

Permit Fact Sheet

General Information

Permit Number	WI-0026689-11-0
Permittee Name and Address	Ravinia Communities LLC 15941 Durand Ave, Union Grove, WI 53182
Permitted Facility Name and Address	Harvest View MHC LLC WWTP 15941 Durand Avenue, Union Grove, WI
Permit Term	October 01, 2026 to September 30, 2031
Discharge Location	West bank of unnamed tributary to the East Branch of the Root River Canal, ¼ mile south of Highway 11 (Lat: 42.67704°N Long: -88.07162°W)
Receiving Water	East Branch of Root River Canal in Root River Watershed of Southeast River Basin in Racine County
Stream Flow (Q _{7,10})	0 cfs
Stream Classification	Limited Aquatic Life; non-public water supply
Discharge Type	Existing, continuous
Annual Average Design Flow (MGD)	0.10 MGD
Industrial or Commercial Contributors	None
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; SS - Sanitary Sewage Collection System; P – Total Phosphorus
Approved Pretreatment Program?	N/A

Facility Description

Ravinia Communities LLC owns and operates Harvest View LLC WWTP (Harvest View) after purchasing the facility from Fonk's Home Center Inc. in January of 2025. Harvest View has an annual average design flow of 0.1 million gallon per day and serves approximately 415 residents with no industrial contributors. The wastewater treatment includes two raw sewage lift pumps, a splitter box, two 1,000-gallon septic tanks which remove settleable solids and grit, two 0.05 MGD design flow package plants that consist of an aerobic digester, an aeration tank, a clarifier, and post-aeration. Poly-aluminum chloride is added after grit removal and before secondary treatment for chemical phosphorus removal. After the treatment process, parallel flows are combined and monitored.

Substantial Compliance Determination

After a desk top review of all discharge monitoring reports, CMARs, land app reports, compliance schedule items, and a site visit on **September 25, 2025**, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by Jacob Van Susteren-Wedeky on November 20, 2025.

Sample Point Descriptions

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	NA influent flow not monitored	INFLUENT: 24-hour composite samples shall be collected from the splitter box prior to the grit chambers.
001	0.031 MGD (April 2021 – March 2026 Average)	EFFLUENT: 24-hour flow proportional composite samples and grab samples shall be collected from the effluent wet well before the V-notch weir.
003	3 dry US Tons (2025 application)	Aerobically digested liquid sludge: Composite samples of the sludge shall be taken from the digester while mixing and prior to hauling. Test results shall be reported on Form 3400-49 'Waste Characteristics Report'. Hauled sludge reports shall be submitted on Form 3400-52 'Other Methods of Disposal or Distribution Report' following each year that the sludge is hauled.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- Influent

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
BOD5, Total		mg/L	3/Week	24-Hr Comp	
Suspended Solids, Total		mg/L	3/Week	24-Hr Comp	

1.1.1 Changes from Previous Permit:

Influent limitations and monitoring requirements were evaluated for this permit term and no changes were required in this permit section.

1.1.2 Explanation of Limits and Monitoring Requirements

Monitoring of influent flow, BOD5 and total suspended solids is required by s. NR 210.04(2), Wis. Adm. Code, to assess wastewater strengths and volumes and to demonstrate the percent removal requirements in s. NR 210.05, Wis. Adm. Code, and in the Standard Requirements section of the permit.

2 Surface Water - Monitoring and Limitations

2.1 Sample Point Number: 001- Mechanical Plant Discharge

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Flow Rate		MGD	Daily	Continuous	
BOD5, Total	Weekly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	30 mg/L	3/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	20 mg/L	3/Week	24-Hr Flow Prop Comp	
pH Field	Daily Min	6.0 su	5/Week	Grab	
pH Field	Daily Max	9.0 su	5/Week	Grab	
Dissolved Oxygen	Daily Min	4.0 mg/L	5/Week	Continuous	
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	Monitoring and limit effective May through September annually per the Effluent Limitations for E. coli Schedule.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	Monitoring and limit effective May through 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.
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	Monitoring only in 2030.
Phosphorus, Total	Monthly Avg	0.4 mg/L	2/Week	24-Hr Comp	This is an interim MDV limit effective upon reissuance. See the MDV/Phosphorus permit sections and phosphorus

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
					schedules.
Phosphorus, Total		lbs/month	Monthly	Calculated	Report the total monthly phosphorus discharged in lbs/month on the last day of the month on the DMR. See Standard Requirements for 'Appropriate Formulas' to calculate the Total Monthly Discharge in lbs/month.
Phosphorus, Total		lbs/yr	Annual	Calculated	Report the sum of the total monthly discharges (for the months that the MDV is in effect) for the calendar year on the Annual report form.
Nitrogen, Total Kjeldahl		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Nitrite + Nitrate Total		mg/L	See Listed Qtr(s)	24-Hr Flow Prop Comp	Annual in rotating quarters. See Nitrogen Series Monitoring section.
Nitrogen, Total		mg/L	See Listed Qtr(s)	Calculated	Annual in rotating quarters. See Nitrogen Series Monitoring section. Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.

2.1.1 Changes from Previous Permit

Effluent limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

- **Disinfection & E. coli:** At the end of the compliance schedule, Disinfection requirements and 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. Monitoring is not required until the limit becomes effective and the end of the compliance schedule.
- **Chloride-** Monitoring in 2030 was added to the permit.
- **Acute WET-** Removed from the permit.

2.1.2 Explanation of Limits and Monitoring Requirements

Detailed discussions of limits and monitoring requirements can be found in the attached water quality-based effluent limits (WQBEL) memo dated **May 4, 2026**.

Monitoring Frequencies- The Monitoring Frequencies for Individual Wastewater Permits guidance (April 12, 2021) recommends that standard monitoring frequencies be included in individual wastewater permits based on the size and type of the facility, in order to characterize effluent quality and variability, to detect events of noncompliance, and to ensure consistency in permits issued across the state. Guidance and requirements in administrative code were considered when determining the appropriate monitoring frequencies for pollutants that have final effluent limits in effect during this permit term. Monitoring frequencies were evaluated, and no changes were made to this permit reissuance.

Expression of Limits- In accordance with the federal regulation 40 CFR 122.45(d) and s. NR 205.065, Wis. Adm. Code, limits in this permit are to be expressed as weekly average and monthly average limits whenever practicable.

Phosphorus – Phosphorus rules became effective December 1, 2010 per NR 217, Wis. Adm. Code, that required the permittee to comply with water quality based effluent limits (WQBELs) for total phosphorous. The final phosphorus WQBELs are 0.225 mg/L as a monthly average and 0.075 mg/L and 0.063 lbs/day as six-month averages and were to become effective as scheduled unless a variance was granted. For this permit term, the permittee has applied for the Multi-Discharger Variance (MDV) for phosphorus as provided for in s. 283.16, Wis. Stats., and approved by USEPA on September 3, 2025 for a 10-year duration. The permittee qualifies for the MDV because it is an existing source and a major facility upgrade is needed to comply with the applicable phosphorus WQBELs, thereby creating a financial burden. The interim effluent limit for total phosphorus is 0.4 mg/L as an average monthly limit. The limit was derived using DMR data from 04/04/2021 to 02/25/2026.

Conditions of the MDV require the permittee to optimize phosphorus removal throughout the proposed permit term, comply with interim limits and make annual payments to participating county(s) by March 1 of each year based on the pounds of phosphorus discharged during the previous year in excess of the specified target value.

The “price per pound” value is \$50.00 adjusted for CPI annually as defined by s. 283.16(8)(a)2, Wis. Stats and takes effect for reissued permits with effective dates starting April 1. This may differ from the “price per pound” that is public noticed; however, the “price per pound” is set upon reissuance and is applicable for the entire permit term. The participating county(s) uses these payments to implement nonpoint source phosphorus control strategies at the watershed level.

Disinfection & 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.

Section NR 102.04(5)(a), Wis. Adm. Code, states that all surface waters shall be suitable for recreational use and meet the E. coli criteria established to protect this use. Section NR 102.04(5)(b), Wis. Adm. Code, states that exceptions to the disinfection requirement can be made if the department determines, in accordance with the procedures specified in s. NR 210.06(3), Wis. Adm. Code, that disinfection is not required to meet water quality criteria. As part of the reissuance process, the requirements for disinfection were reviewed under s. NR 210.06(3), Wis. Adm. Code.

It was determined that the permittee is required to disinfect, during the following months May – September. See WQBEL for further explanation.

3 Land Application - 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)

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)
003	B	Liquid	Do not land apply. Haul to another facility.	Do not land apply. Haul to another facility.	Do not land apply. Haul to another facility.	3 dry U.S. tons (per 2025 permit application)
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						
If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in landapplying sludge from this facility						
Is a priority pollutant scan required? No						
Priority pollutant scans are required once every 10 years at facilities with design flows between 5 MGD and 40 MGD, and once every 5 years if design flow is greater than 40 MGD.						

