Permit Fact Sheet

General Information

Permit Number	WI-0022225-10-0
Permittee Name and Address	VILLAGE OF ARGYLE 401 E. Milwaukee Street P.O. Box 246, Argyle, WI 53504
Permitted Facility Name and Address	Argyle Wastewater Treatment Facility 101 Mill Street, Argyle, WI 53504
Permit Term	April 01, 2026 to March 31, 2031
Discharge Location	The effluent outfall is located on the east bank of the Pecatonica River, 650 feet south of Highway 78/81 bridge.
Receiving Water	East Branch Pecatonica River in Lower East Branch Pecatonica Rivers Watershed of Sugar - Pecatonica River Basin in Lafayette County
Stream Flow ($Q_{7,10}$)	63 cfs
Stream Classification	Warm Water Sport Fish (WWSF) community, non-public water supply and recreational use.
Discharge Type	Existing and Continuous
Annual Average Design Flow (MGD)	0.081 MGD
Industrial or Commercial Contributors	Driftless Tannery
Plant Classification	A1 - Suspended Growth Processes; B - Solids Separation; C - Biological Solids/Sludges; D - Disinfection; SS - Sanitary Sewage Collection System
Approved Pretreatment Program?	N/A

Facility Description

Argyle Wastewater Treatment Facility operates an extended aeration activated sludge wastewater treatment facility that consists of a headworks (comminutor, overflow pond), activated sludge (extended aeration), final clarification, and ultraviolet disinfection. Sludge is aerobically digested, stored and land spread seasonally on Department approved sites. No treatment upgrades were completed during the previous permit term.

Substantial Compliance Determination

Enforcement During Last Permit:

There have been several violations of effluent limits, missed samples, lack of operator-in-charge, and late and incomplete reporting. However, the permittee has taken the necessary steps to correct their actions. After a desk top review of all discharge monitoring reports, CMARs, land application reports, compliance schedule items, and a site visit on July 182025, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by Caitlin O'Connell on August 8, 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	0.055 (2024)	Influent: 24-hr flow proportional composite sampler intake collected from the influent wet well on the east side of the control building. Flows are totaled from east and west flow meters located in the manholes prior to the comminutor. Both flow meters are Parshall flumes with secondary meters.
001	N/A (Not Reported)	Effluent: 24-hr flow proportional composite sampler intake collected before UV channel, prior to discharger to the East Branch of the Pecatonica River. Representative pH grab samples collected near the composite sampler intake and bacteria grab samples collected after UV. A v-notch weir with a secondary flow meter is located in the effluent trough after UV.
002	21 Tons (2024 permit application)	Aerobically digested, Liquid, Class B. Representative sludge samples shall be collected from the sludge storage tank.

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**
Flow Rate		MGD	Daily	Continuous	
BOD5, Total		mg/L	2/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total		mg/L	2/Week	24-Hr Flow Prop Comp	

Changes from Previous Permit:

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

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- EFFLUENT

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	This monitoring is effective on 4/01/2030. See the 24-Hr Flow Proportional Sampler Upgrade schedule.
BOD5, Total	Weekly Avg	45 mg/L	2/Week	24-Hr Flow Prop Comp	
BOD5, Total	Monthly Avg	30 mg/L	2/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Monthly Avg	30 mg/L	2/Week	24-Hr Flow Prop Comp	
Suspended Solids, Total	Weekly Avg	45 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	
E. coli	Geometric Mean - Monthly	126 #/100 ml	Weekly	Grab	May-September. See the E. Coli Percent Limit section of the permit. Enter the result in the DMR on the last day of the month.
E. coli	% Exceedance	10 Percent	Monthly	Calculated	May-September
Chloride		mg/L	Monthly	24-Hr Flow Prop Comp	January – December 2029.
PFOS		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
PFOA		ng/L	1/ 2 Months	Grab	Monitoring only. See PFOS/PFOA Minimization Plan Determination of Need schedule.
Phosphorus, Total	Monthly Avg	4.7 mg/L	3/Week	24-Hr Flow Prop Comp	This is an interim MDV limit effective through 3/31/2030. See the MDV/Phosphorus permit sections and phosphorus schedules.
Phosphorus, Total	Monthly Avg	1.0 mg/L	3/Week	24-Hr Flow Prop Comp	This is an interim MDV limit effective on 4/01/2030. See the MDV/Phosphorus permit sections and phosphorus 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	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Nitrite + Nitrate Total		mg/L	Quarterly	24-Hr Flow Prop Comp	
Nitrogen, Total		mg/L	Quarterly	Calculated	Total Nitrogen shall be calculated as the sum of reported values for Total Kjeldahl Nitrogen and Total Nitrite + Nitrate Nitrogen.
Acute WET		TUa	See Listed Qtr(s)	24-Hr Flow Prop Comp	See Whole Effluent Toxicity (WET) Testing section.

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.

- **Flow-** Effluent flow shall now be monitored once flow meters are updated, see compliance schedule.
- **pH –** The sample frequency has been changed from 3/week to 5/week.
- **E. coli-** Fecal coliform monitoring and limits have been replaced with Escherichia coli (E. coli) monitoring and limits.
- **Chloride –** Sample year updated.
- **Phosphorus MDV-** The permittee has applied for a multi-discharger variance (MDV) for phosphorus for this permit term and the application has been approved by the Department. An MDV interim limit of 1.0 mg/L has been added that goes into effect per a compliance schedule. The permittee is required to report the total amount of phosphorus discharged in lbs/month and lbs/year. By March 1 of each year the permittee shall make a payment(s) to participating county(s) of $68.40 per pound of phosphorus discharged during the previous year in excess of the target value of: 0.2 mg/L.
- **PFOS and PFOA** – Monitoring once every two months is included in the permit in accordance with s. NR 106.98(2)(c), Wis. Adm. Code.
- **Total Nitrogen Monitoring (TKN, N02+N03 and Total N)**- Annual monitoring is required quarterly as outlined in the permit.
- **WET Testing-** Two acute WET tests are required.

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 November 13, 2025.

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. The sampling frequency for pH has increased to 5/Week which is the standard frequency for municipal wastewater treatment facilities.

Flow- Sections NR 108.06(4)(b), Wis. Adm. Code, and NR 205.07(1)(r)2., Wis. Adm. Code, require adequate flow measurement and recording equipment to measure the volume of effluent discharged and to report it to the department at the frequency specified in the permit.

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 0.075 mg/L 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 4.7 mg/L as an average monthly limit, equivalent to the interim limit from the previous permit term. The interim limit of 1.0 mg/L becomes effective per the compliance schedule.

