

Public Noticed Warrens-Monroe WWTF Draft Permit Fact Sheet

General Information

| | | |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Permit Number: | WI-0060259-11-0 | |
| Permittee Name: | Warrens Monroe Wastewater Commission | |
| Address: | 301 Main Street PO Box 97 | |
| City/State/Zip: | Warrens WI 54666 | |
| Discharge Location: | Warrens Wastewater Treatment Facility, County Highway O, Warrens, WI 54666 NW ¼, Section 10 T19N, R01W, Town of Lincoln, Monroe County | |
| Receiving Water: | the surface waters of Apple Creek and groundwaters of the Beaver Creek/Juneau Watershed in the Lower Wisconsin River Basin in Monroe County | |
| StreamFlow (Q _{7,10}): | 0 cfs | |
| Stream Classification: | Warm water sport fish community, non-public water supply | |
| Design Flow(s) | Annual Average | 0.211 MGD |
| Significant Industrial Loading? | No | |
| Operator at Proper Grade? | Yes | |
| Approved Pretreatment Program? | N/A | |

Facility Description

The Warrens-Monroe Commission owns and operates a wastewater treatment facility which treats wastewater from the Village, Jellystone Park Resort, and the American Berry Company. The annual average design flow of the facility is 0.211 MGD, and the actual annual average influent flow in 2021 was 0.082 MGD. The treatment facility includes a lift station, primary screening, and a three-ring oxidation ditch. Two final clarifiers are used to settle and return activated sludge. Wastewater effluent from the clarifiers is disinfected by UV disinfection and then aerated in the post aeration tank from which it is pumped through an effluent force main with the option to discharge to the surface waters of Apple Creek via Outfall 003 which the facility has chosen to keep. Currently, discharge is only to a storage pond then spray irrigation occurs to a tree plantation. Proposed effluent monitoring changes for this permit issuance include E. coli limits that replace fecal coliform limits, lower copper and zinc limits, WET testing and a chronic WET test limit given, added hardness monitoring and annual nitrogen series monitoring. The permittee requested dissipative cooling to be considered regarding potential temperature limitations, referencing the previous dissipative cooling study. Based on the results, it was determined weekly average limits are unnecessary, but monitoring remains in the reissued permit. Proposed changes for the groundwater monitoring wells include an alternate concentration limit of 3.0 mg/L for Nitrate+Nitrite Nitrogen and 4.0 mg/L for Organic Nitrogen, new pH limit, and a new total dissolved solids limit.

Substantial Compliance Determination

Enforcement During Last Permit:

There have been no formal enforcement actions taken at this facility during the previous permit term. The facility has completed all previously required actions as part of their compliance schedule.

After a desk top review of all discharge monitoring reports, CMARs, land app reports, compliance schedule items, and a site visit on 09/09/2021 this facility has been found to be in substantial compliance with their current permit.

| Sample Point Designation | | |
|--------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sample Point Number | Discharge Flow, Units, and Averaging Period | Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable) |
| 702 | 0.082 MGD (2021) | Representative influent samples shall be collected prior to the screen for flow, and after the screen for all other parameters. |
| 001 | 0.09 MGD (2021) | Representative effluent samples shall be collected after leaving the lined effluent storage lagoon and prior to spray irrigation. |
| 003 | No discharge (2021) | Representative 24-hour flow proportional effluent samples shall be collected prior to disinfection and discharge to Apple Creek. Grab samples shall be collected after disinfection. |
| 004 | 42 tons annual average | Representative liquid sludge grab samples shall be collected from the holding pond for List 1 and PCBs once in 2023, and for List 1, 2, 3, and 4 prior to land application. |

| Sample Point Designation For Groundwater Monitoring Systems | | | |
|-------------------------------------------------------------|------------------|------------------|-------------------------------------------------------------------------|
| System | Sample Pt Number | Well Name | Comments |
| Previous Absorption Pond | 807 | 807 (Background) | Northwest corner of spray irrigation fields |
| Previous Absorption Pond | 808 | 808 | Southeast corner of (south) spray field 3 Non-point of standard well |
| Previous Absorption Pond | 809 | 809 | East edge of (south) spray field 3 Non-point of standard well |

1 Influent - Proposed Monitoring

Sample Point Number: 702- AFTER THE SCREEN

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|------------|-----------------|------------------|----------------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | MGD | Daily | Continuous | |
| BOD5, Total | | mg/L | Weekly | 24-Hr Flow Prop Comp | |

