

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO 20240408 – IN0020427– D
DATE OF NOTICE: April 8, 2024
DATE RESPONSE DUE: May 8, 2024

The Office of Water Quality proposes the following DRAFT NPDES PERMIT:

Major - Modification :

Town of Bremen Wastewater Treatment Plant, Permit No. IN0020427, MARSHALL COUNTY, 561 Keyser St, Bremen, IN. The permittee has requested a permit modification to update the permit to reflect the future facility replacement and outfall relocation. Outfall 002 will be located at 41° 27' 10" N, 86° 10' 28" W downstream of Outfall 001 to discharge into the Yellow River to the Kankakee River. Permit Manager: Nicholas Eilerman, 317/232-8619, NEilerma@idem.in.gov. Posted online at <https://www.in.gov/idem/public-notices/>.

PROCEDURES TO FILE A RESPONSE

You are hereby notified of the availability of a 30-day public comment period regarding the referenced draft permit, in accordance with 327 IAC 5-3-9. The application and draft permit documents are available for inspection at IDEM, Office of Water Quality, Indiana Government Center North - Room 1255, 100 N. Senate Ave, Indianapolis, IN 46204 from 9:00 a.m. until 4:00 p.m., Monday thru Friday, (copies 10¢ per page). The Draft Permit is posted online on the above-referenced IDEM public notice web page. A courtesy copy has also been sent via email to the local County Health Department. Please tell others whom you think would be interested in this matter. For more information about public participation including your rights & responsibilities, please see <https://www.in.gov/idem/public-notices/>. You may want to consult our online Citizens' Guide to IDEM: <https://www.in.gov/idem/resources/citizens-guide-to-idem/>.

Comments: The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the draft permit. All comments must be delivered to IDEM or postmarked no later than the Response Due Date noted to be considered in the decision to issue a final permit. Deliver or mail all requests or comments to the attention of the Permit Manager at the above address.

To Request a Public Hearing: Any person may request a public hearing. A written request must be submitted to the above address on or before the Response Due Date. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the hearing. The Department will determine whether to hold a public hearing based upon the comments and the rationale for the request. Public Notice of such a hearing will be circulated in at least one newspaper in the geographical area of the discharge and to those persons submitting comments and/or on the mailing list at least 30 days prior to the hearing.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

April 8, 2024

VIA ELECTRONIC MAIL

Mr. William Daily, Council President
Town of Bremen
311 S. Shumaker St.
Bremen, IN 46506

Dear Mr. Daily:

Re: Draft Modification of NPDES Permit
No. IN0020427 for the Town of Bremen
Wastewater Treatment Plant
Marshall County

Your request for permit modification, submitted December 11, 2023, has been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is the draft modification of NPDES Permit No. IN0020427 which applies to the discharge from the Town of Bremen Wastewater Treatment Plant (WWTP). The enclosed Pages 1 through 5b, 26 of 53 are intended to replace the corresponding pages in the facility's current permit.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notices/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>.

Please review this document carefully and become familiar with the proposed terms and conditions. Comments concerning the draft permit should be submitted in accordance with the procedure outlined in the enclosed public notice form. If you have any questions concerning this modification, please contact Nicholas Eilerman at 317/232-8619 or neilerma@idem.IN.gov.

Sincerely,

Leigh Voss, Chief
Municipal NPDES Permits Section
Office of Water Quality

Enclosures

cc: Matthew Cunningham, Certified Operator

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Clean Water Act") or (CWA), and IDEM's authority under IC 13-5, the Indiana Department of Environmental Management (IDEM) is issuing this permit to the

TOWN OF BREMEN

hereinafter referred to as "the permittee." The permittee owns and/or operates the **Town of Bremen Wastewater Treatment Plant**, a major municipal wastewater treatment plant located at 561 N. Keyser Street, Bremen, Indiana, Marshall County. The permittee is hereby authorized to discharge from the outfalls identified in Part I of this permit to receiving waters named Yellow River to Kankakee River in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in the permit. The collection system still contains a low percentage of combined sewers, but overflow events have been effectively eliminated. IDEM does not consider Bremen to have any active CSO outfalls. Discharges from any portion of the POTW, other than the WWTP outfall (001) are prohibited at all times. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

The permit, as issued on May 12, 2023 is hereby amended as contained herein. The amended provisions shall become effective on _____. All terms and conditions of the permit not modified at this time remain in effect. Further, any existing condition or term affected by the modifications will remain in effect until the modified provisions become effective.