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.

PFOS and PFOA – NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. At the first reissuance of a WPDES permit after August 1, 2022, the new rule requires WPDES permits for municipal dischargers with an average flow rate less than 1 MGD, to be evaluated on a case-by-case basis to determine if monitoring is required pursuant to s. NR 106.98(2)(c), Wis. Adm. Code. The department evaluated the need for PFOS and PFOA monitoring taking into consideration the presence of potential PFOS or PFOA industrial wastes, remediation sites and other potential sources of PFOS or PFOA. Based on information available at the time the proposed permit was drafted, it was identified that the POTW has an indirect discharger(s) that may be a potential source of PFOS/PFOA, and source water has known levels of PFOS/PFOA.

Therefore, monitoring once every two months is included. A sample frequency of 1/2 months means one sample is taken during any two-month period. Examples of 1/2 month sample would be every other month (Jan, March, May, etc.) or back-to-back months with a break in between (February & March, May & June, Aug & Sept, etc.). DMR Short Forms will be generated for the following time periods: January-February, March-April, May-June, July-August, September-October, and November-December. At a minimum one sample result will be present on each form.

The initial determination of the need for sampling shall be conducted for up to two years in order to determine if the permitted discharge has the reasonable potential to cause or contribute to an exceedance of the PFOS or PFOA standards under s. NR 102.04(8)(d)1, Wis. Adm. Code.

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)**
002	B	Liquid	Fecal Coliform	Aerobic SOUR	Land Application	21

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? **Yes**

If yes, special monitoring and recycling conditions will be included in the permit to track any potential problems in land applying sludge from this facility

Is a priority pollutant scan required? **No, design less than 5 MGD (0.081)**

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: 002- 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	
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 (NH4-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	January - December 2027
PCB Total Dry Wt	High Quality	10 mg/kg	Once	Composite	January – December 2027
Radium		pCi/g	Annual	Composite	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
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.

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.

PCB – Sample year updated.

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

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 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	03/31/2027

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.	
Progress Report #2: Submit a progress report per the above for the prior calendar year.	03/31/2028
Progress Report #3: Submit a progress report per the above for the prior calendar year.	03/31/2029
Progress Report #4: Submit a progress report per the above for the prior calendar year.	03/31/2030
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.	09/30/2030

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.

4.2 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	03/01/2027

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.	
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.	

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).

4.3 Phosphorus Multi-Discharger Variance Interim Limit (1.0 mg/L)

The permittee shall comply with the 1.0 mg/L MDV interim effluent limit by the end of this compliance schedule.

Required Action	Due Date
Submit Final Compliance Plan: The permittee shall submit a Facility Plan per s. NR 110.09, Wis. Adm. Code. The permittee may submit an abbreviated facility plan if the modifications are determined to be minor according to the Department.	09/30/2026

Submit Plans & Specifications: The permittee shall submit final construction plans to the Department for approval pursuant to s. 281.41, Wis. Stats., specifying treatment plant upgrades that must be constructed to achieve compliance with the interim phosphorus effluent limit and a schedule for completing construction of the upgrades by the 'Complete Construction' date specified below.	03/31/2027
Treatment Plant Upgrade: Upon approval of the final construction plans and schedule by the Department and pursuant to s. 281.41, Wis. Stats., the permittee shall initiate construction of the treatment plant upgrades in accordance with the approved plans and specifications.	03/31/2028
Construction Upgrade Progress Report: The permittee shall submit a progress report on construction upgrades.	03/31/2029
Complete Construction and Achieve Compliance: The permittee shall complete construction and achieve compliance with the phosphorus interim effluent limit of 1.0 mg/L.	03/31/2030

Explanation of Schedule

Subsection 283.16(6), Wis. Stats., establishes required interim phosphorus effluent limits that must be met for multi-discharger variance (MDV) eligibility. Subsection 283.16(6)(am), Wis. Stats., allows a technology based phosphorus limit of 1.0 mg/L as the MDV interim limit if a permittee certifies that its treatment facility cannot achieve compliance with the MDV interim limit without a major facility upgrade. The permittee qualifies for a 1.0 mg/L total phosphorus MDV interim limit and the schedule above provides the permittee with four years to comply with that limit.

4.4 24-Hr Flow Proportional Upgrade

Required Action	Due Date
Plans and Specifications: Submit plans and specifications for treatment plant modification to ensure proper influent and effluent samples and effluent flow readings are taken in compliance with this permit Section 1.1 and 2.1	03/31/2027
Complete installation and/or programming: Complete installation and/or programming required to ensure sampling method and flow monitoring are in compliance with the Sample Point Description and Sample Type (24-Hr Flow Proportional Composite Samples).	03/31/2030

Explanation of Schedule

To comply with ss. NR 108.06(4)(b), Wis. Adm. Code, and NR 205.07(1)(r)2., Wis. Adm. Code, this compliance schedule requires the permittee to report effluent flow meter readings. To comply with s. 210.04(4), Wis. Adm. Code, this compliance schedule also requires the use of 24-hour flow proportional samplers for monitoring influent and effluent wastewater quality.

4.5 PFOS/PFOA Minimization Plan Determination of Need

Required Action	Due Date
Report on Effluent Discharge: Submit a report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations. This analysis should also include a comparison to the applicable narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code. This report shall include all additional PFOS and PFOA data that may be collected including any	03/31/2027

influent, intake, in-plant, collection system sampling, and blank sample results.	
Report on Effluent Discharge and Evaluation of Need: Submit a final report on effluent PFOS and PFOA concentrations and include an analysis of trends in monthly and annual average PFOS and PFOA concentrations of data collected over the last 24 months. The report shall also provide a comparison on the likelihood of the facility needing to develop a PFOS/PFOA minimization plan. This report shall include all additional PFOS and PFOA data that may be collected including any influent, intake, in-plant, collection system sampling, and blank sample results. The permittee shall also submit a request to the department to evaluate the need for a PFOS/PFOA minimization plan. If the Department determines a PFOS/PFOA minimization plan is needed based on a reasonable potential evaluation, the permittee will be required to develop a minimization plan for Department approval no later than 90 days after written notification was sent from the Department. The Department will modify or revoke and reissue the permit to include PFOS/PFOA minimization plan reporting requirements along with a schedule of compliance to meet WQBELs. Effluent monitoring of PFOS and PFOA shall continue as specified in the permit until the modified permit is issued. If, however, the Department determines there is no reasonable potential for the facility to discharge PFOS or PFOA above the narrative standard in s. NR 102.04(8)(d), Wis. Adm. Code, no further action is required and effluent monitoring of PFOS and PFOA shall continue as specified in the permit.	03/31/2028

Explanation of Schedule

PFOS/PFOA Minimization Plan Determination of Need- As stated above, ch. NR 106 Subchapter VIII – Permit Requirements for PFOS and PFOA Dischargers became effective on August 1, 2022. Section NR 106.98, Wis. Adm. Code, specifies steps to generate data in order to determine the need for reducing PFOS and PFOA in the discharge. Data generated per the effluent monitoring requirements will be used to determine the need for developing a PFOS/PFOA minimization plan. As part of the schedule, the permittee is required to submit two annual Reports on Effluent Discharge.