3.1 Sample Point Number: 003- Liquid sludge

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

Monitoring Requirements and Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Nickel Dry Wt	High Quality	420 mg/kg	Annual	Composite	
Selenium Dry Wt	Ceiling	100 mg/kg	Annual	Composite	
Selenium Dry Wt	High Quality	100 mg/kg	Annual	Composite	
Zinc Dry Wt	Ceiling	7,500 mg/kg	Annual	Composite	
Zinc Dry Wt	High Quality	2,800 mg/kg	Annual	Composite	
Nitrogen, Total Kjeldahl		Percent	Annual	Composite	
Nitrogen, Ammonium (NH ₄ -N) Total		Percent	Annual	Composite	
Phosphorus, Total		Percent	Annual	Composite	
Phosphorus, Water Extractable		% of Tot P	Annual	Composite	
Potassium, Total Recoverable		Percent	Annual	Composite	
PCB Total Dry Wt	Ceiling	50 mg/kg	Once	Composite	Monitoring in 2027.
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	Monitoring in 2027.
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

3.1.1 Changes from Previous Permit:

Sludge limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under “Explanation of Limits and Monitoring Requirements” below.

PFAS –Monitoring is required **annually** pursuant to **s. NR 204.06(2)(b)9., Wis. Adm. Code.**

3.1.2 Explanation of Limits and Monitoring Requirements

Requirements for disposal, including 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). Radium requirements are addressed in s. NR 204.07(3)(n).

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the “Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS” should be followed

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department’s implementation of EPA’s recommendations. To quantitate this risk, PFAS sampling has been included in this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

4 Schedules

4.1 Disinfection and Effluent Limitations for E. coli

Required Action	Due Date
Progress Report: The permittee shall submit a progress report on development and submittal of a facility plan for upgrades to meet disinfection requirements and E. coli limits.	06/30/2027
Submit Facility Plan: The permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code for meeting disinfection requirements and complying with E. coli surface water limitations. The permittee may submit an abbreviated facility plan if the Department determines that the modifications are minor.	04/30/2028
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 meet disinfection requirements per s. NR 210.06(1), Wis. Adm Code, achieve compliance with final E. coli limitations, and a schedule for completing construction of the upgrades by the complete construction date specified below.	03/31/2029
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.	09/30/2029
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades.	09/30/2030
Complete Construction: The permittee shall complete construction of wastewater treatment system upgrades.	03/31/2031
Achieve Compliance: The permittee shall achieve compliance with final E. coli limitations.	04/30/2031

4.1.1 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.

4.2 Phosphorus Schedule - Optimization and Compliance Planning

The permittee is required to optimize performance and undertake compliance planning to control phosphorus discharges per the following schedule.

Required Action	Due Date
Optimization and Compliance Alternatives: The permittee shall implement a phosphorus discharge optimization plan to control phosphorus discharges to the greatest extent practicable. Submit a progress report that summarizes the approach to phosphorus removal at the facility, the resulting concentration and mass loading for the last 12-month period, and any changes that were or are needed to optimize removal of phosphorus by the due date. The permittee shall also evaluate alternative phosphorus compliance options such as water quality trading and adaptive management. The progress report submitted on the date due shall also detail any outreach activities undertaken to evaluate these options, any communications with credit generators, brokers/clearinghouse, and any potential water quality trading or adaptive management projects that may lead to compliance with phosphorus WQBELs. Financial alternatives evaluation: If the permittee intends to seek a renewed variance at the end of this permit term, the permittee may complete a financial evaluation to support ongoing variance eligibility. The report must evaluate financial mechanisms that have the potential to make compliance with phosphorus WQBELs economically feasible. Include an assessment of the feasibility and financial outcomes of the following opportunities: variable rate structures, grants through USDA or other sources, and DNR's Clean Water Fund Program. The assessment of the DNR's Clean Water Fund program should take into account subsidized interest rate loans, principal forgiveness, and other options as outlined in EPA's March 2024 Financial Capabilities Assessment Guidance, Appendix C.	09/30/2027
Progress Report #2: Submit a progress report per the above for the prior calendar year.	09/30/2028
Progress Report #3: Submit a progress report per the above for the prior calendar year.	09/30/2029
Progress Report #4: Submit a progress report per the above for the prior calendar year.	09/30/2030
Final MDV Optimization and Compliance Alternatives Report: Submit a progress report per the above for the prior calendar year. If water quality trading or adaptive management will be used to comply with phosphorus limitations during the next permit term, submit a draft water quality trading plan, adaptive management plan, or executed clearinghouse credit purchase agreement. The financial alternatives evaluation as described above must be submitted by the date due if the facility chooses to seek renewal of the variance.	03/31/2031

4.2.1 Explanation of Schedule

Per s. 283.16(6)(a), Wis. Stats. the Department may include a requirement that the permittee optimize the performance of a point source in controlling phosphorus discharges, which may be necessary to achieve compliance with applicable effluent limits. This compliance schedule requires the permittee to prepare an optimization plan with a schedule for implementation and submit it for Department approval. The schedule also includes a compliance planning element focused on economically feasible solutions to low-level phosphorus effluent limits such as water quality trading or adaptive management. The permittee shall take the steps called for in the optimization plan and submit annual progress reports on optimizing the removal of phosphorus and establishing a water quality trade or adaptive management project. Should the permittee intend to reapply for a subsequent term of variance coverage, a financial alternatives analysis will need to be completed. Report elements are listed in the schedule, and more information can be found in [EPA's March 2024 Financial Capabilities Assessment Guidance, Appendix C](#).

4.3 Phosphorus Payment per Pound to County

The permittee is required to make annual payments for phosphorus reductions to the participating county or counties in accordance with s. 283.16(8), Wis. Stats, and the following schedule. The price per pound will be set at the time of permit reissuance and will apply for the duration of the permit.

Required Action	Due Date
Annual Verification of Phosphorus Payment to County: The permittee shall make a total payment to the participating county or counties approved by the Department by March 1 of each calendar year. The amount due is equal to the following: [(lbs of phosphorus discharged minus the permittee's target value) times (\$68.40 per pound)] or \$640,000, whichever is less. See the payment calculation steps in the Surface Water section. The permittee shall submit Form 3200-151 to the Department by March 1 of each calendar year indicating total amount remitted to the participating counties to verify that the correct payment was made. The first payment verification form is due by the specified Due Date. Note: The applicable Target Value is 0.2 mg/L as defined by s. 283.16(1)(h), Wis. Stats. The "per pound" value is \$50.00 adjusted for CPI.	03/01/2027
Annual Verification of Payment #2: Submit Form 3200-151 to the Department indicating total amount remitted to the participating counties.	03/01/2028
Annual Verification of Payment #3: Submit Form 3200-151 to the Department indicating total amount remitted to the participating counties.	03/01/2029
Annual Verification of Payment #4: Submit Form 3200-151 to the Department indicating total amount remitted to the participating counties.	03/01/2030
Annual Verification of Payment #5: Submit Form 3200-151 to the Department indicating total amount remitted to the participating counties.	03/01/2031
Continued Coverage: If the permittee intends to seek a renewed variance, an application for the MDV (Multi Discharger Variance) shall be submitted as part of the application for permit reissuance in accordance with s. 283.16(4)(b), Wis. Stats.	
Annual Verification of Payment After Permit Expiration: In the event that this permit is not reissued prior to the expiration date, the permittee shall continue to submit Form 3200-151 to the Department indicating total amount remitted to the participating counties by March 1 each year.	

4.3.1 Explanation of Schedule

Subsection 283.16(6)(b), Wis. Stats., requires permittees that have received approval for the multi-discharger variance (MDV) to implement a watershed project that is designed to reduce nonpoint sources of phosphorus within the HUC 8 watershed in which the permittee is located. The permittee has selected the "Payment to Counties" watershed option described in s. 283.16(8), Wis. Stats. Under this option the permittee shall make annual payment(s) to participating county(s) that are calculated based on the amount of phosphorus actually discharged during a calendar year in pounds per year less the amount of phosphorus that would have been discharged had the permittee discharged phosphorus at a target value **concentration of 0.2 mg/L**. The pounds of phosphorus discharged in excess of the target value is multiplied by a per pound phosphorus charge that will equal **\$68.40** per pound. This schedule requires the permittee to submit Form 3200-151 to the Department indicating the total amount remitted to the participating county(s).

4.4 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan Submittal: Submit a management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code. This management plan shall 1) specify information on pretreatment processes (if any); 2) identify land application sites; 3) describe site limitations; 4) address vegetative cover management and removal; 5) specify availability of storage; 6) describe the type of transporting and spreading vehicle(s); 7) specify monitoring procedures; 8) track site loading; 9) address contingency plans for adverse weather and odor/nuisance abatement; and 10) include any other pertinent information. Once approved, all landspreading 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. The plan is due sixty (60) days prior to land applying.	

4.4.1 Explanation of Schedule

An up-to-date Land Application Management Plan is required that documents how the permittee will manage the land application of biosolids consistent with ch. NR 204, Wis. Adm. Code

Attachments

Water Quality Based Effluent Limits 05/04/2026

MDV evaluation checklist dated 04/28/2026

MDV conditional approval letter dated 04/28/2026

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By: Justin Meyers Wastewater Field Supervisor

Date: 07/17/2026

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: 05/04/2026

TO: Marissa Fleege – SER

FROM: Nicole Krueger – SER *Nicole Krueger*

SUBJECT: Water Quality-Based Effluent Limitations for Harvest View MHC LLC Wastewater Treatment Plant
WPDES Permit No. WI-0026689-11

This is in response to your request for an evaluation of the need for water quality-based effluent limitations (WQBELs) using chapters NR 102, 104, 105, 106, 207, 210, 212, and 217 of the Wisconsin Administrative Code (where applicable) for the discharge from Harvest View MHC LLC in Racine County. This municipal wastewater treatment facility (WWTF) discharges to the East Branch of the Root River Canal, located in the Root River Watershed in the Root River Basin. The evaluation of the permit recommendations is discussed in more detail in the attached report.