This permit and authorization to discharge, as amended, shall expire at midnight, June 30, 2028. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on _____ for the Indiana Department of Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

TREATMENT FACILITY DESCRIPTION

The permittee currently operates a Class III, 1.5 MGD treatment facility consisting of a fine screen, grit removal, an influent flow meter, three (3) primary settling tanks, two (2) biological oxidation towers, two (2) secondary clarifiers, a rock bed trickling filter for ammonia oxidation, a final clarifier, four (4) tertiary sand filters to enhance solids and phosphorus removal, chlorination/dichlorination facilities, a post-aeration tank, and an effluent flow meter. Sludge is treated by an aerobic digester followed by a sludge drying bed. Final sludge is hauled off-site and landfilled.

The permittee has received Construction Approval Number. 25195 for the replacement of the current plant with a new facility and will operate a Class III, 1.5 MGD treatment facility consisting of a mechanical screen, extended aeration, secondary clarification, UV disinfection, phosphorus removal, post-aeration and effluent flow meter. Sludge will be treated by aerobic digestion, with sludge conveyor and sludge drying bed. Final sludge is hauled off-site and landfilled.

The collection system is comprised of combined sanitary and storm sewers with no currently active Combined Sewer Overflow (CSO) locations. Attachment A of this permit prohibits any discharges from the combined sanitary and storm sewer system outside of the main treatment plant Outfall 001.

The mass limits for CBOD₅, TSS and ammonia-nitrogen have been calculated utilizing the peak design flow of 2.5 MGD during the interim and 5.0 MGD after the replacement facility is constructed. This is to facilitate the maximization of flow through the treatment facility in accordance with this Office's CSO policy.

PART I

A. INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.B of this permit for additional monitoring and reporting requirements.

1. Beginning on the effective date of this permit, the permittee is authorized to discharge from Outfall 001, which is located at Latitude: 41° 27' 10" N, Longitude: 86° 10' 28" W. The discharge is subject to the following requirements:

INTERIM TABLE 1 [12]

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [1]	Report	----	MGD	----	----	----	5 X Weekly	24-Hr. Total
CBOD ₅								
Summer [2]	209	313	lbs/day	10	15	mg/l	3 X Weekly	24-Hr. Comp.
Winter [3]	313	480	lbs/day	15	23	mg/l	3 X Weekly	24-Hr. Comp.
TSS								
Summer [2]	209	313	lbs/day	10	15	mg/l	3 X Weekly	24-Hr. Comp.
Winter [3]	626	939	lbs/day	30	45	mg/l	3 X Weekly	24-Hr. Comp.
Ammonia-nitrogen								
Summer [2]	65	98	lbs/day	3.1	4.7	mg/l	3 X Weekly	24-Hr. Comp.
Winter [3]	104	156	lbs/day	5.0	7.5	mg/l	3 X Weekly	24-Hr. Comp.
Total Phosphorus	Report	----	lbs/day	1.0	----	mg/l	3 X Weekly	24-Hr. Comp.
Nitrogen, Total (as N) [4]	Report	----	lbs/day	Report	----	mg/l	Monthly	24-Hr. Comp

INTERIM TABLE [2] [12]

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [5]	6.0	----	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [6]						
Summer [2]	7.0	----	----	mg/l	5 X Weekly	4 Grabs/24-Hrs.
Winter [3]	5.0	----	----	mg/l	5 X Weekly	4 Grabs/24-Hrs.
Total Residual Chlorine [7]						
Final effluent [8]	----	0.02	0.04	mg/l	5 X Weekly	Grab
<i>E.coli</i> [9]	----	125 [10]	235 [11]	cfu/ 100 ml	3 X Weekly	Grab

[1] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once every twelve months.

[2] Summer limitations apply from May 1 through November 20 of each year.

[3] Winter limitations apply from December 1 through April 30 of each year.

[4] Total Nitrogen shall be determined by testing Total Kjeldahl Nitrogen (TKN) and Nitrate +Nitrite and reporting the sum of the TKN and Nitrate + Nitrite results (reported as N). Nitrate + Nitrite can be analyzed together or separately. Monitoring for Total Nitrogen is required in the effluent only.