If the Department determines that a minimization plan is needed, the permit will be modified or revoked/reissued to include additional requirements.

4.6 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan Submittal: Submit an update to the management plan to optimize the land application system performance and demonstrate compliance with ch. NR 204, Wis. Adm. Code, by the Due Date. 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.	03/31/2027

Explanation of Schedule

Land Application Management Plan (municipal)- 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 dated 11/13/2025

Multi Discharge Variance Evaluation Checklist dated 1/9/2025

Multi Discharge Variance Approval Letter dated 1/9/2025

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By:

Marissa Fleege, Wastewater Specialist

Date: 1/26/2026

Date Amended post Fact Check:

Date Amended post Public Notice:

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: November 13, 2025

TO: BetsyJo Howe – SCR/Fitchburg

FROM: Sarah Luck – SCR/Fitchburg

SUBJECT: Water Quality-Based Effluent Limitations for the Argyle Wastewater Treatment Facility
WPDES Permit No. WI-0022225-10-0

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 the Argyle Wastewater Treatment Facility in Lafayette County. This municipal wastewater treatment facility (WWTF) discharges to the East Branch Pecatonica River, located in the Lower East Branch of the Pecatonica River (SP03) Watershed in the Sugar-Pecatonica 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
BOD_5			45 mg/L	30 mg/L		1
TSS			45 mg/L	30 mg/L		1
pH	9.0 s.u.	6.0 s.u.				1
E. coli May – September				126 #/100 mL geometric mean		2
Chloride						3
PFOS and PFOA						4
Phosphorus LCA Interim Limit HAC Interim Limit Final WQBELs				 4.7 mg/L 1.0 mg/L 0.225 mg/L	 0.075 mg/L 0.051 lbs/day	5,6
TKN, Nitrate+Nitrite, and Total Nitrogen						7
Acute WET						8

Footnotes:

1. No changes from the current permit.
2. Additional final limit: No more than 10 percent of *E. coli* bacteria samples collected in any calendar month may exceed 410 count/100 mL.
3. Monitoring in the fourth year of the permit term at a frequency to ensure that 11 samples are available at the next permit issuance.
4. PFOS and PFOA monitoring is recommended at a once every two months frequency in accordance with s. NR 106.98(2), Wis. Adm. Code.
5. Under the phosphorus MDV, a level currently achievable (LCA) interim limit of 4.7 mg/L should be effective upon permit reissuance. A compliance schedule may be included in the permit until the highest attainable condition (HAC) limit of 1.0 mg/L can be met. 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. If chemical is added to reduce phosphorus, it is recommended that a Standard Operating Procedure (SOP) document be developed and implemented and submitted to the Department.
7. In the Department's October 1, 2019 *Guidance for Total Nitrogen Monitoring in Wastewater Permits*, quarterly total nitrogen monitoring is recommended for municipal permittees with total nitrogen greater than 40 mg/L. Total Nitrogen is the sum of nitrate (NO_3), nitrite (NO_2), and total kjeldahl nitrogen (TKN) (all expressed as N). Total nitrogen was reported as 40.8 mg/L on the permit application. 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. Code, provide the authority to request this monitoring during the permit term.
8. Two acute WET tests are recommended. According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge.

The recommended limits meet the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Code, 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 Sarah Luck (Sarah.Luck@wisconsin.gov) or Diane Figiel (Diane.Figiel@wisconsin.gov).

Attachments (2) – Narrative and Site Map

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Attachment #1

Water Quality-Based Effluent Limitations for
Argyle Wastewater Treatment Facility

WPDES Permit No. WI-0022225-10-0

PART 1 – BACKGROUND INFORMATION

Facility Description
Argyle Wastewater Treatment Facility consists of a headworks, activated sludge (extended aeration), final clarification, and ultraviolet disinfection. Sludge is aerobically digested, stored and land spread seasonally.

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

Existing Permit Limitations
The current permit, which expired on March 31, 2025, includes the following effluent limitations and monitoring requirements.

Parameter	Daily Maximum	Daily Minimum	Weekly Average	Monthly Average	Six-Month Average	Footnotes
BOD_5			45 mg/L	30 mg/L		1
TSS			45 mg/L	30 mg/L		1
pH	9.0 s.u.	6.0 s.u.				1
Fecal Coliform May – September			**656#/100 mL** geometric mean	400#/100 mL geometric mean		2
Chloride						3
Phosphorus Interim Final				 4.7 mg/L 0.225 mg/L	 0.075 mg/L	4

Footnotes:
1. These limits are based on the Warm Water Sport Fish (WWSF) community of the immediate receiving water as described in s. NR 210.05(1), Wis. Adm. Code. These limitations are not being evaluated as part of this review. Since 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.
2. Additional limits to comply with the expression of limits requirements in ss. NR 106.07 and NR 205.065(7), Wis. Adm. Code, are included in bold.
3. Monitoring only.
4. Argyle WWTF was covered under an individual phosphorus variance during the permit term.

Receiving Water Information
- Name: East Branch Pecatonica River
- Waterbody Identification Code (WBIC): 897800
- Classification used in accordance with chs. NR 102 and 104, Wis. Adm. Code: Warm Water Sport Fish (WWSF) community, non-public water supply and recreational use.