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|------------|-----------------|------------------|----------------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Suspended Solids, Total | | mg/L | Weekly | 24-Hr Flow Prop Comp | |

Changes from Previous Permit:

None

Explanation of Limits and Monitoring Requirements

The parameters are standard monitoring requirements and frequency for minor municipal facilities. Tracking of BOD5 and total suspended solids are required for percent removal requirements found in s. NR 210.05, Wis. Adm. Code

2 Surface Water - Proposed Monitoring and Limitations

Sample Point Number: 003- PRIOR TO APPLE CREEK

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|-------------|-----------------|------------------|----------------------|--------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | MGD | Daily | Continuous | |
| BOD5, Total | Daily Max | 20 mg/L | 2/Week | 24-Hr Flow Prop Comp | |
| BOD5, Total | Monthly Avg | 10 mg/L | 2/Week | 24-Hr Flow Prop Comp | |
| Suspended Solids, Total | Daily Max | 30 mg/L | 2/Week | 24-Hr Flow Prop Comp | |
| Suspended Solids, Total | Monthly Avg | 20 mg/L | 2/Week | 24-Hr Flow Prop Comp | |
| pH Field | Daily Max | 9.0 su | 5/Week | Grab | |
| pH Field | Daily Min | 6.0 su | 5/Week | Grab | |
| Dissolved Oxygen | Daily Min | 7.0 mg/L | Weekly | Grab | |
| Nitrogen, Ammonia (NH3-N) Total | Weekly Avg | 25 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective January-March |
| Nitrogen, Ammonia (NH3-N) Total | Monthly Avg | 10 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective January-March |
| Nitrogen, Ammonia (NH3-N) Total | Weekly Avg | 15 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective April-May |
| Nitrogen, Ammonia (NH3-N) Total | Monthly Avg | 5.9 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective April-May |
| Nitrogen, Ammonia (NH3-N) Total | Weekly Avg | 8.9 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective June-September |
| Nitrogen, Ammonia (NH3-N) Total | Monthly Avg | 3.5 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective June-September |

| Monitoring Requirements and Limitations | | | | | |
|------------------------------------------------|--------------------------|------------------------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Nitrogen, Ammonia (NH ₃ -N) Total | Weekly Avg | 20 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective October-December |
| Nitrogen, Ammonia (NH ₃ -N) Total | Monthly Avg | 8.2 mg/L | 2/Week | 24-Hr Flow Prop Comp | Limit effective October-December |
| Temperature Maximum | | deg F | Per Occurrence | Multiple Grab | See Temperature footnote below. |
| Phosphorus, Total | Monthly Avg | 5.0 mg/L | Weekly | 24-Hr Flow Prop Comp | |
| Phosphorus, Total | | lbs/month | Monthly | Calculated | Calculate the total monthly discharge of phosphorus and report on the last day of the month on the DMR. See Phosphorus TMDL footnote below. |
| Phosphorus, Total | Annual Total | 235 lbs/yr | Monthly | Calculated | Calculate the sum of total monthly mass of phosphorus discharged for the calendar year and report on the last day of the month on the DMR. See Phosphorus TMDL footnote below. |
| Hardness, Total as CaCO ₃ | | mg/L | Monthly | 24-Hr Flow Prop Comp | Sample concurrently with copper and zinc. |
| E. coli | Geometric Mean - Monthly | 126 #/100 ml | Weekly | Grab | Monitoring and limit apply May 1-Sept 30 each year. |
| E. coli | % Exceedance | 10 Percent | Monthly | Calculated | Monitoring and limit apply May 1-Sept 30 each year. See E. coli footnote below. |
| Nitrogen, Total Kjeldahl | | mg/L | Annual | 24-Hr Flow Prop Comp | See Nitrogen Series Monitoring section below. |
| Nitrogen, Nitrite + Nitrate Total | | mg/L | Annual | 24-Hr Flow Prop Comp | See Nitrogen Series Monitoring section below. |
| Nitrogen, Total | | mg/L | Annual | Calculated | See Nitrogen Series Monitoring section below. Total Nitrogen shall be calculated as the sum of reported values |