The following EPA methods are recommended for use in the analysis of TKN and Nitrate + Nitrite. Alternative approved 40 CFR 136 methods may be utilized.

<u>Parameter</u>	<u>Method</u>
TKN	350.1, 351.1, 351.2
Nitrate	300.0, 300.1, 352.1
Nitrite	300.1, 353.2
Nitrate + Nitrite	300.0, 300.1, 353.2

- [5] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Report of Operation forms.
- [6] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the four (4) daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals.
- [7] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (*E. coli*) do not occur from April 1 through October 31, annually. If the permittee uses chlorine for any reason, at any time including the period from November 1 through March 31, then the limits and monitoring requirements in Table 2 for Total Residual Chlorine (TRC) shall be in effect whenever chlorine is used.
- [8] In accordance with 327 IAC 5-2-11.1(f), compliance with this permit will be demonstrated if the measured effluent concentrations are less than the limit of quantitation (0.06 mg/l). If the measured effluent concentrations are above the water quality-based permit limitations and above the Limit of Detection (LOD) specified by the permit in any of three (3) consecutive analyses or any five (5) out of nine (9) analyses, the permittee is required to reevaluate its chlorination/dechlorination practices to make any necessary changes to assure compliance with the permit limitation for TRC. These records must be retained in accordance with the record retention requirements of Part I.B.8 of this permit.

Effluent concentrations greater than or equal to the LOD but less than the Limit of Quantitation (LOQ), shall be reported on the discharge monitoring report forms as the measured value. A note must be included with the DMR indicating that the value is not quantifiable. Effluent concentrations less than the limit of detection shall be reported on the discharge monitoring report forms as less than the value of the limit of detection. For example, if a substance is not detected at a concentration of 0.01 mg/l, report the value as < 0.01 mg/l. At present, two methods are considered to be acceptable to IDEM, amperometric and DPD colorimetric methods, for chlorine concentrations at the level of 0.06 mg/l.

Parameter	LOD	LOQ
Chlorine	0.02 mg/l	0.06 mg/l

Case-Specific MDL

The permittee may determine a case-specific Method Detection Level (MDL) using one of the analytical methods specified above, or any other test method which is approved by IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. Other methods may be used if first approved by the U.S. EPA and IDEM.

[9] The *Escherichia coli* (*E. coli*) limitations apply from April 1 through October 31 annually.

[10] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.

[11] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.

[12] Refer to the Notification Requirement in Part I.F. of the permit.

2. Minimum Narrative Limitations

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

- a. including waters within the mixing zone, to contain substances, materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:
 - (1) will settle to form putrescent or otherwise objectionable deposits;
 - (2) are in amounts sufficient to be unsightly or deleterious;
 - (3) produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

(4) are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

(5) are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

b. outside the mixing zone, to contain substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

3. Additional Discharge Limitations and Monitoring Requirements

Beginning on the effective date of the permit, the effluent from Outfall 001 shall be limited and monitored by the permittee as follows:

INTERIM TABLE 3 [1]

Parameter	Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Cadmium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [2]	----	Report	mg/l	Quarterly	Grab
Lead [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] Refer to the Notification Requirement in Part I.F. of the permit.

[2] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide. Concentrations less than the Limit of Quantitation (LOQ) shall be reported by the permittee on the discharge monitoring report forms as the actual measured value. Concentrations less than the Limit of Detection (LOD) shall be reported on the discharge monitoring report forms as less than the value of the limit of detection. For example, if a substance is not detected and the LOD is 0.1 mg/l, report the value as < 0.1 mg/l.

The following EPA test methods and/or Standard Methods and associated LODs and LOQs are recommended for use in the analysis of the effluent samples. Alternative 40 CFR 136 approved methods may be used provided the LOQ is less than the monthly average and/or daily maximum effluent limitations.

The permittee may determine a case-specific Method Detection Level (MDL) using one of the analytical methods specified below, or any other test method which is approved by IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. NOTE: The MDL for purposes of this document, is synonymous with the "limit of detection" or "LOD" as defined in 327 IAC 5-1.5-26: "the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix".