- Low flows used in accordance with chs. NR 106 and 217, Wis. Adm. Code: The following 7-Q_{10} and 7-Q_2 values are from USGS and are for where Outfall 001 is located.
  7-Q_{10} = 63 cubic feet per second (cfs)
  7-Q_2 = 89 cfs
  Harmonic Mean Flow = 144.63 cfs using a drainage area of 329.4 mi^2
  The Harmonic Mean has been estimated based on average flow and the 7-Q_{10} using an equation from U.S. EPA's *Technical Support Document for Water Quality-Based Toxics Control* (March 1991, EPA/505/2-90-001, pgs. 88-89).
- Hardness = 383 mg/L as CaCO3. This value represents the geometric mean of data from four sites in the Pecatonica River Basin collected between 1998 and 2015.
- % of low flow used to calculate limits in accordance with s. NR 106.06(4)(c)5., Wis. Adm. Code: 25%
- Source of background concentration data: Metals data from the East Branch Pecatonica River at SWIMS stations 10031442 and 10031441 (located above the Blanchardville Wastewater Treatment Facility outfall) are used for this evaluation. All sample results were below the level of detection. Therefore, the background concentrations are assumed to be negligible and a value of zero is used in the computations. Background data for calculating effluent limitations for ammonia nitrogen are described later.
- Multiple dischargers: There are several other dischargers to the East Branch of Pecatonica River, but they are not in the immediate vicinity, and the mixing zones do not overlap. Therefore, the other dischargers do not impact this evaluation.
- Impaired water status: The East Branch Pecatonica River is listed as impaired for total phosphorus at the point of discharge.

Effluent Information

- Flow rate:
  Design annual average = 0.081 million gallons per day (MGD)
  It should be noted that previous limit evaluations incorrectly used the max month design flow of 0.183 MGD rather than the annual average design flow of 0.081 MGD. Plan review records were used to identify this error.
  For reference, the actual average flow from May 2020 through August 2025 was 0.06 MGD.
- Hardness = 314 mg/L as $CaCO_3$. This value represents the geometric mean of four samples collected in September 2024 which were reported on the permit application.
- Wastewater source: Domestic wastewater with industrial contributions from Driftless Tannery.
- Water supply: Municipality waterworks (Argyle Waterworks)
- Additives: None currently. If chemical is added to reduce phosphorus, it is recommended that a Standard Operating Procedure (SOP) document be developed and implemented and submitted to the Department.
- 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 and hardness.
- 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

Attachment #1

Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)	Sample Date	Copper (µg/L)
09/16/24	7.05	09/30/24	8.83	10/21/24	8.60
09/19/24	5.05	10/03/24	8.82	10/24/24	10.10
09/23/24	7.70	10/07/24	9.90	10/28/24	12.50
09/26/24	5.50	10/10/24	9.61		
1-day P_{99} = 14.67 µg/L					
4-day P_{99} = 11.30 µg/L					

Chloride Effluent Data

Sample Date	Chloride (mg/L)	Sample Date	Chloride (mg/L)	Sample Date	Chloride (mg/L)
01/19/22	520	05/04/22	321	09/13/22	244
02/01/22	355	06/08/22	312	10/26/22	315
03/01/22	475	07/19/22	324	11/30/22	416
04/05/22	377	08/30/22	307	12/14/22	502
1-day P_{99} = 621 mg/L					
4-day P_{99} = 485 mg/L					

The following table presents the average concentrations and loadings at Outfall 001 from May 2020 through August 2025 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	6 mg/L*
TSS	6 mg/L*
pH field	7.33 s.u.
Fecal Coliform	29#/100 mL**
Phosphorus	4.12 mg/L

*Results below the limit of detection (LOD) were included as zeroes in calculation of average.
** The average measurement for bacteria is calculated as a geometric mean. Values reported below the LOD are replaced with a value of 1 for the calculation of the geometric mean.

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

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 P_{99}) 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-Q_{10}

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-Q_{10} 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.

$$\text{Limitation} = \frac{(WQC)\,(Qs + (1-f)\,Qe) - (Qs - f\,Qe)\,(Cs)}{Qe}$$

Where:

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

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

Qe = 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

Cs = 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-Q_{10} method of limit calculation produces the most stringent daily maximum limitations and should be used while making reasonable potential determinations. This is not the case for Argyle Wastewater Treatment Facility, and the limits are set based on two times the acute toxicity criteria.

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

Daily Maximum Limits based on Acute Toxicity Criteria (ATC)

RECEIVING WATER FLOW = 50 cfs, (1-Q_{10} (estimated as 80% of 7-Q_{10})), 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	679.6	135.9	1.46		
Cadmium	314	38.4	76.7	15.3	<0.084		
Chromium	301	4446	8891.7	1778	1.35		
Copper	314	45.7	91.5			14.67	12.50
Lead	314	323	646.9	129.4	<1.08		
Nickel	268	1080	2160.6	432	3.97		
Zinc	314	328	655.6	131.1	60.90		
Chloride (mg/L)		757	1514.0			621	520

* 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.

* * The 2 × ATC method of limit calculation yields a more restrictive limit than consideration of ambient concentrations and 1-Q_{10} flow rates per the changes to s. NR 106.07(3), Wis. Adm. Code, effective 09/01/2016.

Weekly Average Limits based on Chronic Toxicity Criteria (CTC)
RECEIVING WATER FLOW = 16 cfs (¼ of the 7-Q_{10}), 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		152.2	19279	3855.8	1.46	
Cadmium	175	3.82	483.88	96.8	<0.084	
Chromium	301	325.75	41263	8252.5	1.35	
Copper	383	32.66	4137.0			11.30
Lead	356	95.51	12098.2	2419.6	<1.08	
Nickel	268	120.18	15223	3044.6	3.97	
Zinc	333	344.68	43660	8732.1	60.9	
Chloride (mg/L)		395	50034			485

* 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 = 36 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	370	107116	21423.3	<0.084
Chromium (+3)	3818000	1105325372	221065074	1.35
Lead	140	40531	8106.1	<1.08
Nickel	43000	12448662	2489732	3.97

Monthly Average Limits based on Human Cancer Criteria (HCC)
RECEIVING WATER FLOW = 36 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	13.3	3850.4	770.08	1.46

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.** Monitoring recommendations are made in the paragraphs below.