Based on our review, the following recommendations are made on a chemical-specific basis at Outfall 001:

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1,2
BOD ₅			30 mg/L	20 mg/L		1
TSS			30 mg/L	20 mg/L		1
pH	9.0 s.u.	6.0 s.u.				1
Dissolved Oxygen		4.0 mg/L				1
Ammonia Nitrogen						1,2
Bacteria						3
<i>E. coli</i>				126 #/100 mL geometric mean		
Chloride						4
Phosphorus HAC Interim Limit Final WQBEL				0.4 mg/L 0.225 mg/L	0.075 mg/L 0.063 lbs/day	5
TKN, Nitrite+Nitrate, and Total Nitrogen						6

Footnotes:

1. No changes from the current permit.
2. Monitoring only.
3. Bacteria limits apply during the disinfection season of May through September. Additional final limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
4. Monitoring at a frequency to ensure that 11 samples are available at the next permit issuance.
5. Under the phosphorus MDV, the highest attainable limit (HAC) interim limit of 0.4 mg/L should be effective upon permit reissuance. The final WQBELs remain at 0.225 mg/L as a monthly average and 0.075 mg/L as a six-month average, as well as a respective mass limit.
6. As recommended in the Department's October 1, 2019 Guidance for Total Nitrogen Monitoring in Wastewater Permits, annual total nitrogen monitoring is recommended for all minor municipal

permittees. Sections 283.37(5) and 283.55(1)(e), Wis. Stats, and ss. NR 200.065(1)(g) and NR 200.065(1)(h), Wis. Adm. Codes, provide the authority to request this monitoring during the permit term. Total Nitrogen is the sum of nitrite (NO₂), nitrate (NO₃), and total Kjeldahl nitrogen (TKN) (all expressed as N).

No WET testing is required because information related to the discharge indicates low to no risk for toxicity.

The recommended limits meet the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Codes, and additional limits are not required.

Please consult the attached report for details regarding the above recommendations. If there are any questions or comments, please contact Nicole Krueger at Nicole.Krueger@wisconsin.gov or Diane Figiel at Diane.Figiel@wisconsin.gov.

Attachments (2) – Narrative & Outfall Map

PREPARED BY: Nicole Krueger, Water Resources Engineer – SER

E-cc: Jacob Van Susteren-Wedeky, Wastewater Engineer – SER
Justin Meyers, Regional Wastewater Supervisor – SER
Diane Figiel, Water Resources Engineer – WY/3
Nate Willis, Wastewater Engineer – WY/3

Attachment #1
**Water Quality-Based Effluent Limitations for
Harvest View MHC LLC**

WPDES Permit No. WI-0026689-10

Prepared by: Nicole Krueger

PART 1 – BACKGROUND INFORMATION

Facility Description

Harvest View MHC LLC (“Harvest View”) operates a 0.1 million gallon per day annual average design flow wastewater treatment facility. The wastewater treatment includes two raw sewage lift pumps, a splitter box, two 1000-gallon septic tanks which remove settleable solids and grit, two 0.05 MGD design flow package plants that consist of an aerobic digester, an aeration tank, a clarifier, and post aeration. Poly-aluminum chloride is added at the head of the aeration tanks for phosphorus removal. After the treatment process, the parallel flows are combined and monitored from a manhole that has a v-notch weir and transducer.

Attachment #2 is a map of the area showing the approximate location of Outfall 001.

Existing Permit Limitations

The current permit, which expired on 03/31/2026, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
Flow Rate						1
BOD ₅			30 mg/L	20 mg/L		2,3
TSS			30 mg/L	20 mg/L		2,3
pH	9.0 s.u.	6.0 s.u.				2
Dissolved Oxygen		4.0 mg/L				2
Ammonia Nitrogen						1
Phosphorus MDV Interim Limit Final WQBEL				0.4 mg/L 0.225 mg/L	0.075 mg/L 0.063 lbs/day	4
TKN, Nitrite+Nitrate, and Total Nitrogen						1
Acute WET						5

Footnotes:

1. Monitoring only
2. These limitations are not being evaluated as part of this review. Because the water quality criteria (WQC), reference effluent flow rates, and receiving water characteristics have not changed, limitations for these water quality characteristics do not need to be re-evaluated at this time.
3. These limits are based on the Limited Aquatic Life (LAL) community of the immediate receiving water as described in s. NR 104.02(3)(b), Wis. Adm. Code.

4. The interim limit of 0.4 mg/L became effective on January 1, 2023. The interim limit prior to this was 4.3 mg/L as a monthly average.
5. Acute WET testing is required every other year in the permit.

Receiving Water Information

- Name: East Branch Root River Canal
- Waterbody Identification Code (WBIC): 4900
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Code: Limited aquatic life (LAL), non-public water supply. Per ch. NR 104 Wis. Adm. Code, the East Branch Root River Canal is LAL upstream from STH 20, approximately 3 miles downstream of Outfall 001. Downstream of STH 20, the East Branch Root River Canal is classified as a limited forage fishery (LFF) until it reaches the Root River Canal which is classified as warm water sport fishery, approximately 8 miles downstream of Outfall 001. The name of the facility listed in ch. NR 104, Wis. Adm. Code, is Fonk Mobile Home Park #1 and has since changed names. Note: Cold Water and Public Water Supply criteria are used for bioaccumulating compounds of concern, because the discharge is within the Great Lakes basin.
- Low Flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code:
 - The following 7-Q₁₀ and 7-Q₂ values are estimations where Outfall 001 is located.
7-Q₁₀ = 0 cfs (cubic feet per second)
7-Q₂ = 0 cfs
 - Downstream flows approximately 3 miles from Outfall at the East Branch Root River Canal.
7-Q₁₀ = 0.04 cfs (cubic feet per second)
7-Q₂ = 0.15 cfs
 - Downstream flows approximately 8 miles from Outfall at the Root River Canal.
7-Q₁₀ = 0.63 cfs (cubic feet per second)
7-Q₂ = 1.7 cfs
- Hardness = 352 mg/L as CaCO₃. Effluent hardness is used in place of receiving water because there is no receiving water flow upstream of the discharge.
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: Not applicable where the receiving water low flows are zero.
- Source of background concentration data: Background concentrations are not included because they do not impact the calculated WQBEL when the receiving water low flows are equal to zero.
- Multiple dischargers: None
- Impaired water status: The immediate receiving water is not impaired. The Root River Canal approximately 8 miles downstream is on the 303(d) as impaired for total phosphorus and total suspended solids.

Effluent Information

- Design flow rate(s):
Annual average = 0.10 million gallons per day (MGD)
For reference, the actual average flow from 04/01/2021 – 02/28/2026 was 0.030 MGD.
- Hardness = 352 mg/L as CaCO₃. This value represents the geometric mean of data from August 2025 reported on the permit reissuance application.
- Acute dilution factor used in accordance with s. NR 106.06(3)(c), Wis. Adm. Code: Not applicable – this facility does not have an approved Zone of Initial Dilution (ZID).
- Wastewater source: Domestic wastewater with no industrial contributors.
- Water supply: Private wells.

Attachment #1

- Effluent characterization: This facility is categorized as a minor municipality, so the permit application required effluent sample analyses for a limited number of common pollutants, as specified in s. NR 200.065, Table 1, Wis. Adm. Code, primarily metal substances plus ammonia, chloride, hardness and phosphorus.
- Effluent data for substances for which a single sample was analyzed is shown in the tables in Part 2, in the column titled “MEAN EFFL. CONC.”. Otherwise, substances with multiple effluent data are shown in the tables below or in their respective parts in this evaluation.

Copper Effluent Data

Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)
08/11/2025	1	08/25/2025	2	09/11/2025	3
08/14/2025	2	08/28/2025	2	09/15/2025	6
08/18/2025	5	09/04/2025	3	09/18/2025	3
08/21/2025	1	09/08/2025	4		
1-day P ₉₉ = 8.3 µg/L					
4-day P ₉₉ = 5.2 µg/L					

Chloride data from the three most recent permit applications are summarized below, so that there is enough data to calculate P₉₉'s.

Chloride Effluent Data

Sample Date	Chloride (mg/L)	Sample Date	Chloride (mg/L)	Sample Date	Chloride (mg/L)
03/16/2015	434	04/06/2020	81.8	10/20/2025	166
03/19/2015	82.9	04/09/2020	106	10/27/2025	154
03/23/2015	92.4	04/13/2020	89.1	11/10/2025	183
03/26/2015	65.4	04/16/2020	90.8	12/09/2025	110
1-day P ₉₉ = 508 mg/L					
4-day P ₉₉ = 294 mg/L					

The following table presents the average concentrations and loadings at Outfall 001 from 04/01/2021 – 02/28/2026 for all parameters with limits in the current permit to meet the requirements of s. NR 201.03(6), Wis. Adm. Code:

Parameters with Effluent Limits

	Average Measurement
BOD ₅	4.68 mg/L*
TSS	4.74 mg/L*
pH field	7.1 s.u.
Dissolved Oxygen	8.8 mg/L
Phosphorus	0.38 mg/L

*Results below the limit of detection (LOD) were included as zeroes in calculation of average.