Parameter	EPA Method	LOD	LOQ
Cadmium	3113 B	0.1 µg/l	0.32 µg/l
Chromium	3111 C or 3113 B	2.0 µg/l	6.4 µg/l
Copper	3113 B	1.0 µg/l	3.2 µg/l
Cyanide, Available*	OIA-1677-09 (available)	0.5 µg/l	1.6 µg/l
Cyanide, Available*	Kelada-01 (available)	0.5 µg/l	1.6 µg/l
Lead	3113 B	1.0 µg/l	3.2 µg/l
Zinc	200.7, Revision 4.4 or 3120 B	2.0 µg/l	6.4 µg/l

*Free cyanide shall be reported as free cyanide but measured using one of the approved EPA test methods above for available cyanide.

4. Additional Monitoring Requirements

During the period beginning on the effective date of this permit, and lasting until thirty (30) days following completion of the proposed construction, the permittee shall conduct the following monitoring activities:

a. Influent Monitoring

In addition to the requirements contained in Part I.B.2 of the NPDES permit, the permittee shall monitor the influent to its wastewater treatment facility for the following pollutants. Samples shall be representative of the raw influent in accordance with 327 IAC 5-2-13(b).

INTERIM TABLE 4 [1]

Parameter	Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Cadmium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [2]	----	Report	mg/l	Quarterly	Grab
Lead [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] Refer to the Notification Requirement in Part I.F. of the permit.

[2] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide. Concentrations less than the Limit of Quantitation (LOQ) shall be reported by the permittee on the discharge monitoring report forms as the actual measured value. Concentrations less than the limit of detection shall be reported on the discharge monitoring report forms as less than the value of the Limit of Detection (LOD. For example, if a substance is not detected and the LOD is 0.1 mg/l, report the value as < 0.1 mg/l.

b. Priority Pollutants Monitoring

The permittee shall conduct an annual inventory of priority pollutants (see 40 CFR 423, Appendix A) and shall identify and quantify additional organic compounds which occur in the influent, effluent, and sludge. The analytical report shall be sent to the Pretreatment Group. This report is due in December of each year. The inventory shall consist of:

(1) Sampling and Analysis of Influent and Effluent

Sampling shall be conducted on a day when industrial discharges are occurring at normal or maximum levels. The samples shall be 24-hour flow proportional composites, except for volatile organics, which shall be taken by appropriate grab sampling techniques. Analysis for the U.S. EPA organic priority pollutants shall be performed using U.S. EPA methods 624, 625 and 608 in 40 CFR 136, or other equivalent methods approved by U.S. EPA. Equivalent methods must be at least as sensitive and specific as methods 624, 625 and 608.

All samples must be collected, preserved and stored in accordance with 40 CFR 136, Appendix A. Samples for volatile organics must be analyzed within 14 days of collection. Samples for semivolatile organics, PCBs and pesticides must be extracted within 7 days of collection and analyzed within 40 days of extraction. For composite samples, the collection date shall be the date at the end of the daily collection period.

(2) Sampling and Analysis of Sludge

Sampling collection, storage, and analysis shall conform to the U.S. EPA recommended procedures in accordance with 40 CFR 503. Special sampling and/or preservation techniques will be required for those pollutants which deteriorate rapidly.

Sludge samples for volatile organics must be analyzed within 14 days of collection. Sludge samples for semivolatile organics, PCBs and pesticides must be extracted within 14 days of collection and analyzed within 40 days of extraction.

(3) Additional Pollutant Identification

In addition to the priority organic pollutants, a reasonable attempt shall be made to identify and quantify the ten most abundant constituents of each fraction (excluding priority pollutants and unsubstituted aliphatic compounds) shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) more than ten times higher than the adjacent background noise. Identification shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate based upon comparison with an internal standard.

The annual pretreatment program report required by Part III.A.7. of this permit, should identify the additional steps necessary to determine whether the pollutants that are present interfere, pass through, or otherwise violate 40 CFR 403.2. Upon such determination, the report must also identify the steps taken to develop and enforce local limitations on industrial discharges for those pollutants. This is a requirement of 40 CFR 403.5.

B. FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee shall take samples and measurements at a location representative of each discharge to determine whether the effluent limitations have been met. Refer to Part I.C of this permit for additional monitoring and reporting requirements.