Chloride – Considering available effluent data from the current permit term (January 2022 through December 2022), the 1-day P_{99} chloride concentration is 621 mg/L, and the 4-day P_{99} of effluent data is 485 mg/L. These effluent concentrations are below the calculated WQBELs for chloride; therefore, **no effluent limits for chloride 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 the Argyle Wastewater Treatment Facility 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 September 2021 through August 2024 (n=4) was 0.78 mg/kg, with a maximum reported concentration of 1.59 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 Argyle Waterworks (PWS ID: 13300683) is provided in the table below:

Water Supply PFAS Data

Sample Date	Sample ID	Well #	PFOS (ng/L)	PFOA (ng/L)
6/5/2023	CB05939-05	BG183	ND	ND
6/5/2023	CB05939-01	BG181	0.46	ND
6/5/2023	CB05939-03	BG182	ND	ND
		Average =	0.15	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 indirect discharge contributing to the collection system from Driftless Tannery, **PFOS and PFOA monitoring is recommended at a frequency of once every two months.**

PART 3 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR BOD, TSS, PH, AND DO

BOD, TSS, and pH

The current biological oxygen demand (BOD), total suspended solids (TSS), and pH limits are the categorical limits given in ss. NR 210.05(1)(a), NR 210.05(1)(b), and NR 210.05(1)(c), Wis. Adm. Code, respectively, for municipal discharges to fish and aquatic life receiving waters. **No changes are recommended for BOD, TSS, and pH limits.**

DO

Water quality standards for dissolved oxygen (DO) in surface waters are listed in s. NR 102.04(4), Wis. Adm. Code. This section sets a minimum DO level of 5.0 mg/L for all fish and aquatic life waters except for cold waters. The limits in WPDES permits must ensure that DO water quality criteria are met in the receiving water.

One component of this is maintaining a sufficient level of DO in the discharged effluent. The other component is limiting the discharge of substances which will exert oxygen demand on the receiving water in the days following discharge. In wastewater, the sum of these oxygen demanding substances is measured and limited in the form of five-day biochemical oxygen demand (BOD_5) measurements.

Since Argyle Wastewater Treatment Facility has categorical BOD_5 limits from s. NR 210.05(1)(a), Wis. Adm. Code, these limits are considered sufficient so as to ensure the DO water quality criterion for East Branch Pecatonica River are met. Therefore, **limits nor monitoring for dissolved oxygen are not required.**

PART 4 – 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 the Argyle Wastewater Treatment Facility 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:

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

Where:

A = 0.411 and B = 58.4 for a Warm Water Sport fishery, and
pH (s.u.) = that characteristic of the effluent.

The effluent pH data was examined as part of this evaluation. A total of 632 sample results were reported from May 2020 through August 2025. The maximum reported value was 8.20 s.u. (Standard pH Units). The effluent pH was 8.14 s.u. or less 99% of the time. The 1-day P_{99}, calculated in accordance with s. NR 106.05(5), Wis. Adm. Code, is 7.99 s.u. The mean plus the standard deviation multiplied by a factor of 2.33, an estimate of the upper ninety ninth percentile for a normally distributed dataset, is 7.98 s.u. Therefore, a value of 8.20 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 8.20 s.u. into the equation above yields an ATC = 5.73 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 1-Q_{10} 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-Q_{10} (estimated as 80 % of 7-Q_{10}) and the 2×ATC approach are shown below.

Daily Maximum Ammonia Nitrogen Determination

	Ammonia Nitrogen Limit (mg/L)
2×ATC	11
1-Q_{10}	2,280

The 2×ATC method yields the most stringent limits for Argyle Wastewater Treatment Facility.

Weekly and Monthly Average Limits based on Chronic Toxicity Criteria (CTC)
Ammonia limits were last calculated on October 4, 2017. However, the previous ammonia limits were miscalculated using the max month design flow of 0.183 MGD rather than the annual average design flow of 0.081 MGD. Therefore, a recalculation of weekly and monthly average limits is needed using the procedure in s. NR 106.32, Wis. Adm. Code.

Weekly average and monthly average limits for Ammonia Nitrogen are based on chronic toxicity criteria. The 30-day chronic toxicity criterion (CTC) for ammonia in waters classified as a warm water sport fishery is calculated by the following equation.

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

Where:

pH = the pH (s.u.) of the receiving water,
E = 0.854,
C = the minimum of 2.85 or 1.45 x $10^{(0.028 \times (25 - T))}$ – (Early Life Stages Present), or
C = 1.45 x $10^{(0.028 \times (25 - T))}$ – (Early Life Stages Absent), and
T = the temperature (ºC) of the receiving water – (Early Life Stages Present), or
T = the maximum of the actual temperature (ºC) and 7 - (Early Life Stages Absent)

The 4-day criterion is simply equal to the 30-day criterion multiplied by 2.5. The 4-day criteria are used in a mass-balance equation with the 7-Q_{10} (4-Q_3, if available) to derive weekly average limitations. And the 30-day criteria are used with the 30-Q_5 (estimated as 85% of the 7-Q_2 if the 30-Q_5 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 ºC. Only 25% of the flow is used if the Temperature < 11 ºC. And 50% of the flow is used if the Temperature ≥ 11 ºC but < 16 ºC.

The rules provide 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 ºC, during the winter and spring months. Burbot, an early spawning species, are not believed to be present in the East Branch Pecatonica River, based on conversations with local fisheries biologists. So “ELS Absent” criteria apply from October through March, and “ELS Present” criteria will apply from April through September.

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

Attachment #1

Weekly and Monthly Ammonia Nitrogen Limits – WWSF

		Spring	Summer	Winter
		April & May	June – Sept.	Oct. - March
Background Information	7-Q_{10} (cfs)	63	63	63
	7-Q_2 (cfs)	89	89	89
	Ammonia (mg/L)	0.07	0.06	0.12
	Temperature (°C)	6	19	4
	pH (s.u.)	8.07	8.16	8.26
	% of Flow used	25	100	25
	Reference Weekly Flow (cfs)	15.75	63	15.75
	Reference Monthly Flow (cfs)	18.91	75.65	18.91
Criteria mg/L	4-day Chronic			
	Early Life Stages Present	5.49	3.58	
	Early Life Stages Absent			6.61
	30-day Chronic			
	Early Life Stages Present	2.19	1.43	
	Early Life Stages Absent			2.64
Effluent Limitations mg/L	Weekly Average			
	Early Life Stages Present	**686**	**1,772**	
	Early Life Stages Absent			**822**
	Monthly Average			
	Early Life Stages Present	**323**	**829**	
	Early Life Stages Absent			**383**

Effluent Data

Four samples for ammonia nitrogen were collected in September 2024, and their results were as follows:

Ammonia Nitrogen Effluent Data

Sample Date	Ammonia Nitrogen (mg/L)
09/16/24	<0.06
09/19/24	0.07
09/23/24	<0.06
09/26/24	0.10
Average	0.04

"<" means that the pollutant was not detected at the indicated level of detection. The mean concentration was calculated using zero in place of the non-detected result.