| Monitoring Requirements and Limitations | | | | | |
|------------------------------------------------|-----------------------|------------------------|-------------------------|----------------------|----------------------------------------------------------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| | | | | | for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen. |
| Acute WET | | TUa | 2/Permit term | 24-Hr Flow Prop Comp | See WET testing footnote below. |
| Chronic WET | Monthly Avg | 1.0 TUc | Annual | 24-Hr Flow Prop Comp | See WET testing footnote below. |
| Copper, Total Recoverable | Daily Max | 6.1 ug/L | 2/Month | 24-Hr Flow Prop Comp | See metals footnote below. |
| Copper, Total Recoverable | Weekly Avg | 4.5 ug/L | 2/Month | 24-Hr Flow Prop Comp | See metals footnote below. |
| Copper, Total Recoverable | Daily Max | 0.0095 lbs/day | 2/Month | Calculated | See metals footnote below. |
| Copper, Total Recoverable | Weekly Avg - Variable | 0.0022 lbs/day | 2/Month | Calculated | This is a variable limit based on weather conditions. See metals footnote below. |
| Copper Variable Limit | | lbs/day | 2/Month | Calculated | This is a variable limit based on weather conditions. See metals footnote below. |
| Zinc, Total Recoverable | Daily Max | 51 ug/L | 2/Month | 24-Hr Flow Prop Comp | See metals footnote below. |
| Zinc, Total Recoverable | Weekly Avg | 51 ug/L | 2/Month | 24-Hr Flow Prop Comp | See metals footnote below. |
| Zinc, Total Recoverable | Daily Max | 0.079 lbs/day | 2/Month | Calculated | See metals footnote below. |
| Zinc, Total Recoverable | Weekly Avg - Variable | lbs/day | 2/Month | Calculated | This is a variable limit based on weather conditions. See metals footnote below. |
| Zinc Variable Limit | | lbs/day | 2/Month | Calculated | |

Changes from Previous Permit

The facility will no longer remove the surface water outfall and the WQBEL limits and monitoring from the previous permit term continue to apply. Other changes include E. coli limits replace fecal coliform limits, WET testing is no longer waived and a chronic WET test limit is given, as well as added hardness monitoring and annual nitrogen series monitoring.

Explanation of Limits and Monitoring Requirements

Monitoring Frequencies

The effluent monitoring frequency for all parameters were considered. Monitoring frequencies are based on the size and type of the facility and are established to best characterize effluent quality and variability, to detect events of noncompliance, and to ensure fairness and consistency in permits issued across the state. Requirements in administrative code (NR 108, 205, 210 and 214 Wis. Adm. Code) and Section 283.55, Wis. Stats. were considered, where applicable, when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. The department has determined at this time that no changes in monitoring frequency are warranted based on the size and type of the facility. For more information see the March 22, 2021 version of the Bureau of Water Quality Program Guidance Document “Monitoring Frequencies for Individual Wastewater Permits”.

Water Quality Based Limits and WET Requirements and Disinfection (if applicable)

Refer to the January 25, 2022 memo from Benjamin Hartenbower to Angela Parkhurst titled “Water Quality-Based Effluent Limitations for the Warrens-Monroe Wastewater Commission WPDES Permit No. WI-0060259” for the detailed calculations.

WET Testing

Two Acute WET tests and annual Chronic WET testing with a limit of 1.0 monthly average are required when discharging. Whole effluent toxicity (WET) testing requirements and limits are determined in accordance with ss. NR 106.08 and NR 106.09 Wis. Adm. Code, as revised August 2016. (See the current version of the Whole Effluent Toxicity Program Guidance Document and checklist and WET information, guidance and test methods at <http://dnr.wi.gov/topic/wastewater/wet.html>)

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.

Fecal coliform monitoring and limits have been replaced with Escherichia coli (E. coli) monitoring and limits. E. coli limits of 126 #/100 ml as a monthly geometric mean that may not 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. No compliance schedule was given due the fact similar facilities with UV disinfection successfully meet the new E. coli limits.

Temperature

Temperature monitoring continues in the reissued permit per the requirements of s. NR 106.59(7). The permittee requested dissipative cooling to be considered regarding potential limitations, referencing the previous dissipative cooling study. Based on the results, it was determined weekly average limits are not necessary. Refer to associated WQBEL memo dated January 25, 2022 for more information.

Phosphorus

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 TMDL SSC-based limits are consistent with the assumptions and requirements of

the EPA-approved WLA in the TMDL, which is 235 lbs/yr annual total for the permitted facility. The existing concentration limit of 5.0 mg/L as an annual average will be maintained in this permit term to prevent backsliding.

The approved TMDL expresses WLAs as lbs/year maximum annual load (lbs/day maximum annual load is not required due to the seasonal nature of the discharge). 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>).

Facilities such as Warrens-Monroe with a seasonal discharge have WRB TMDL based effluent limits for phosphorus calculated as the sum of total monthly mass of phosphorus discharged for the calendar year (lbs/yr) and will be reported on the last day of the month.