1. During the period beginning thirty (30) days following completion of the proposed construction activities, the permittee is authorized to discharge from Outfall 002, which is located at Latitude: 41° 27' 8" N, Longitude: 86° 10' 28" W. The discharge is subject to the following requirements:

FINAL TABLE 5 [1]

Parameter	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
	Monthly Average	Weekly Average	Units	Monthly Average	Weekly Average	Units	Measurement Frequency	Sample Type
Flow [2]	Report	----	MGD	----	----	----	5 X Weekly	24-Hr. Total
CBOD ₅	420	630	lbs/day	10	15	mg/l	3 X Weekly	24-Hr. Comp.
TSS	420	630	lbs/day	10	15	mg/l	3 X Weekly	24-Hr. Comp.
Ammonia-nitrogen								
Summer [3]	45	67	lbs/day	1.1	1.6	mg/l	3 X Weekly	24-Hr. Comp.
Winter [4]	67	100	lbs/day	1.6	2.4	mg/l	3 X Weekly	24-Hr. Comp.
Total Phosphorus	Report	----	lbs/day	1.0	----	mg/l	3 X Weekly	24-Hr. Comp.
Nitrogen, Total (as N) [5]	Report	----	lbs/day	Report	----	mg/l	Monthly	24-Hr. Comp

FINAL TABLE 6 [1]

Parameter	Quality or Concentration				Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
pH [6]	6.0	----	9.0	s.u.	5 X Weekly	Grab
Dissolved Oxygen [7]	6.0	----	----	mg/l	5 X Weekly	3 Grabs/24-Hrs.
<i>E. coli</i> [8]	----	125 [9]	235 [10]	cfu/100 ml	3 X Weekly	Grab

[1] Refer to the Notification Requirement in part I.F. of the permit.

[2] Effluent flow measurement is required per 327 IAC 5-2-13. The flow meter(s) shall be calibrated at least once every twelve months.

[3] Summer limitations apply from May 1 through November 20 of each year.

[4] Winter limitations apply from December 1 through April 30 of each year.

[5] Total Nitrogen shall be determined by testing Total Kjeldahl Nitrogen (TKN) and Nitrate + Nitrite and reporting the sum of the TKN and Nitrate + Nitrite results (reported as N). Nitrate + Nitrite can be analyzed together or separately. Monitoring for Total Nitrogen is required in the effluent only.

The following EPA methods are recommended for use in the analysis of TKN and Nitrate + Nitrite. Alternative approved 40 CFR 136 methods may be utilized.

<u>Parameter</u>	<u>Method</u>
TKN	350.1, 351.1, 351.2
Nitrate	300.0, 300.1, 352.1
Nitrite	300.1, 353.2
Nitrate + Nitrite	300.0, 300.1, 353.2

- [6] If the permittee collects more than one grab sample on a given day for pH the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Report of Operation forms.
- [7] The daily minimum concentration of dissolved oxygen in the effluent shall be reported as the arithmetic mean determined by summation of the four (4) daily grab sample results divided by the number of daily grab samples. These samples are to be collected over equal time intervals.
- [8] The effluent shall be disinfected on a continuous basis such that violations of the applicable bacteriological limitations (fecal coliform or *E. coli*) do not occur from April 1 through October 31, annually. The *Escherichia coli* (*E. coli*) limitations apply from April 1 through October 31 annually.
- [9] The monthly average *E. coli* value shall be calculated as a geometric mean. Per 327 IAC 5-10-6, the concentration of *E. coli* shall not exceed one hundred twenty-five (125) cfu or mpn per 100 milliliters as a geometric mean of the effluent samples taken in a calendar month. No samples may be excluded when calculating the monthly geometric mean.
- [10] If less than ten samples are taken and analyzed for *E. coli* in a calendar month, no samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. However, when ten (10) or more samples are taken and analyzed for *E. coli* in a calendar month, not more than ten percent (10%) of those samples may exceed two hundred thirty-five (235) cfu or mpn as a daily maximum. When calculating ten percent, the result must not be rounded up. In reporting for compliance purposes on the Discharge Monitoring Report (DMR) form, the permittee shall record the highest non-excluded value for the daily maximum.