Reasonable Potential

The need to include ammonia limits in the Argyle Wastewater Treatment Facility permit is determined by comparing the mean effluent concentration to 1/5th of the calculated limit (s. NR 106.05(6), Wis. Adm. Code). Based on this comparison, there is no reasonable potential for the discharge to exceed any of the calculated ammonia nitrogen limits. Therefore, **no limits or monitoring for ammonia nitrogen are required in the reissued permit. A minimum of four effluent samples should be collected and reported on the next permit application.**

Attachment #1

PART 5 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR BACTERIA

On May 1, 2020, revisions to chs. NR 102 and NR 210, Wis. Adm. Code, became effective which replace fecal coliform limits with new *Escherichia coli* (*E. coli*) limits for protection of recreational uses. 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.

E. coli monitoring is recommended at the same frequency that fecal coliform monitoring is required in the current permit. Since Argyle Wastewater Treatment Facility's permit requires weekly monitoring, the 410 counts/100 mL limit will effectively function as a daily maximum limit unless the facility performs additional monitoring. Any additional monitoring beyond what is required by the permit must also be reported on the DMR as required in the standard requirements section of the permit.

These limits are required during May through September. No changes are recommended to the current recreational period and the required disinfection season.

Effluent Data

Argyle Wastewater Treatment Facility has monitored effluent *E. coli* from May 2024 through August 2025, and a total of 39 results are available. A geometric mean of 126 counts/100 mL was not exceeded, with a maximum monthly geometric mean of 2.4 counts/100 mL. Effluent data did not exceed 410 counts/100 mL, and the maximum reported value was 26 counts/100 mL. Based on this effluent data it appears that **the facility can meet new *E. coli* limits, and a compliance schedule is not needed in the reissued permit**.

PART 6 – PHOSPHORUS

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 Argyle Wastewater Treatment Facility does not currently have an existing technology-based limit, the need for this limit in the reissued permit is evaluated. The data demonstrates that the annual monthly average phosphorus loading is less than 150 lbs/month, which is the threshold for municipalities in accordance with s. NR 217.04(1)(a)1, Wis. Adm. Code, and therefore, **no technology-based limit is required.**

Annual Average Mass Total Phosphorus Loading

Month	Average Phosphorus Concentration (mg/L)	Total Effluent Flow (Million Gallons)	Calculated Mass (lbs/month)
July 2020	4.64	1.55	60
August 2020	4.68	1.47	57

Attachment #1

Month	Average Phosphorus Concentration (mg/L)	Total Effluent Flow (Million Gallons)	Calculated Mass (lbs/month)
September 2020	4.48	1.46	54
October 2020	3.75	1.72	54
November 2020	3.52	1.85	54
December 2020	3.95	1.66	55
January 2021	5.43	1.59	72
February 2021	5.37	1.47	66
March 2021	6.03	1.45	73
April 2021	7.04	1.35	79
May 2021	5.03	1.73	73
June 2021	6.25	1.66	86
Average			**65**

Total P (lbs/month) = Monthly average (mg/L) × total flow (MG/month) × 8.34 (lbs/gallon)
Where total flow is the sum of the actual flow (MGD) for that month

In addition, the need for a WQBEL for phosphorus must be considered.

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.

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 East Branch Pecatonica River.

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 Pecatonica River
Qs = 100% of the 7-Q_2 of 89 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 = 0.081 MGD = 0.125 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 previous evaluation resulted in a WQBEL of 0.075 mg/L. Section NR 217.13(2)(d), Wis. Adm. Code, states that the determination of upstream concentrations shall be evaluated at each permit reissuance. Additional data were considered in estimating the background phosphorus concentration.

A review of recent available in stream total phosphorus data stored in the Surface Water Integrated Monitoring System database collected upstream and downstream of the discharge, shown in the table on the next page, indicates the median background total phosphorus concentration in the East Branch Pecatonica River is above criteria.

In Stream Total Phosphorus Data

SWIMS ID	333249	10030499
Station Name	Pecatonica R East Branch - Foot Bridge Off Water St (Cth H) Blanchardville (upstream)	East Branch Pecatonica River at Cisserville Road (downstream)
Waterbody	East Branch Pecatonica River	East Branch Pecatonica River
Sample Count	11	21
First Sample	06/19/2020	05/30/2015
Last Sample	10/11/2021	10/27/2019
Mean	0.133 mg/L	0.182 mg/L
Median	0.135 mg/L	0.157 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."

The impaired water listing of the East Branch Pecatonica River at the outfall also indicates that effluent phosphorus limits equal to the water quality criterion should continue in order to prevent the discharge from contributing to further impairment of the receiving water. *The Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Discharges* (2020) suggests setting effluent limits equal to the criterion in the absence of an EPA approved total maximum daily load for discharges of phosphorus to phosphorus-impaired waters.

Effluent Data

The following table summarizes effluent total phosphorus monitoring data from May 2020 through August 2025.

Total Phosphorus Effluent Data

	Concentration (mg/L)	Mass (lbs/day)
1-day P_{99}	9.17	4.74
4-day P_{99}	6.32	3.15
30-day P_{99}	4.85	2.34
Mean	4.12	1.95

Attachment #1

	Concentration (mg/L)	Mass (lbs/day)
Std	1.59	0.86
Sample size	554	554
Range	0.59 - 9.49	0.5 - 10.018

Reasonable Potential Determination
The discharge has reasonable potential to cause or contribute to an exceedance of the water quality criterion because the 30-day P_{99} of reported effluent total phosphorus data is greater than the calculated WQBEL. Therefore, **a WQBEL is required.**

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 impaired for total phosphorus. **This final mass limit shall be 0.075 mg/L × 8.34 × 0.081 MGD = 0.051 lbs/day expressed as a six-month average.**

Multi-Discharge Variance Interim Limit
Argyle Wastewater Treatment Facility has applied for the phosphorus multi-discharger variance (MDV). Conditions of the phosphorus MDV require the facility to comply with an interim phosphorus limit in lieu of meeting the final WQBEL. A review of effluent phosphorus data indicates that Argyle Wastewater Treatment Facility will be unable to comply with the 0.8 mg/L phosphorus limits required under s. 283.16 (6) (a) 1., Wis. Stats. Therefore, the recommended interim limit, pursuant to s. 283.16 (6) (am), Wis. Stats., is 1.0 mg/L as a monthly average. A compliance schedule may be appropriate to meet this interim limit but compliance with 1.0 mg/L shall be no later than the end of the reissued permit.