**PART 2 – WATER QUALITY-BASED EFFLUENT LIMITATIONS
FOR TOXIC SUBSTANCES – EXCEPT AMMONIA NITROGEN**

Attachment #1

Permit limits for toxic substances are required whenever any of the following occur:

1. The maximum effluent concentration exceeds the calculated limit (s. NR 106.05(3), Wis. Adm. Code)
2. If 11 or more detected results are available in the effluent, the upper 99th percentile (or P₉₉) value exceeds the comparable calculated limit (s. NR 106.05(4), Wis. Adm. Code)
3. If fewer than 11 detected results are available, the mean effluent concentration exceeds 1/5 of the calculated limit (s. NR 106.05(6), Wis. Adm. Code)

Acute Limits based on 1-Q₁₀

Daily maximum effluent limitations for toxic substances are based on the acute toxicity criteria (ATC), listed in ch. NR 105, Wis. Adm. Code. Previously daily maximum limits for toxic substances were calculated as two times the ATC. However, changes to ch. NR 106, Wis. Adm. Code, (September 1, 2016) require the Department to calculate acute limitations using the same mass balance equation as used for other limits along with the 1-Q₁₀ receiving water low flow to determine if more restrictive effluent limitations are needed to protect the receiving stream from discharges which may cause or contribute to an exceedance of the acute water quality standards. The mass balance equation is provided below.

$$\text{Limitation} = \frac{(\text{WQC}) (Q_s + (1-f) Q_e) - (Q_s - f Q_e) (C_s)}{Q_e}$$

Where:

WQC = Acute toxicity criterion or secondary acute value according to ch. NR 105, Wis. Adm. Code.

Q_s = average minimum 1-day flow which occurs once in 10 years (1-day Q₁₀)

if the 1-day Q₁₀ flow data is not available = 80% of the average minimum 7-day flow which occurs once in 10 years (7-day Q₁₀).

Q_e = Effluent flow (in units of volume per unit time) as specified in s. NR 106.06(4)(d), Wis. Adm. Code.

f = Fraction of the effluent flow that is withdrawn from the receiving water, and

C_s = Background concentration of the substance (in units of mass per unit volume) as specified in s. NR 106.06(4)(e), Wis. Adm. Code.

If the receiving water is effluent dominated under low stream flow conditions, the 1-Q₁₀ method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is the case for Harvest View.

The following tables list the calculated WQBELs for this discharge along with the results of effluent sampling for all the detected substances. All concentrations are expressed in terms of micrograms per Liter (µg/L), except for hardness and chloride (mg/L).

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 0 cfs, (1-Q₁₀ (estimated as 80% of 7-Q₁₀)), as specified in s. NR 106.06(3)(bm), Wis. Adm. Code.

SUBSTANCE	REF. HARD.* mg/L	ATC	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P ₉₉	1-day MAX. CONC.
Arsenic		340	340	68.0	2.3		
Cadmium	352	122	122	24.5	<0.2		
Chromium	301	4446	4446	889	<0.3		

Attachment #1

SUBSTANCE	REF. HARD.* mg/L	ATC	MAX. EFFL. LIMIT**	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	1-day P ₉₉	1-day MAX. CONC.
Copper	352	50.9	50.9				
Lead	352	361	361	72.1	<2		
Nickel	268	1080	1080	216	3		
Zinc	333	345	345	68.9	29		
Chloride (mg/L)		757	757			508	183

* The indicated hardness may differ from the effluent hardness because the effluent hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the acute criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

** Per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016 consideration of ambient concentrations and 1-Q₁₀ flow rates yields a more restrictive limit than the 2 × ATC method of limit calculation.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)

RECEIVING WATER FLOW = 0 cfs (¼ of the 7-Q₁₀), as specified in s. NR 106.06(4)(c), Wis. Adm. Code

SUBSTANCE	REF. HARD.* mg/L	CTC	WEEKLY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.	4-day P ₉₉
Arsenic		152	152	30.4	2.3	
Cadmium	175	3.82	3.82	0.8	<0.2	
Chromium	301	326	326	65.2	<0.3	
Copper	352	30.4	30.4			
Lead	352	94.5	94.5	18.9	<2	
Nickel	268	169	169	33.8	3	
Zinc	333	345	345	68.9	29	
Chloride (mg/L)		395	395			294

* The indicated hardness may differ from the receiving water hardness because the receiving water hardness exceeded the maximum range in ch. NR 105, Wis. Adm. Code, over which the chronic criteria are applicable. In that case, the maximum of the range is used to calculate the criterion.

Monthly Average Limits based on Wildlife Criteria (WC)

The effluent characterization did not include any effluent sampling results for substances for which Wildlife Criteria exist.

Monthly Average Limits based on Human Threshold Criteria (HTC)

RECEIVING WATER FLOW = 0 cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HTC	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Cadmium	880	880	176.0	<0.2
Chromium (+3)	8400000	8400000	1680000	<0.3
Lead	2240	2240	448.0	<2
Nickel	110000	110000	22000	3

Attachment #1

Monthly Average Limits based on Human Cancer Criteria (HCC)

RECEIVING WATER FLOW = x cfs (¼ of Harmonic Mean), as specified in s. NR 106.06(4), Wis. Adm. Code.

SUBSTANCE	HCC	MO'LY AVE. LIMIT	1/5 OF EFFL. LIMIT	MEAN EFFL. CONC.
Arsenic	40	40	8.0	2.3

In addition to evaluating the need for limits for each individual substance for which HCC exist, s. NR 106.06(8), Wis. Adm. Code, requires the evaluation of the cumulative cancer risk. Because no effluent limits are needed based on HCC, determination of the cumulative cancer risk is not needed per s. NR 106.06(8), Wis. Adm. Code.

Conclusions and Recommendations

Based on a comparison of the effluent data and calculated effluent limitations, effluent limitations are not required for toxic substances listed in this section. Limits and/or monitoring recommendations are made in the paragraphs below:

Chloride – Considering available effluent data from the most recent three permit reissuance applications (03/16/2015 – 12/09/2025), the 1-day P₉₉ chloride concentration is 508 mg/L, and the 4-day P₉₉ of effluent data is 294 mg/L.

These effluent concentrations are below the calculated WQBELs for chloride, therefore no effluent limits are needed. **Chloride monitoring is recommended to ensure that 11 sample results are available at the next permit issuance to meet the data requirements of s. NR 106.85, Wis. Adm. Code.**

Mercury – The permit application did not require monitoring for mercury because Harvest View is categorized as a minor facility as defined in s. NR 200.02(8), Wis. Adm. Code. In accordance with s. NR 106.145(3)(a)3, Wis. Adm. Code, a minor municipal discharger shall monitor, and report results of influent and effluent mercury monitoring once every three months if, “there are two or more exceedances in the last five years of the high-quality sludge mercury concentration of 17 mg/kg specified in s. NR 204.07(5), Wis. Adm. Code.” A review of the past five years of sludge characteristics data reveals that all the sample results are within expected analytical ranges and well below the 17 mg/kg level. The average concentration in the sludge from 07/26/2021 – 09/16/2025 was 0.17 mg/kg, with a maximum reported concentration of 0.48 mg/kg. Therefore, no mercury monitoring is recommended at Outfall 001.

PFOS and PFOA – The need for PFOS and PFOA monitoring is evaluated in accordance with s. NR 106.98(2), Wis. Adm. Code. Available monitoring sample data from Harvest View MHC (ID: 2520212) is provided in the table below:

Water Supply PFAS Data

Sample Date	Sample ID	Well #	PFOS (ng/L)	PFOA (ng/L)
06/06/2023	CB06032-01	BO675	ND	ND
06/06/2023	CB06032-05	BO677	ND	ND
06/06/2023	CB06032-09	UJ267	ND	ND
06/06/2023	CB06032-03	BO676	ND	ND
06/06/2023	CB06032-07	FN162	ND	ND

Attachment #1

Sample Date	Sample ID	Well #	PFOS (ng/L)	PFOA (ng/L)
Average =			0	0

The limited data above shows the municipal water supply is below 1/5th of the applicable PFOS and PFOA criteria.

Based on the type of discharge, the effluent flow rate, the lack of indirect dischargers contributing to the collection system and known levels of PFOS/PFOA in the source water PFOS and PFOA monitoring is not recommended. The Department may re-evaluate the need for sampling at the next permit reissuance if new information becomes available that suggests PFOS or PFOA may be present in the discharge.

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR AMMONIA NITROGEN

The State of Wisconsin promulgated revised water quality standards for ammonia nitrogen in ch. NR 105, Wis. Adm. Code, effective March 1, 2004 which includes criteria based on both acute and chronic toxicity to aquatic life. Given the fact that Harvest View does not currently have ammonia nitrogen limits, the need for limits is evaluated at this time.

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

Daily maximum limitations are based on acute toxicity criteria in ch. NR 105, Wis. Adm. Code, which are a function of the effluent pH and the receiving water classification. The acute toxicity criterion (ATC) for ammonia is calculated using the following equation:

$$\text{ATC in mg/L} = [A \div (1 + 10^{(7.204 - \text{pH})})] + [B \div (1 + 10^{(\text{pH} - 7.204)})]$$

Where:

A = 0.633 and B = 90.0 for Limited Aquatic Life, and
pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 1282 sample results were reported from 04/02/2021 – 02/27/2026. The maximum reported value was 8.0 s.u. (Standard pH Units). The effluent pH was 7.8 s.u. or less 99% of the time. The 1-day P₉₉, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 8.2 s.u. The mean plus the standard deviation multiplied by a factor of 2.326, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 8.1 s.u. Therefore, a value of 8.0 s.u. is believed to represent the maximum reasonably expected pH, and therefore most appropriate for determining daily maximum limitations for ammonia nitrogen. Substituting a value of 8.0 s.u. into the equation above yields an ATC = 13 mg/L.