Ammonia

Seasonal ammonia nitrogen limitations are required. No mass limitations are required in accordance with s. NR 106.32(5), Wis. Adm Code. Refer to associated WQBEL memo dated November 1, 2021 for more information.

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. Annual effluent monitoring for Total Nitrogen is included in the permit because of the potential for higher nitrogen loading resulting from higher flows (major facilities), higher concentrations, or both. 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.

Monitoring for Total Kjeldahl Nitrogen (TKN), Nitrite + Nitrate Nitrogen, and Total Nitrogen shall be conducted once each year when discharging.

Nitrogen Series monitoring shall continue after the permit expiration date (until the permit is reissued) in accordance with the monitoring requirements specified in the last full calendar year of this permit.

Copper / Zinc

Daily maximum and weekly average copper and zinc limits are required. Since this outfall has minimal to no discharge, these limits are unlikely to be commonly exceeded, if at all. However, if this situation changes, the Department will work with the facility to minimize the impact via various compliance options (i.e. variance applications, facility upgrades, operational changes, etc.) to resolve the exceedances.

3 Land Treatment – Proposed Monitoring and Limitations

Sample Point Number: 001- PRIOR SPRAY IRRIGATION

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|------------|-----------------|------------------|-------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Flow Rate | | gpd | Daily | Total Daily | |

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|--------------|------------------|------------------|--------------|--------------------------------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Hydraulic Application Rate | Monthly Avg | 7,000 gal/ac/day | Monthly | Calculated | Limit applies April - November |
| Hydraulic Application Rate | Monthly Avg | 0 gal/ac/day | Monthly | Calculated | Limit applies December - March |
| BOD5, Total | Monthly Avg | 50 mg/L | Monthly | Grab | |
| Suspended Solids, Total | | mg/L | Monthly | Grab | |
| pH Field | | su | Monthly | Grab | |
| Nitrogen, Ammonia (NH3-N) Total | | mg/L | Monthly | Grab | |
| Nitrogen, Organic Total | | mg/L | Monthly | Calculated | |
| Nitrogen, Total Kjeldahl | | mg/L | Monthly | Grab | |
| Nitrogen, Nitrite + Nitrate Total | | mg/L | Monthly | Grab | |
| Nitrogen, Total | | mg/L | Monthly | Calculated | |
| Solids, Total Dissolved | | mg/L | Monthly | Grab | |
| Chloride | | mg/L | Monthly | Grab | |
| Nitrogen, Max Applied On Any Zone | Annual Total | 300 lbs/ac/yr | Annual | Total Annual | |

Changes from Previous Permit:

None

Explanation of Limits and Monitoring Requirements

All requirements were determined by ch NR 206 Wis Adm Code.

4 Groundwater – Proposed Monitoring and Limitations

4.1 Groundwater Monitoring System for Previous Absorption Pond

Location of Monitoring system: On facility grounds

Wells to be Monitored: 807 (Background), 808, 809

Well Used to Calculate PALs: 807

Point of Standards Application Well(s): None

| Parameter | Units | Preventative Action Limit | Enforcement Standard | Frequency |
|----------------------------------------------|----------|---------------------------|----------------------|-----------|
| Depth To Groundwater | feet | ***** | N/A | Quarterly |
| Groundwater Elevation | feet MSL | ***** | N/A | Quarterly |
| Nitrogen, Nitrite + Nitrate (as N) Dissolved | mg/L | 3.0 | 10 | Quarterly |
| Chloride Dissolved | mg/L | 125 | 250 | Quarterly |
| pH Field | su | 4.7-6.7 | N/A | Quarterly |
| Nitrogen, Ammonia Dissolved | mg/L | 2.0 | 9.7 | Quarterly |
| Nitrogen, Organic Dissolved | mg/L | 4.0 | N/A | Quarterly |
| Solids, Total Dissolved | mg/L | 800 | N/A | Quarterly |

Changes from Previous Permit:

Changes for the groundwater monitoring wells include an alternate concentration limit of 3.0 mg/L for Nitrate+Nitrite Nitrogen and 4.0 mg/L for Organic Nitrogen, new pH limit, new total dissolved solids limit.

Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch NR 140, Wis Adm Code. See groundwater evaluation memo dated September 20, 2021 for more information. See memo titled “Warrens Monroe WWTF – Groundwater Evaluation Report WPDES Permit #WI-0060259” dated September 20, 2021 for more information.