The effluent data indicates that 4-day P_{99} value of 6.3 mg/L is a level currently achievable (LCA) for the discharge. However, since the previous permit contained an interim limit of **4.7 mg/L as a monthly average, that limit will be continued as the LCA and should not be exceeded during the compliance schedule.**

PART 7 – WATER QUALITY-BASED EFFLUENT LIMITATIONS FOR THERMAL

Surface water quality standards for temperature took effect on October 1, 2010. These regulations are detailed in chs. NR 102 (Subchapter II – Water Quality Standards for Temperature) and NR 106 (Subchapter V – Effluent Limitations for Temperature) of the Wisconsin Administrative Code. Daily maximum and weekly average temperature criteria are available for the 12 different months of the year depending on the receiving water classification.

Due to the amount of upstream flow available for dilution in the limit calculation (Qs:Qe >20:1), the lowest calculated limitation is 120°F (s. NR 106.55(6)(a), Wis. Adm. Code). For activated sludge treatment systems of domestic waste, there is no reasonable potential for the discharge to exceed this limit. Therefore, **no limits or monitoring for temperature are required.**

PART 8 – 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).

- Acute tests predict the concentration that causes lethality of aquatic organisms during a 48 to 96-hour exposure. To assure that a discharge is not acutely toxic to organisms in the receiving water, WET tests must produce a statistically valid LC_{50} (Lethal Concentration to 50% of the test organisms) greater than 100% effluent, according to s. NR 106.09(2)(b), Wis. Adm. Code.

- Chronic testing is usually not recommended where the ratio of the 7-Q_{10} to the effluent flow exceeds 100:1. For the Argyle Wastewater Treatment Facility, that ratio is approximately 223:1. With this amount of dilution, there is believed to be little potential for chronic toxicity effects in the East Branch Pecatonica River associated with the discharge from the Argyle Wastewater Treatment Facility, so **the need for chronic WET testing will not be considered further**.

The WET checklist was developed to help DNR staff make recommendations regarding WET limits, monitoring, and other related permit conditions. The checklist indicates whether acute and chronic WET limits are needed, based on requirements specified in s. NR 106.08, Wis. Adm. Code. The checklist steps the user through a series of questions, assesses points based on the potential for effluent toxicity, and suggests monitoring frequencies based on points accumulated during the checklist analysis. As toxicity potential increases, more points accumulate, and more monitoring is recommended to ensure that toxicity is not occurring. A summary of the WET checklist analysis completed for this permittee is shown in the table below. Staff recommendations based on best professional judgment are provided below the summary table. For guidance related to reasonable potential and the WET checklist, see Chapter 1.3 of the WET Guidance Document: https://dnr.wisconsin.gov/topic/Wastewater/WET.html.

WET Checklist Summary

	Acute
AMZ/IWC	Not Applicable. **0 Points**
Historical Data	No data. **5 Points**
Effluent Variability	Little variability, no upsets or significant violations except phosphorus which likely would not cause acute toxicity, consistent WWTF operations. **0 Points**

Attachment #1

	Acute
Receiving Water Classification	WWSF **5 Points**
Chemical-Specific Data	No reasonable potential for limits based on ATC. Ammonia, arsenic, chloride, chromium, nickel, and zinc detected. Additional Compounds of Concern: None. **3 Points**
Additives	No additives used. **0 Points**
Discharge Category	One industrial contributor (Driftless Tannery). **5 Points**
Wastewater Treatment	Secondary or better. **0 Points**
Downstream Impacts	No impacts known. **0 Points**
Total Checklist Points:	**18 Points**
Recommended Monitoring Frequency (from Checklist):	2 tests during permit term.
Limit Required?	No
TRE Recommended? (from Checklist)	No

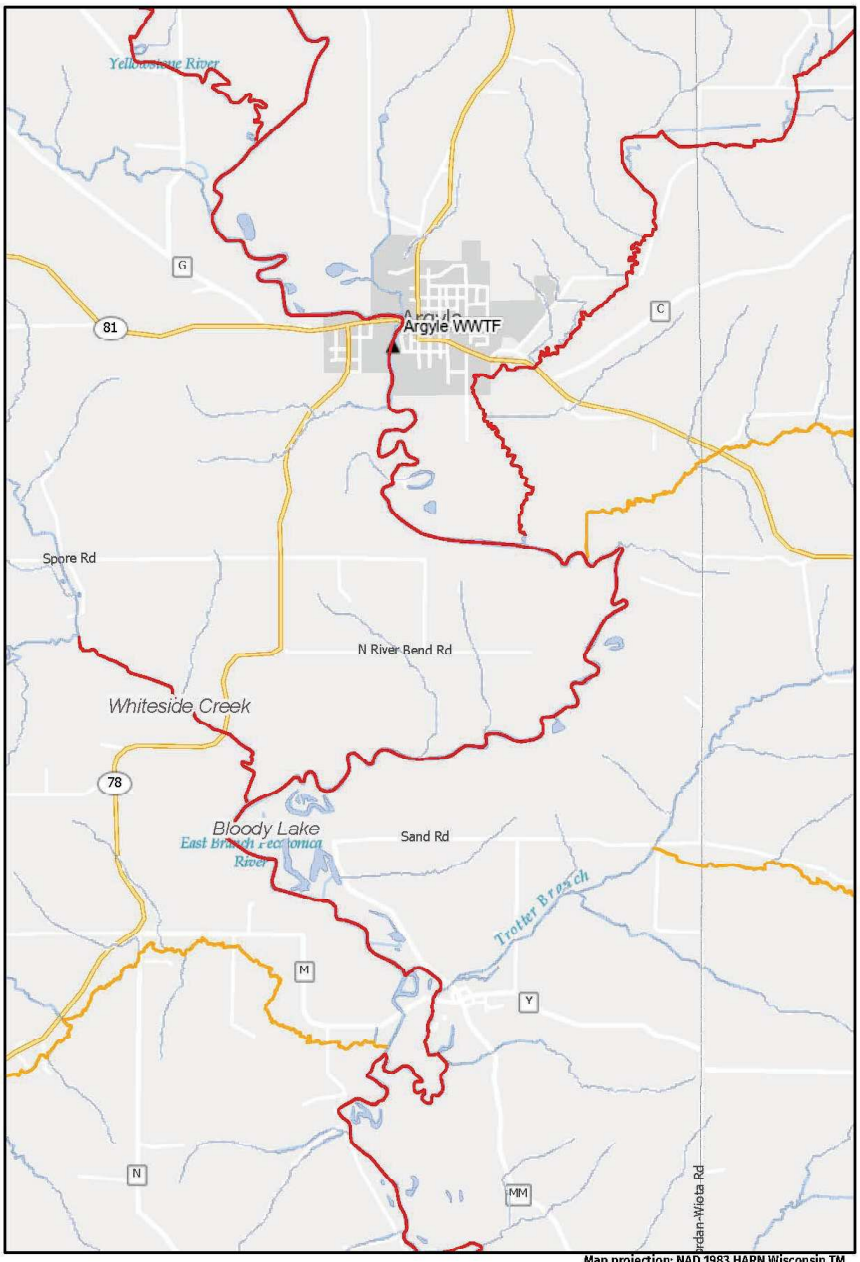
- After consideration of the guidance provided in the Department's *WET Program Guidance Document* (2022) and other information described above, **two acute and no chronic WET tests are recommended** in the reissued permit. Sampling WET concurrently with any chemical-specific toxic substances is recommended. Tests should be done in rotating quarters, to collect seasonal information about this discharge.