Daily Maximum Ammonia Nitrogen Effluent Limitations Calculation Method

In accordance with s. NR 106.32(2), Wis. Adm. Code daily maximum ammonia limitations are calculated using the the 1-Q₁₀ receiving water low flow if it is determined that the previous method of acute ammonia limit calculation (2×ATC) is not sufficiently protective of the fish and aquatic life. The more restrictive calculated limits shall apply.

The calculated daily maximum ammonia nitrogen effluent limits using the mass balance approach with the 1-Q₁₀ (estimated as 80 % of 7-Q₁₀) and the 2×ATC approach are shown below.

Daily Maximum Ammonia Nitrogen Determination

	Ammonia Nitrogen Limit mg/L
2×ATC	26
1-Q ₁₀	13

The 1-Q₁₀ method yields the most stringent limits for Harvest View.

Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)

Weekly and monthly average limits based on chronic toxicity criteria for ammonia are also calculated to determine the weekly and monthly average limits to meet the requirements of s. NR 106.07(3), Wis. Adm. Code.

Weekly average and monthly average limits for ammonia nitrogen are based on chronic toxicity criteria in ch. NR 105, Wis. Adm. Code.

The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as Limited Aquatic Life is calculated by the following equation, according to subchapter IV of NR 106, Wis. Adm. Code.

$$CTC = E \times \{ [0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})] \} \times C$$

Where:

pH = the pH (s.u.) of the receiving water,

E = 1.0,

C = $8.09 \times 10^{(0.028 \times (25 - T))}$

T = the temperature of the receiving (°C)

The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a Limited Forage Fish Community is calculated by the following equation, according to subchapter IV of NR 106, Wis. Adm. Code.

$$CTC = E \times \{ [0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})] \} \times C$$

Where:

pH = the pH (s.u.) of the receiving water,

E = 1.0,

C = the minimum of 3.09 or $3.73 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or

C = $3.73 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and

T = the temperature (°C) of the receiving water – (Early Life Stages Present), or

T = the maximum of the actual temperature (°C) and 7 – (Early Life Stages Absent)

The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a Warm Water Sport Fish Community is calculated by the following equation, according to subchapter IV of NR 106, Wis. Adm. Code.

$$CTC = E \times \{ [0.0676 \div (1 + 10^{(7.688 - pH)})] + [2.912 \div (1 + 10^{(pH - 7.688)})] \} \times C$$

Where:

pH = the pH (s.u.) of the receiving water,

E = 0.854,

C = the minimum of 2.85 or $1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or

Attachment #1

$C = 1.45 \times 10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and

T = the temperature (°C) of the receiving water – (Early Life Stages Present), or

T = the maximum of the actual temperature (°C) and 7 - (Early Life Stages Absent)

The 4-day criterion is equal to the 30-day criterion multiplied by 2.5. The 4-day criteria are used in a mass-balance equation with the 7-Q₁₀ (4-Q₃, if available) to derive weekly average limitations. And the 30-day criteria are used with the 30-Q₅ (estimated as 85% of the 7-Q₂ if the 30-Q₅ is not available) to derive monthly average limitations. The stream flow value is further adjusted to temperature; 100% of the flow is used if the Temperature ≥ 16 °C, 25% of the flow is used if the Temperature < 11 °C, and 50% of the flow is used if the Temperature ≥ 11 °C but < 16 °C.

The “default” basin assumed values are used for Temperature, pH and background ammonia concentrations, because minimum ambient data is available. These values are shown in the table below, with the resulting criteria and effluent limitations.

Calculated limits are calculated based on the immediate receiving water classification of limited aquatic life and the downstream protection for the limited forage fish and warmwater sport fish classifications.

Limited Aquatic Life

Section NR 106.32 (3), Wis. Adm. Code, provides a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the East Branch Root River Canal based on raw fish data in the Fisheries Management Information System. So “ELS Absent” criteria apply year round.

Limited Aquatic Life Classification		Spring April & May	Summer June – Sept.	Winter Oct. - March
Effluent Flow	Qc (MGD)	0.1	0.1	0.1
Background Information	7-Q ₁₀ (cfs)	0	0	0
	7-Q ₂ (cfs)	0	0	0
	Ammonia (mg/L)	0.09	0.07	0.17
	Average Temperature (°C)	12	19	4
	Maximum Temperature (°C)	14	21	10
	pH (s.u.)	8.06	8.08	7.99
	% of Flow used	50	100	25
	Reference Weekly Flow (cfs)	0	0	0
	Reference Monthly Flow (cfs)	0	0	0
Criteria mg/L	4-day Chronic	37	24	54
	30-day Chronic	15	9.6	22
Effluent Limits mg/L	Weekly Average	37	24	54
	Monthly Average	15	9.6	22

Ammonia limits are also considered for protection of the downstream limited forage fish community (approximately 3 miles downstream of the outfall) and warm water sport fish community (approximately 8 miles downstream of the outfall).

Limited Forage Fish

Section NR 106.32 (3), Wis. Adm. Code, provides a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the East Branch Root River Canal, based on raw fish data in the Fisheries Management Information System. So “ELS Absent” criteria apply from October through April, and “ELS Present” criteria will apply from May through September for a limited forage fish classification.

Limited Forage Fish Community		Spring	Summer	Winter
		May	June – Sept.	Oct. - April
Effluent Flow	Qe (MGD)	0.1	0.1	0.1
Background Information	7-Q ₁₀ (cfs)	0.04	0.04	0.04
	7-Q ₂ (cfs)	0.15	0.15	0.15
	Ammonia (mg/L)	0.09	0.07	0.17
	Average Temperature (°C)	15	19	7
	Max Temperature (°C)	15	21	13
	pH (s.u.)	8.09	8.08	7.99
	% of Flow used	50	100	25
	Reference Weekly Flow (cfs)	0.02	0.04	0.01
	Reference Monthly Flow (cfs)	0.06375	0.1275	0.031875
Criteria mg/L	4-day Chronic			
	Early Life Stages Present	7.1	6.9	
	Early Life Stages Absent			21
	30-day Chronic			
	Early Life Stages Present	2.8	2.7	
	Early Life Stages Absent			8.3
Effluent Limitations mg/L	Weekly Average			
	Early Life Stages Present	7.6	8.6	
	Early Life Stages Absent			22
	Monthly Average			
	Early Life Stages Present	3.8	4.9	
	Early Life Stages Absent			10

Warmwater Sport Fish

Section NR 106.32 (3), Wis. Adm. Code, provides a mechanism for less stringent weekly average and monthly average effluent limitations when early life stages (ELS) of critical organisms are absent from the receiving water. This applies only when the water temperature is less than 14.5 °C, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the Root River, based on raw fish data in the Fisheries Management Information System. So “ELS Absent” criteria apply from October through March, and “ELS Present” criteria will apply from April through September for a warmwater sport fish classification.

Warmwater Sport Fishery Classification		Spring	Summer	Winter
		April & May	June – Sept.	Oct. - March
Effluent Flow	Qe (MGD)	0.1	0.1	0.1
Background Information	7-Q ₁₀ (cfs)	0.63	0.63	0.63
	7-Q ₂ (cfs)	1.7	1.7	1.7
	Ammonia (mg/L)	0.09	0.07	0.17

Warmwater Sport Fishery Classification		Spring April & May	Summer June – Sept.	Winter Oct. - March
	Average Temperature (°C)	12	19	4
	Max Temperature (°C)	14	21	10
	pH (s.u.)	8.06	8.08	7.99
	% of Flow used	50	100	25
	Reference Weekly Flow (cfs)	0.315	0.63	0.1575
	Reference Monthly Flow (cfs)	0.7225	1.445	0.36125
Criteria mg/L	4-day Chronic			
	Early Life Stages Present	5.6	3.7	
	Early Life Stages Absent			8.3
	30-day Chronic			
	Early Life Stages Present	2.2	1.5	
	Early Life Stages Absent			3.3
Effluent Limitations mg/L	Weekly Average			
	Early Life Stages Present	17	18	
	Early Life Stages Absent			16
	Monthly Average			
	Early Life Stages Present	12	14	
	Early Life Stages Absent			11

Ammonia Decay

The Department must establish limits to protect downstream uses, according to s. NR 106.32(1)(b), Wis. Adm. Code. Ammonia decay may be considered when determining limits at the outfall to protect the downstream classification, according to s. NR 106.32(4)(c), Wis. Adm. Code. Where the calculated limits are more restrictive based on downstream uses, ammonia decay can be considered to determine if these more restrictive limits are needed or if the ammonia will decay before it reaches the point of the classification change.