5 Land Application - Proposed Monitoring and Limitations

| Municipal Sludge Description | | | | | | |
|-----------------------------------------------------------------------------------|-----------------------|------------------------------|---------------------------|--------------------------|--------------|----------------------------------------|
| Sample Point | Sludge Class (A or B) | Sludge Type (Liquid or Cake) | Pathogen Reduction Method | Vector Attraction Method | Reuse Option | Amount Reused/Disposed (Dry Tons/Year) |
| 004 | B | Liquid | | | | |
| Does sludge management demonstrate compliance? Yes | | | | | | |
| Is additional sludge storage required? No | | | | | | |
| Is Radium-226 present in the water supply at a level greater than 2 pCi/liter? No | | | | | | |
| Is a priority pollutant scan required? No | | | | | | |

Sample Point Number: 004- SLUDGE FROM HOLDING POND

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|--------------|-----------------|------------------|-------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Solids, Total | | Percent | Once | Grab | |
| Arsenic Dry Wt | Ceiling | 75 mg/kg | Once | Grab | |
| Arsenic Dry Wt | High Quality | 41 mg/kg | Once | Grab | |
| Cadmium Dry Wt | Ceiling | 85 mg/kg | Once | Grab | |
| Cadmium Dry Wt | High Quality | 39 mg/kg | Once | Grab | |
| Copper Dry Wt | Ceiling | 4,300 mg/kg | Once | Grab | |

| Monitoring Requirements and Limitations | | | | | |
|-----------------------------------------|--------------|-----------------|------------------|-------------|-------|
| Parameter | Limit Type | Limit and Units | Sample Frequency | Sample Type | Notes |
| Copper Dry Wt | High Quality | 1,500 mg/kg | Once | Grab | |
| Lead Dry Wt | Ceiling | 840 mg/kg | Once | Grab | |
| Lead Dry Wt | High Quality | 300 mg/kg | Once | Grab | |
| Mercury Dry Wt | Ceiling | 57 mg/kg | Once | Grab | |
| Mercury Dry Wt | High Quality | 17 mg/kg | Once | Grab | |
| Molybdenum Dry Wt | Ceiling | 75 mg/kg | Once | Grab | |
| Nickel Dry Wt | Ceiling | 420 mg/kg | Once | Grab | |
| Nickel Dry Wt | High Quality | 420 mg/kg | Once | Grab | |
| Selenium Dry Wt | Ceiling | 100 mg/kg | Once | Grab | |
| Selenium Dry Wt | High Quality | 100 mg/kg | Once | Grab | |
| Zinc Dry Wt | Ceiling | 7,500 mg/kg | Once | Grab | |
| Zinc Dry Wt | High Quality | 2,800 mg/kg | Once | Grab | |
| PCB Total Dry Wt | Ceiling | 50 mg/kg | Once | Grab | |
| PCB Total Dry Wt | High Quality | 10 mg/kg | Once | Grab | |

Changes from Previous Permit:

None

Explanation of Limits and Monitoring Requirements

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

Fact Check Comments/Responses in Red

1. In Section 2.2.1 the line showing a limit of 25 lbs/day for zinc should be eliminated. **The line has been deleted.**
2. Please clarify the requirements for temperature monitoring. Section 2.2.1.2 requires measurements at intervals of not more than 24 hours, and then goes on to say “For seasonal discharges collect measurements either manually or continuously during the period of operation and report the daily maximum effluent temperature on the DMR”. Since it’s not feasible to manually measure temperature every 15 minutes, please clarify what temperature monitoring the permittee should perform in the even there is a discharge to Apple Creek. As a side note, since any discharge to Apple Creek is expected to be very infrequent, any data collected might be of questionable value if the discharge doesn’t occur during the same month(s) as future discharges. Can the requirement for temperature monitoring be reconsidered?
Temperature monitoring has been clarified to be manually performed at least twice during times of discharge (per occurrence), and daily maximum is to be reported. Requesting removal of this requirement should be a public notice comment.
3. Please clarify the requirements for sampling the nitrogen series in “rotating quarters”, considering the discharge to Apple Creek is expected to be very infrequent.

The monitoring for the nitrogen series (Total Kjeldahl Nitrogen, Nitrite + Nitrate Nitrogen, and Total Nitrogen), has been changed from specific quarters to be sampled annually when discharging to better reflect the infrequent discharge. If no discharge occurs during the year, note 'no discharge' on the annual reporting form.