- According to the *State of Wisconsin Aquatic Life Toxicity Testing Methods Manual* (s. NR 219.04, Table A, Wis. Adm. Code), a synthetic (standard) laboratory water may be used as the dilution water and primary control in acute WET tests unless the use of different dilution water is approved by the Department prior to use. The primary control water must be specified in the WPDES permit.

Attachment #2
Site Map

WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Argyle Wastewater Treatment Facility



Legend: (some map layers may not be displayed)

- IWL - River Stream Beach Shore
- WIRL - River Stream Beach Shore
- Surface Water Outfalls
- Rivers and Streams
- Intermittent Streams
- Open Water
- 24K Intermittent Streams
- 24K Lakes and Open Water

Notes:

Discharge is to the East Branch Pecatonica River. No longer to scale.

Service Layer Credits:
DNR Basic Feature Vector Tile Layer WTM: , Permits & Determinations^: WI DNR Bureau of Watershed Management, Surface Water (Cached): WIDNR, USGS, and other data

Map projection: NAD 1983 HARN Wisconsin TM

N

Map: 0 4,000 8,000 Feet
0 1,000 2,000 Meters

Date Printed: 9/23/2025 11:30 AM

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
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WISCONSIN DEPT. OF NATURAL RESOURCES

1/9/2025

Sandra Flannery
P O Box 246
Argyle, WI 53504

Subject: Conditional approval of a multi-discharger phosphorus variance
Receiving Stream: East Branch Pecatonica River in Lafayette County
Permittee: Village of Argyle, WPDES WI-0022225

Dear Ms. Flannery:

In accordance with s. 283.16 of the Wisconsin Statutes, you have requested coverage under Wisconsin's multi-discharger phosphorus variance for the Village of Argyle Wastewater Treatment Facility in an application dated 9/30/2024. Wisconsin's multi-discharger phosphorus variance was approved by EPA on February 6, 2017. 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 Todd Ritschard, Village of Argyle
Caitlin Oconnell, WDNR
Betsyjo Howe, WDNR
Tim Elkins, EPA Region 5
Micah Bennett, EPA Region 5

State of Wisconsin
Department of Natural Resources
Bureau of Water Quality
Permits Section - WQ/3

Multi-Discharger Variance Application Evaluation Checklist

Form 3200-145 (R 5/16)

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

Village of Argyle

WPDES Permit Number	County
WI- 0 | 0 | 2 | 2 | 2 | 2 | 5	Lafayette

1. Did the point source apply for the MDV at the appropriate time?	(•) Yes ( ) No. *STOP- facility not eligible at this time.*	*See Questions 1-3.*
2. This operation is (check one):	( ) New or relocated outfall. *STOP- facility not eligible.* (•) Existing outfall	*See Questions 5-6.*
3. Is the point source is located in an MDV eligible area?	(•) Yes ( ) No. *STOP- facility not eligible.*	*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:	5	*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. *STOP- facility not eligible.*	*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)	Conc. (mg/L)	Method for calculation:	Does this concur with application?	
001	4.74	(•) 30-day P99 ( ) Other, specify:	(•) 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?

1.0 mg/L as a monthly average, pursuant to s. 283.16(6)(am), Wis. Stats.
Target Value = 0.2 mg/L
Facility upgrades will be required to achieve the interim limit

Provide Rationale:

Total phosphorus effluent data from the past three years (the entirety of 2022, 2023, and 2024, n=313) yield a 30-day p99 value of 04.74 mg/L. This value is consistient with the currently applicable interim limit of 4.7 mg/L and represents a level currently achievable. A compliance schedule for facility upgrades is warranted to achieve the 1.0 mg/L interim limit prior to the end of the permit term.

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. *For Industries Only*- Where does the phosphorus in the effluent come from? (check all that apply)	☐ Process ☐ Additive Usage ☐ Water supply *Can intake credits be given or can the facility use an alternative water supply?* ◯ 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:	$ 4,499,936.00 MDV Application. DNR's review used a more conservative number from the 2016 FCAP.	*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:

The Village of Argyle is currently covered under an individual phosphorus variance. During the current permit term, The Village undertook source reduction measures, review of current sewer rates/ordinances, and evaluated optimization (viability of chemical feed). In the prior permit term, the Village completed a Final Compliance Alternatives Plan (Town and Country Engineering, 2016) which documented challenges with achieving the low-level phosphorus effluent limits. No viable alternatives were identified. Tertiary filtration costs were estimated. The below economic demonstration uses the lowest cost tertiary filtration alternative, with costs adjusted for inflation via the ENR construction cost index.

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. *STOP- facility not eligible.*	*See Q4 of this form in addition to the "eligibility" guidance in Section 2.01 of the MDV Implementation Guidance.*

Comments on economic demonstration:

Compliance costs listed in the 2016 FCAP report are shown to be $2,617,408 (capital) and $35,251 (annual O&M). These costs, when adjusted from December 2015 to December 2023 based on the ENR construction cost index are $3,687,928 (capital) and $49,668.66 (O&M increase). Assuming a 20-year CWFP loan at 2.2% interest, annual payments would be $229,918.03. Total costs, after O&M, amount to $279,586.69, or $251,628.02 assuming a 90% residential use rate. Distributed across 431 user households, the per-user cost increase is estimated at $583.82 annually. This value alone is 1.08% of Argyle's $53,977 median household income. In Lafayette County with a secondary indicator score of 5, sewer rates at 1% of MHI meet the primary screener.

Save

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: $ 64.75

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

Save

Additional Justification (if needed):

Certification	
Preparer Name Matt Claucherty	Title Water Resources Management Specialist
Signature of Preparer	Date 1/9/2025

Save