Ammonia decay rates are dependent on temperature with in-stream nitrification essentially non-existent in the winter. In-stream decay is expected so a first order decay model should be used. Based on the available literature, a decay rate of 0.25 day^{-1} at 20°C has been suggested as a default rate. A temperature correction factor of $\theta = 1.08$ is ($k_t = k_{20} \theta^{(T-20)}$). The ammonia nitrogen decay equation is provided below.

$$N_{\text{Limit}} = \left(\frac{N_{\text{down}}}{\text{EXP}(-k_t T)} \right)$$

Where: N_{Limit} = Ammonia limit needed to protect downstream use (mg/L)

N_{down} = Ammonia limit calculated based on downstream classification and flow (mg/L)

$-k_t$ = Ammonia decay rate at background stream temperature (day^{-1})

T = Travel time from outfall to downstream use (day)

The velocity of receiving water is assumed to be 5 miles per day and the distance from the point of discharge to the classification change is approximately 3 miles for a travel time of 0.6 days. After decay, the limits are increased as shown in the following table.

Ammonia Nitrogen Decay Limits Comparison

Months Applicable	LAL		LFF		After decay	
	Weekly Average mg/L	Monthly Average mg/L	Weekly Average mg/L	Monthly Average mg/L	Weekly Average mg/L	Monthly Average mg/L
April	37	15	22	10	23	10
May	37	15	7.6	3.8	8.2	4.1
June – Sept	24	9.6	8.6	4.9	9.9	5.7
Oct – March	54	22	22	10	23	10

Because the calculated limits to meet the LFF criteria downstream are more stringent than the calculated limits at the WWSF classification, downstream protection is not calculated for the WWSF in this evaluation.

Effluent Data

The following table evaluates the statistics based upon ammonia data reported from 08/03/2021 – 11/04/2025.

Ammonia Nitrogen Effluent Data

	Ammonia Nitrogen mg/L
1-day P ₉₉	4.83
4-day P ₉₉	2.35
30-day P ₉₉	1.04
Mean*	0.41
Std	1.54
Sample size	93
Range	<0.3 - 6.21

*Values lower than the limit of detection were substituted with a zero

Reasonable Potential

The need to include ammonia limits in Harvest View's permit is determined by calculating 99th upper percentile (or P₉₉) values for ammonia and comparing those to the calculated limits.

Based on this comparison, there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. Monitoring is recommended to continue in the reissued permit to determine reasonable potential at the next reissuance.

PART 4 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR BACTERIA

Section NR 102.04(5), Wis. Adm. Code, states that all surface waters shall be suitable for supporting recreational use and shall meet *E. coli* criteria during the recreation season. Section NR 102.04(5)(b), Wis. Adm. Code, allows the Department to make exceptions when it determines, in accordance with s. NR 210.06(3), Wis. Adm. Code, that wastewater disinfection is not required to meet *E. coli* limits and protect the recreational use. Section NR 210.06(3), Wis. Adm. Code, tasks the Department with determining the need for disinfection using a site-specific analysis based on potential risk to human or

animal health. It sets out the factors that must be considered in determining the necessity to disinfect municipal wastewater or to change the length of the disinfection season.

Harvest View had previously been exempted from disinfection based on the limited aquatic life or limited forage fish classification of the receiving water. Section NR 210.06(3)(g), Wis. Adm. Code, states that disinfection decisions may be made based on the hydrologic classifications listed in s. NR 104.02(1), Wis. Adm. Code (**not** on the water quality classifications - i.e., limited forage fish, limited aquatic life - that are defined in s. NR 104.02(3), Wis. Adm. Code). The hydrologic classification for the East Branch Root River is listed in ch. NR 104, Wis. Adm. Code, as continuous. Continuous streams have a higher likelihood of providing opportunities for full contact recreational activities. Therefore, disinfection should not be exempted based solely on this hydrological classification.

The Department has considered the information required by s. NR 210.06(3), Wis. Adm. Code, and has determined that the discharge cannot meet bacteria limits without disinfection. Section NR 210.06(2)(a)1, Wis. Adm. Code, includes two limits which must be included in permits for facilities which are required to disinfect:

1. The geometric mean of *E. coli* bacteria in effluent samples collected in any calendar month may not exceed 126 counts/100 mL.
2. No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 counts/100 mL.

These limits are required during May through September. The permit will include a compliance schedule to meet these limits.

Total Residual Chlorine – If Harvest View decides to upgrade to use chlorination for disinfection, effluent limitations would be recommended to assure proper operation of the de-chlorination system. Section NR 210.06(2)(b), Wis. Adm. Code, states, “When chlorine is used for disinfection, the daily maximum total residual chlorine concentration of the discharge may not exceed 0.10 mg/L.” Because the WQBELs are more restrictive, they are recommended instead. Specifically, **a daily maximum limit of 19 µg/L would be required if Harvest View decides to use chlorination for disinfection.** Due to revisions to s. NR 106.07(2), Wis. Adm. Code, mass limitations are no longer required. The calculated **weekly average effluent limitation of 7.3 µg/L would also be included in the permit because it is more restrictive than the daily maximum limit.**

Sections NR 106.07(3) and NR 205.067(7), Wis. Adm. Code require WPDES permits contain weekly average and monthly average limitations for municipal dischargers whenever practicable and necessary to protect water quality. **Therefore, a monthly average limit of 7.3 µg/L would also be required** to meet expression of limits requirements in addition to the daily max and weekly average limits.

PART 5 – PHOSPHORUS

Harvest View currently has a monthly average MDV interim limit of 0.4 mg/L.

Technology-Based Effluent Limit

Subchapter II of Chapter NR 217, Wis. Adm. Code, requires municipal wastewater treatment facilities that discharge greater than 150 pounds of total phosphorus per month to comply with a monthly average limit of 1.0 mg/L, or an approved alternative concentration limit.

Since Harvest View has an interim phosphorus limit in effect that is more stringent than 1.0 mg/L, the need for a TBEL will not be considered further.

Water Quality-Based Effluent Limits (WQBEL)

Revisions to administrative rules regulating phosphorus took effect on December 1, 2010. These rule revisions include additions to s. NR 102.06, Wis. Adm. Code, which establish phosphorus standards for surface waters. Subchapter III of NR 217, Wis. Adm. Code, establishes procedures for determining WQBELs for phosphorus, based on the applicable standards in ch. NR 102, Wis. Adm. Code.

Phosphorus criteria in s. NR 102.06, Wis. Adm. Code, do not apply to limited aquatic life waters as described in s. NR 102.06(6)(d), Wis. Adm. Code. These waters were not included in the USGS/WDNR stream and river studies and, therefore, the Department lacked the technical basis to determine and propose applicable criteria. At some time in the future, the Department may adopt phosphorus criteria based on new studies focusing on limited aquatic life waters. *The Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Discharges (2020)* suggests that during the interim, WQBELs should be based on the criteria and flow conditions for the next stream segment downstream (or downstream lake or reservoir, if appropriate), because ss. 217.12 and 217.13, Wis. Adm. Code, state that the Department must set WQBELs to protect downstream waters. The discharge location of the wastewater from Harvest View is classified as limited aquatic life downstream from the point of discharge downstream to STH 20. The East Branch Root River Canal at this location is classified as LFF.

Section NR 102.06(3)(a), Wis. Adm. Code, specifically names river segments for which a phosphorus criterion of 0.100 mg/L applies. For other stream segments that are not specified in s. NR 102.06(3)(a), Wis. Adm. Code, s. NR 102.06(3)(b), Wis. Adm. Code, specifies a phosphorus criterion of 0.075 mg/L. The phosphorus criterion of 0.075 mg/L applies for the East Branch Root River Canal.

The conservation of mass equation is described in s. NR 217.13(2)(a), Wis. Adm. Code, for phosphorus WQBELs and includes variables of water quality criterion (WQC), receiving water flow rate (Qs), effluent flow rate (Qe), and upstream phosphorus concentrations (Cs) provided below.

$$\text{Limitation} = [(WQC)(Qs + (1-f) Qe) - (Qs - f Qe) (Cs)] / Qe$$

Where:

WQC = 0.075 mg/L for East Branch Root River Canal

Qs = 100% of the 7-Q₂ of 0.15 cfs

Cs = background concentration of phosphorus in the receiving water pursuant to s. NR 217.13(2)(d), Wis. Adm. Code

Qe = effluent flow rate = 0.10 MGD = 0.155 cfs

f = the fraction of effluent withdrawn from the receiving water = 0

Section NR 217.13(2)(d), Wis. Adm. Code, specifies that the background phosphorus concentration used in the limit calculation formula shall be calculated as a median using the procedures specified in s. NR 102.07(1)(b) to (c), Wis. Adm. Code. All representative data from the most recent 5 years shall be used, but data from the most recent 10 years may be used if representative of current conditions.

A review of available instream total phosphorus data from 08/26/2019 (n=1) stored in the Surface Water Integrated Monitoring System database indicates the background total phosphorus concentration in the

East Branch Root River Canal (15 feet upstream of CTH K Road) (SWIMS station ID 10016033) is 0.171 mg/L.

Substituting a background concentration above criteria into the limit calculation equation above would result in a calculated limit that is less than the applicable criterion of 0.075 mg/L. However, s. NR 217.13(7), Wis. Adm. Code, specifies that **“if the WQBEL calculated pursuant to the procedures in this section is less than the phosphorus criterion specified in s. NR 102.06, Wis. Adm. Code, for the water body, the effluent limit shall be set equal to the criterion.”**

Effluent Data

The following table summarizes effluent total phosphorus monitoring data from 04/06/2021 – 02/25/2026.