The Permit Fact Sheet indicates "Annual effluent monitoring for Total Nitrogen is included in the permit because of the potential for higher nitrogen loading resulting from higher flows (major facilities) higher concentrations, or both." Since discharge to Apple Creek is expected to be very infrequent, can the requirement for sampling/testing for the nitrogen series be reconsidered?

The comment "Annual effluent monitoring for Total Nitrogen is included in the permit because of the potential for higher nitrogen loading resulting from higher flows (major facilities), higher concentrations, or both.", applies to Warrens-Monroe since the facility has the potential for higher concentrations due to high ammonia levels.

4. Can the requirements for WET testing, especially chronic WET testing, be reconsidered?

Requesting removal/reduction of this requirement should be a public notice comment.

The requirement for an annual chronic WET test will be expensive. We understand the Department is required to follow a methodology that includes a "scoring system" to determine the need and frequency for WET testing. That scoring system includes 5 points because of the presence of an "industrial contributor" but it's very questionable whether that contributor (American Berry Company) would result in a treated effluent with toxicity. Also, it seems that the WET testing frequency is meant for a facility with continuous discharge. Since any discharge to Apple Creek is expected to be infrequent, are the annual chronic WET tests (and two acute WET tests) necessary, such that they should be conducted even if the treated effluent is being discharged to the storage pond for eventual spray irrigation?

WET testing only applies to the sample point discharging to Apple Creek (003), and not discharge to the storage pond or spray irrigation. The WET tests have been clarified to be done only when discharging instead of specific quarters, with Acute tests required twice during the permit term, and Chronic tests done annually. If no discharge to Apple Creek occurs during the year, note 'no discharge' on the annual reporting form.

5. In Section 3.2.1, is it possible to consider a higher maximum monthly limit for Hydraulic Application Rate? The current limit is 7,000 gal/acre/day. In 2021 the peak month hydraulic application rate was approximately 6,400 gal/acre/day with no apparent impact on groundwater quality.

It is possible to request a limit up to 10,000 gal/acre/day, however justification must be provided that demonstrates the increase will not result in a reduction of groundwater standards.

6. In Section 4.1.1, the table showing required groundwater monitoring and limits should be revised to show a PAL range of 4.7 to 6.7 (as indicated in Section 4.1.1.2).

The database linked to determining violations can not determine violations within a range, therefore the limit can only be expressed as a maximum in the associated limit table. This is why further clarification of the pH limit range is specified in Section 4.1.1.2.

7. Although not directly a part of the WPDES permit, we wanted to note a couple of questions/comments regarding the Department's Groundwater Evaluation Report. It might not be relevant to the calculation of any limits, but the loading data in Table 5 appears to be incorrect. Also, it's stated that "The groundwater was evaluated by looking at approximately five years of monitoring results. PALS and ACLS are calculated from this time range". It's not clear what data was used or how the new PALs/ACLs shown in Table 8 calculated, or what the asterisks in Table 8 are meant to indicate.

The loading data came from facility reports.

8. Although not directly a part of the WPDES permit, in the Department's Permit Fact Sheet it appears that the average flow for 2021 at Sample Point No. 001 (0.026 MGD) is incorrect.

This has been corrected to 0.27 MGD.

9. As a side note, we appreciate the language included in the Permit Fact Sheet regarding copper/zinc. This seems consistent with the several conversations and correspondence between the Department, the permittee, and MSA regarding the expected difficulty in meeting the proposed WQBELs for copper and zinc, and the potential need to investigate variance applications or facility upgrades in the future if for some reason discharge to Apple Creek is expected to occur on a regular basis.

I'm pleased to hear that our mutual understanding was captured correctly!

Other Comments:

Publishing Paper for Public Notice: Tomah Journal, PO Box 190, Tomah, WI 54660

Attachments:

Water Quality Based Effluent Limits: January 25, 2022 memo from Benjamin Hartenbower to Angela Parkhurst titled "Water Quality-Based Effluent Limitations for the Warrens-Monroe Wastewater Commission WPDES Permit No. WI-0060259" in SWAMP.

NR 140 Groundwater Evaluation Memo: September 20, 2021 memo from Woody Myers to Angela Parkhurst titled "Warrens Monroe Wastewater Treatment Facility – Groundwater Evaluation Report, WPDES Permit # WI-0060259" in SWAMP.

Proposed Expiration Date:

03/31/27

Justification Of Any Waivers From Permit Application Requirements

N/A

Prepared By:

Angela Parkhurst Wastewater Specialist

Date: 03/30/2022

cc: SWAMP

/