursuant to the March 15, 2024 stipulation agreement, the final BOD5 and Total Suspended Solids final limits were removed from the modified permit term, therefore the **Effluent Limitations for BOD5 and Total Suspended Solids** is no longer needed and has been removed.

#### Expiration Date:

The expiration date of **October 12, 2023** remains the same.

**Prepared By: Sheri A. Snowbank      Wastewater Specialist      Date: April 17, 2024**

Notice of modification was published in the Ashland Daily Press, PO Box 313, Ashland, WI 54806-1661.