Total Phosphorus Effluent Data

	Phosphorus mg/L
1-day P ₉₉	2.00
4-day P ₉₉	1.09
30-day P ₉₉	0.58
Mean	0.38
Std	0.41
Sample size	508
Range	0.03 - 3.87

Reasonable Potential Determination

The calculated WQBEL of 0.075 mg/L is less than the current MDV interim limit of 0.4 mg/L, so the WQBEL must be included in the permit per s. NR 217.15(2), Wis. Adm. Code.

In accordance with s. NR 217.15(1), Wis. Adm. Code, there is reasonable potential for the discharge to cause or contribute to an exceedance of the water quality criteria. The data suggest that a compliance schedule will be necessary for the facility to meet the given phosphorus limits.

Limit Expression

According to s. NR 217.14(2), Wis. Adm. Code, because the calculated WQBEL is less than or equal to 0.3 mg/L, the effluent limit of 0.075 mg/L may be expressed as a six-month average. If a concentration limitation expressed as a six-month average is included in the permit, a monthly average concentration limitation of 0.225 mg/L, equal to three times the WQBEL calculated under s. NR 217.13, Wis. Adm. Code shall also be included in the permit. The six-month average should be averaged during the months of May – October and November – April.

Mass Limits

A mass limit is also required, pursuant to s. NR 217.14(1)(a), Wis. Adm. Code, because the discharge is to a surface water that is to or upstream of a phosphorus impaired water. **This final mass limit shall be 0.075 mg/L × 8.34 × 0.10 MGD = 0.063 lbs/day expressed as a six-month average.**

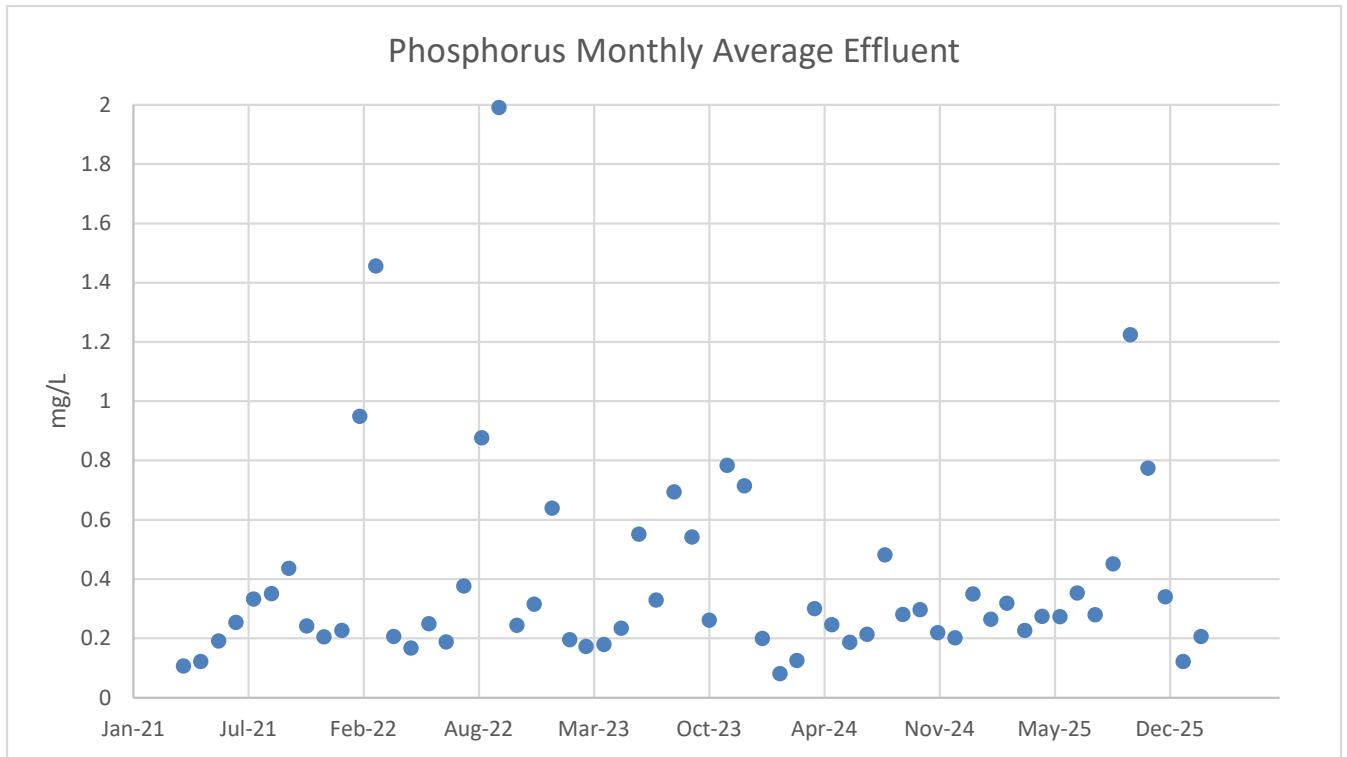
Multi-Discharge Variance Interim Limit

With the permit application, Harvest View has re-applied for the phosphorus multi-discharger variance (MDV). Conditions of the phosphorus MDV require the facility to comply with an interim phosphorus

Attachment #1

limit in lieu of meeting the final WQBEL. The recommended interim limit during the 2nd permit under MDV approval, pursuant to s. 283.16 (6) (a), Wis. Stats., is 0.4 mg/L as a monthly average. This is equivalent to the monthly average limit currently effective in the permit.

The graph below shows the monthly average phosphorus data from the current permit term:



**PART 6 – WATER QUALITY-BASED EFFLUENT LIMITATIONS
FOR THERMAL**

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in Chapters NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. The daily maximum effluent temperature limitation shall be 86 °F for discharges to surface waters classified as Limited Aquatic Life according to s. NR 104.02(3)(b)1, Wis. Adm. Code, except for those classified as wastewater effluent channels and wetlands regulated under ch. NR 103 and described in s. NR 106.55(2), Wis. Adm. Code, which has a daily maximum effluent temperature limitation of 120 °F. The 86 °F limit applies because the hydrologic classification is not listed as a wetland in ch. NR 104, Wis. Adm. Code.

Reasonable Potential

Based on the available discharge temperature data from 01/03/2011 – 12/31/2015 shown below, the maximum daily effluent temperature reported was 69 °F; therefore, no reasonable potential for exceeding the daily maximum limit exists, and **no limits or monitoring are recommended.**

Monthly Temperature Effluent Data & Limits

Month	Representative Highest Monthly Effluent Temperature		Calculated Effluent Limit	
	Weekly Maximum	Daily Maximum	Weekly Average Effluent Limitation	Daily Maximum Effluent Limitation
	(°F)	(°F)	(°F)	(°F)
JAN	52	53	-	86
FEB	50	51	-	86
MAR	53	54	-	86
APR	54	54	-	86
MAY	58	60	-	86
JUN	64	65	-	86
JUL	68	69	-	86
AUG	68	69	-	86
SEP	69	69	-	86
OCT	65	66	-	86
NOV	62	63	-	86
DEC	57	58	-	86

PART 7 – WHOLE EFFLUENT TOXICITY (WET)

WET testing is used to measure, predict, and control the discharge of toxic materials that may be harmful to aquatic life. In WET tests, organisms are exposed to a series of effluent concentrations for a given time and effects are recorded. Decisions below related to the selection of representative data and the need for WET limits were made according to ss. NR 106.08 and 106.09, Wis. Adm. Code. WET monitoring frequency and toxicity reduction evaluation (TRE) recommendations were made using the best professional judgment of staff familiar with the discharge after consideration of the guidance in the *Whole Effluent Toxicity (WET) Program Guidance Document* (2022).

Guidance in Chapter 1.11 of the WET Guidance Document (WET Testing of Minor Municipal Discharges) was consulted. This is a minor municipal discharge (< 1.0 MGD) comprised solely of domestic wastewater, with no history of WET failures and no toxic compounds detected at levels of concern. No WET testing is recommended at this time because of the low risk in effluent toxicity.

This map is a product generated by a DMR data request application. This map is for informational purposes only and may not be the suitable for legal, engineering or surveying purposes. The user is solely responsible for verifying the accuracy of information before using for any purpose. By using this product for any purpose, user agrees to be bound by all disclaimer found here: <https://dmr.wisconsin.gov/faq>

Page 18 of 18
Harvest View MHC LLC

Legend: Source: EPA, 2012. Data for the 2012-2013 season.

- ▲ Surface Water Outfalls
- Rivers and Streams
- Intermittent Streams
- Open Water
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water
- Latest Leaf Off Index
- Latest Leaf Off Imagery

Notes:



Multi-Discharger Variance Application Evaluation Checklist

Form 3200-145 (R 5/16)

Page 1 of 4

Notice: This checklist is meant to be a tool to help Department of Natural Resources (DNR) staff review municipal and industrial multi-discharger variance (MDV) applications (Forms 3200-149 and 3200-150). Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31-19.39, Wis. Stats.).