2. Minimum Narrative Limitations

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

- a. including waters within the mixing zone, to contain substances, materials, floating debris, oil, scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that do any of the following:
 - (2) will settle to form putrescent or otherwise objectionable deposits;
 - (2) are in amounts sufficient to be unsightly or deleterious;

- (3) produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;
- (4) are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;
- (5) are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

b. outside the mixing zone, to contain substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

3. Additional Discharge Limitations and Monitoring Requirements

During the period beginning on the effective date of this permit, and lasting until thirty (3) days following completion of the proposed construction, the effluent from outfall 002 shall be limited and monitored by the permittee as follows:

FINAL TABLE 7 [1]

Parameter	Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Cadmium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [2]	----	Report	mg/l	Quarterly	Grab
Lead [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] Refer to the Notification Requirement in Part I.F. of the permit.

[2] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide. Concentrations less than the Limit of Quantitation (LOQ) shall be reported

by the permittee on the discharge monitoring report forms as the actual measured value. Concentrations less than the Limit of Detection (LOD) shall be reported on the discharge monitoring report forms as less than the value of the limit of detection. For example, if a substance is not detected and the LOD is 0.1 mg/l, report the value as < 0.1 mg/l.

The following EPA test methods and/or Standard Methods and associated LODs and LOQs are recommended for use in the analysis of the effluent samples. Alternative 40 CFR 136 approved methods may be used provided the LOD is less than the monthly average and/or daily maximum effluent limitations.

The permittee may determine a case-specific Method Detection Level (MDL) using one of the analytical methods specified below, or any other test method which is approved by IDEM prior to use. The MDL shall be derived by the procedure specified for MDLs contained in 40 CFR Part 136, Appendix B, and the limit of quantitation shall be set equal to 3.18 times the MDL. NOTE: The MDL for purposes of this document, is synonymous with the "limit of detection" or "LOD" as defined in 327 IAC 5-1.5-26: "the minimum concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix".

Parameter	EPA Method	LOD	LOQ
Cadmium	3113 B	0.1 µg/l	0.32 µg/l
Chromium	3111 C or 3113 B	2.0 µg/l	6.4 µg/l
Copper	3113 B	1.0 µg/l	3.2 µg/l
Cyanide, Available*	OIA-1677-09 (available)	0.5 µg/l	1.6 µg/l
Cyanide, Available*	Kelada-01 (available)	0.5 µg/l	1.6 µg/l
Lead	3113 B	1.0 µg/l	3.2 µg/l
Zinc	200.7, Revision 4.4 or 3120 B	2.0 µg/l	6.4 µg/l

*Free cyanide shall be reported as free cyanide but measured using one of the approved EPA test methods above for available cyanide.

4. Additional Monitoring Requirements

During the period beginning on the effective date of this permit, and lasting until thirty (30) days following completion of the proposed construction, the permittee shall conduct the following monitoring activities:

a. Influent Monitoring

In addition to the requirements contained in Part I.B.2 of the NPDES permit, the permittee shall monitor the influent to its wastewater treatment facility for

the following pollutants. Samples shall be representative of the raw influent in accordance with 327 IAC 5-2-13(b).

FINAL TABLE 8 [1]

Parameter	Quality or Concentration			Monitoring Requirements	
	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Cadmium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Chromium [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Copper [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Cyanide [2]	----	Report	mg/l	Quarterly	Grab
Lead [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.
Zinc [2]	----	Report	mg/l	Quarterly	24 Hr. Comp.

Note: For measurement frequencies less than once per month, the permittee shall report the result from the monitoring period on the Discharge Monitoring Report (DMR) for the final month of the reporting timeframe, beginning with January of each year. For example, for quarterly monitoring, the permittee may conduct sampling within the month of January, February or March. The result from this reporting timeframe shall be reported on the March DMR, regardless of which of the months within the quarter the sample was taken.

[1] Refer to the Notification Requirement in Part I.F. of the permit.

[2] The permittee shall measure and report this parameter as Total Recoverable Metal. Cyanide shall be reported as Free Cyanide. Concentrations less than the Limit of Quantitation (LOQ) shall be reported by the permittee on the discharge monitoring report forms as the actual measured value. Concentrations less than the limit of detection shall be reported on the discharge monitoring report forms as less than the value of the Limit of Detection (LOD. For example, if a substance is not detected and the LOD is 0.1 mg/l, report the value as < 0.1 mg/l.

b. Priority Pollutants Monitoring

The permittee shall conduct an annual inventory of priority pollutants (see 40 CFR 423, Appendix A) and shall identify and quantify additional organic compounds which occur in the influent, effluent, and sludge. The analytical report shall be sent to the Pretreatment Group. This report is due in December of each year. The inventory shall consist of:

(1) Sampling and Analysis of Influent and Effluent

Sampling shall be conducted on a day when industrial discharges are occurring at normal or maximum levels. The samples shall be 24-hour flow proportional composites, except for volatile organics, which shall be taken

by appropriate grab sampling techniques. Analysis for the U.S. EPA organic priority pollutants shall be performed using U.S. EPA methods 624, 625 and 608 in 40 CFR 136, or other equivalent methods approved by U.S. EPA. Equivalent methods must be at least as sensitive and specific as methods 624, 625 and 608.