Permittee Name

Harvest View Estates

WPDES Permit Number WI- 0 0 2 6 6 8 9	County Racine
---	------------------

1. Did the point source apply for the MDV at the appropriate time?	☒ Yes ☐ No. <i>STOP- facility not eligible at this time.</i>	See Questions 1-3.
2. This operation is (check one):	☐ New or relocated outfall. <i>STOP- facility not eligible.</i> ☒ Existing outfall	See Questions 5-6.
3. Is the point source is located in an MDV eligible area?	☒ Yes ☐ No. <i>STOP- facility not eligible.</i>	Apply County information to Appendix H. Additional information provided in Q7 on municipal form & Q7-8 on industrial form.
4. The secondary indicator score for the county (counties) the discharge is located is:	<u>5</u>	See Appendices A-F. If the score is less than 2, stop; the facility is not eligible. See Q23 on municipal form & Q28 on industrial form.
5. Is a major facility upgrade required to comply with phosphorus limits?	☒ Yes ☐ No. <i>STOP- facility not eligible.</i>	See Q8 on municipal form/Q9 on industrial form.
6. List the months where phosphorus limits cannot be achieved during the permit term:	☒ All ☒ Jan ☒ Apr ☒ Jul ☒ Oct ☒ Feb ☒ May ☒ Aug ☒ Nov ☒ Mar ☒ Jun ☒ Sep ☒ Dec	Consider checking with limit calculator. If this does not match information in application, the application should be updated prior to approval.

7. What is the current effluent level achievable?

Outfall Number(s) 001	Conc. (mg/L) 0.38	Method for calculation: ☐ 30-day P99 ☒ Other, specify: Dataset and methods included on MDV application	Does this concur with application? ☒ Yes ☐ No, why not:	DNR staff should verify the effluent concentration value(s) provided. See Q11 on municipal form & Q12 on industrial form.
--------------------------	----------------------	--	--	---

8. What is the appropriate interim limitation(s) for the permit term?
0.4 mg/L as a monthly average, pursuant to s. 283.16 (7), Wis. Stats.
Target Value = 0.2 mg/L

Provide Rationale:

Harvest View has optimized phosphorus treatment and is achieving good results considering the current facility and inability to undertake a tertiary filtration upgrade.

Note: See description in Section 2.02 of the MDV implementation guidance. Interim limitations should reflect the "highest attainable condition" for the permittee in question pursuant to s. 283.16(7), Wis. Stat.

9. <i>For Industries Only</i> - Where does the phosphorus in the effluent come from? (check all that apply)	☐ Process ☐ Additive Usage ☐ Water supply <i>Can intake credits be given or can the facility use an alternative water supply?</i> ☐ Not feasible ☐ Possibly, but further analysis needed ☐ Not evaluated at this time	See Q14-15 & 19 on industrial form. If the answer is "possibly" or "not evaluated", the schedule section of the MDV permit should contain a requirement to perform this analysis.
10. Has this facility optimized?	☒ Yes ☐ In progress ☐ No	See Q14 on municipal form & Q16 & 20 on industrial form. Facility must optimize and operate at an optimize treatment level (s. 283.16(6)(a), Wis. Stat.) If no will need compliance schedule.
11. Has a facility plan/compliance alternative plan been completed for the facility?	☐ Yes ☒ In progress ☐ No	See Q15 on municipal form & Q17 on industrial form.
12. What is the projected cost for complying with phosphorus? Source:	\$ <u>3,151,000.00</u> Net Present Worth from 2026 Final Compliance Alternatives Plan	Facility must submit site-specific compliance costs. If cost projections are used from EIA, the permittee must certify that these costs are reasonable for the facility in question. See "projected compliance costs" in Section 2.02 of the MDV Implementation Guidance for details.

Comments on planning efforts:

A June 2020 Final Compliance Alternatives Plan, submitted by Applied Technologies Inc. on behalf of Fonk's Home Center provides planning considerations surrounding the low-level phosphorus WQBEL. The Final Compliance Alternatives Plan was updated in 2026. Alternatives such as regionalization and alternative discharge location were evaluated. No alternative discharge locations were available and regionalization results in higher costs than installing treatment to meet the WQBEL. Water quality trading and adaptive management were evaluated but not viable at the time. More recently, Harvest View met with Racine County LCD in August and November of 2025 and no trading opportunities were identified. The facility has also filed a credit request with the WQT clearinghouse, and no trading partners have been identified. The cost estimate for achieving compliance via construction of tertiary filtration has been renewed in the 2026 FCAP document and is used in the economic demonstration below.

13. Are adaptive management and water quality trading viable?	☐ Yes ☒ Perhaps. Additional analysis required. ☐ No	See Q18-21 on municipal form & Q22-25 on industrial form. If additional analyses required, the applicant may need to complete this analysis during the MDV permit term.
14. Has the point source met the appropriate primary screener?	☒ Yes ☐ No. <i>STOP- facility not eligible.</i>	See Q4 of this form in addition to the "eligibility" guidance in Section 2.01 of the MDV Implementation Guidance.

Comments on economic demonstration:

The 2026 Final Compliance Alternatives Plan, Appendix D, provides a site specific cost estimate for tertiary filtration upgrades at the Harvest View facility. Capital costs are \$2,500,000 and O&M costs are increased by \$55,000 annually. Assuming a 20 year loan at 2.5% interest, annual debt service will be \$162,000. With O&M costs, the total annual expense increase would be \$217,000. These costs, divided amongst 194 users, results in an annual per-user increase of \$1119. Current sewer rates are \$680 per year, and future rates would be \$1799 per year. This cost is 2.31% of the Town of Yorkville's \$77,830 median household income. With Racine County's secondary indicator score of 5, requiring a 1% MHI sewer user rate, Harvest View Estates meets the primary screener.

15. What watershed option was selected?

- ☒ County project option. *Complete Section 5.*
- ☐ Binding, written agreement with the DNR to construct a project or implement a watershed plan. *Complete Section 4.*
- ☐ Binding, written agreement with another person that is approved by the DNR to construct a project or implement a watershed plan. *Complete Section 4.*

Section 4. Watershed Plan Review

16. MDV Plan Number:

Note: This is for tracking purposes. Contact Statewide Phosphorus Implementation Coordinator for the plan number.

17. Did the point source complete Form 3200-148?

- ☐ Yes
- ☐ No

18. Is the project area in the same HUC 8 watershed as the point of discharge?

- ☐ Yes
- ☐ No. *STOP- Watershed plan must be updated.*

19. What is the annual offset required?

See Section 2.03 of the MDV implementation guidance. If this value is different from the offset target provided in form 3200-148, the watershed plan should be amended.

20. Does the plan ensure that the annual load is offset annually?

- ☐ Yes
- ☐ No. *STOP- Watershed plan must be updated.*

21. Are projects occurring on land owned/operated by a CAFO or within a permitted MS4 boundary?

- ☐ Yes. *Work with appropriate DNR staff to ensure projects are not working towards other permit compliance.*
- ☐ No.

22. Are other funding sources being used as part of the MDV watershed project?

- ☐ Yes. *Work with appropriate DNR staff to ensure that funding sources can be appropriately used in the plan area.*
- ☐ No.

23. Do you have any concerns about the watershed project?

Note: Coordinate with other DNR staff as appropriate.

- ☐ Yes. *STOP- Watershed plan must be updated.*
- ☐ No.

Comments:

Section 5. Payment to the County(ies)

24. At this time, the appropriate per pound payment is:

\$ 68.40

See "Payment Calculator" document at

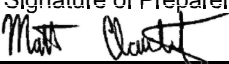
[\\central\\water\\WQWT_PROJECTS\\WY_CW_Phosphorus\\MDV.](#)

Section 6. Determination

Based on the available information, the MDV application is:

- ☒ Approved
- ☐ Request for more information
- ☐ Denied

Additional Justification (if needed):
Additional information provided by Applied Technologies on 3/31/2026

Certification		
Preparer Name		Title
Matt Claucherty		Water Resources Management Specialist
Signature of Preparer		Date
		4/28/2026



4/28/2026

David Worth
900 Skokie Blvd
Northbrook, WI 53182

Subject: Conditional approval of a multi-discharger phosphorus variance
Receiving Stream: East Branch Root River Canal in County
Permittee: Harvest View MHC, WPDES WI-0026698

Dear Mr. Worth:

In accordance with s. 283.16 of the Wisconsin Statutes, you have requested coverage under Wisconsin's multi-discharger phosphorus variance for Harvest View MHC in an application dated 12/31/2025. Wisconsin's multi-discharger phosphorus variance was approved by EPA on September 3, 2025. Coverage under the multi-discharger phosphorus variance may only be granted to an existing source that demonstrates a major facility upgrade is necessary to achieve phosphorus compliance and the upgrade will result in economic hardship as defined in the federally approved variance. The water quality criterion for which you are seeking a variance is contained in s. NR 102.06, Wis. Adm. Code.

After review of the application materials, the Department is tentatively approving coverage under the phosphorus multi discharger variance because the applicant has demonstrated that a major facility upgrade would be required to comply with the phosphorus water quality based effluent limitation, and the applicant meets the economic hardship eligibility criteria delineated in the federally approved variance. In addition, the permitted facility has agreed to comply with the interim limitations that will be included in the WPDES permit, and has agreed to reduce the amount of phosphorus entering surface waters by making payments to the counties pursuant to s. 283.16(6)(b)1., Wis. Stats.

Public comment on this decision will be solicited at the time of permit reissuance after which a final decision will be made. The Department appreciates your attention and interest in Wisconsin's multi-discharger phosphorus variance. Should you have further questions regarding this matter, please contact me at (608) 400 – 5596 or by email at matthew.claucherty@wisconsin.gov.

Sincerely,

Matt Claucherty, MDV Point Source Coordinator
Bureau of Water Quality

e-cc

Marissa Fleege, WDNR
Jacob Van Susteren-Wedesky, WDNR
Michelle Woods, EPA Region 5
Tim Elkins, EPA Region 5