All samples must be collected, preserved and stored in accordance with 40 CFR 136, Appendix A. Samples for volatile organics must be analyzed within 14 days of collection. Samples for semivolatile organics, PCBs and pesticides must be extracted within 7 days of collection and analyzed within 40 days of extraction. For composite samples, the collection date shall be the date at the end of the daily collection period.

(2) Sampling and Analysis of Sludge

Sampling collection, storage, and analysis shall conform to the U.S. EPA recommended procedures in accordance with 40 CFR 503. Special sampling and/or preservation techniques will be required for those pollutants which deteriorate rapidly.

Sludge samples for volatile organics must be analyzed within 14 days of collection. Sludge samples for semivolatile organics, PCBs and pesticides must be extracted within 14 days of collection and analyzed within 40 days of extraction.

(3) Additional Pollutant Identification

In addition to the priority organic pollutants, a reasonable attempt shall be made to identify and quantify the ten most abundant constituents of each fraction (excluding priority pollutants and unsubstituted aliphatic compounds) shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) more than ten times higher than the adjacent background noise. Identification shall be attempted through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be based on an order of magnitude estimate based upon comparison with an internal standard.

The annual pretreatment program report required by Part III.A.7. of this permit, should identify the additional steps necessary to determine whether the pollutants that are present interfere, pass through, or otherwise violate 40 CFR 403.2. Upon such determination, the report must also identify the steps taken to develop and enforce local limitations on industrial discharges for those pollutants. This is a requirement of 40 CFR 403.5.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge flow and shall be taken at times which reflect the full range and concentration of effluent parameters normally expected to be present. Samples shall not be taken at times to avoid showing elevated levels of any parameters.

2. Data on Plant Operation

The raw influent and the wastewater from intermediate unit treatment processes, as well as the final effluent shall be sampled and analyzed for the pollutants and operational parameters specified by the applicable Monthly Report of Operation Form, as appropriate, in accordance with 327 IAC 5-2-13. Except where the permit specifically states otherwise, the sample frequency for the raw influent and intermediate unit treatment process shall be at a minimum the same frequency as that for the final effluent. The measurement frequencies specified in each of the tables in Part I.A. are the minimum frequencies required by this permit.

3. Reporting per Monitoring Period

The permittee shall submit accurate monitoring reports to the Indiana Department of Environmental Management containing results obtained during each monitoring period and shall be submitted no later than the 28th day of the month following each completed monitoring period. Each monitoring period report shall be submitted no less than annually and no more than monthly, as per parameter measurement frequency listed. These reports shall include, but not necessarily be limited to, the Discharge Monitoring Report (DMR) and the Monthly Report of Operation (MRO). Permittees with metals monitoring requirements shall complete and submit the Indiana MRO Form (State Form 10829 MRO for the Activated Sludge Type WWTP – expanded version) to report their influent and/or effluent data for metals and other toxics. Permittees with combined sewer overflow discharges must also submit the CSO Monthly Report of Operation to IDEM by the 28th day of the month following each completed monitoring period. All reports shall be submitted electronically by using the NetDMR application, upon registration, receipt of the NetDMR Subscriber Agreement, and IDEM approval of the proposed NetDMR Signatory. Access the NetDMR website (for initial registration and DMR/MMR submittal) via CDX at: <https://cdx.epa.gov/>. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

A calendar week will begin on Sunday and end on Saturday. Partial weeks consisting of four or more days at the end of any month will include the remaining

days of the week, which occur in the following month in order to calculate a consecutive seven-day average. This value will be reported as a weekly average or seven-day average on the MRO for the month containing the partial week of four or more days. Partial calendar weeks consisting of less than four days at the end of any month will be carried forward to the succeeding month and reported as a weekly average or a seven-day average for the calendar week that ends with the first Saturday of that month.

4. Definitions

a. Calculation of Averages

Pursuant to 327 IAC 5-2-11(a)(5), the calculation of the average of discharge data shall be determined as follows: For all parameters except fecal coliform and *E. coli*, calculations that require averaging of sample analyses or measurements of daily discharges shall use an arithmetic mean unless otherwise specified in this permit. For fecal coliform, the monthly average discharge and weekly average discharge, as concentrations, shall be calculated as a geometric mean. For *E. coli*, the monthly average discharge, as a concentration, shall be calculated as a geometric mean.

b. Terms

- (1) "Monthly Average" -The monthly average discharge means the total mass or flow-weighted concentration of all daily discharges during a calendar month on which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar month. The monthly average discharge limitation is the highest allowable average monthly discharge for any calendar month.
- (2) "Weekly Average" - The weekly average discharge means the total mass or flow weighted concentration of all daily discharges during any calendar week for which daily discharges are sampled or measured, divided by the number of daily discharges sampled and/or measured during such calendar week. The average weekly discharge limitation is the maximum allowable average weekly discharge for any calendar week.
- (3) "Daily Maximum" - The daily maximum discharge limitation is the maximum allowable daily discharge for any calendar day. The "daily discharge" means the total mass of a pollutant discharged during the calendar day or, in the case of a pollutant limited in terms other than mass pursuant to 327 IAC 5-2-11(e), the average concentration or other measurement of the pollutant specified over the calendar day or any twenty-four hour period that represents the calendar day for purposes of sampling.

- (4) “24-hour Composite” - A 24-hour composite sample consists of at least four (4) individual flow-proportioned samples of wastewater, taken by the grab sample method over equal time intervals during the period of operator attendance or by an automatic sampler, and which are combined prior to analysis. A flow proportioned composite sample shall be obtained by:
- (a) recording the discharge flow rate at the time each individual sample is taken,
 - (b) adding together the discharge flow rates recorded from each individual sampling time to formulate the “total flow value,”
 - (c) dividing the discharge flow rate of each individual sampling time by the total flow value to determine its percentage of the total flow value, and
 - (d) multiplying the volume of the total composite sample by each individual sample’s percentage to determine the volume of that individual sample which will be included in the total composite sample.

Alternatively, a 24-hour composite sample may be obtained by an automatic sampler on an equal time interval basis over a twenty-four hour period provided that a minimum of 24 samples are taken and combined prior to analysis. The samples do not need to be flow-proportioned if the permittee collects samples in this manner.

- (5) CBOD₅: Five-day Carbonaceous Biochemical Oxygen Demand
- (6) TSS: Total Suspended Solids
- (7) *E. coli*: *Escherichia coli* bacteria
- (8) The “Regional Administrator” is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.
- (9) The “Commissioner” is defined as the Commissioner of the Indiana Department of Environmental Management, located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.
- (10) Limit of Detection or LOD is defined as a measurement of the concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the Method Detection Level or MDL.
- (11) Limit of Quantitation or LOQ is defined as a measurement of the concentration of a contaminant obtained by using a specified laboratory

procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also called the limit of quantification or quantification level.

- (12) Method Detection Level or MDL is defined as the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by the procedure set forth in 40 CFR Part 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

5. Test Procedures

The analytical and sampling methods used shall conform to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. Different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency. When more than one test procedure is approved for the purposes of the NPDES program under 40 CFR 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR 122.21(e)(3) and 122.44(i)(1)(iv).

6. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record and maintain records of all monitoring information on activities under this permit, including the following information:

- a. The exact place, date, and time of sampling or measurements;
- b. The person(s) who performed the sampling or measurements;
- c. The dates and times the analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of all required analyses and measurements.

7. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as

specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Discharge Monitoring Report and on the Monthly Report of Operation form. Such increased frequency shall also be indicated on these forms. Any such additional monitoring data which indicates a violation of a permit limitation shall be followed up by the permittee, whenever feasible, with a monitoring sample obtained and analyzed pursuant to approved analytical methods. The results of the follow-up sample shall be reported to the Commissioner in the Monthly Discharge Monitoring Report.

8. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three-year period shall be extended:

- a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or
- b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

To adequately assess the effects of the effluent on aquatic life, the permittee is required by this section of the permit to conduct chronic Whole Effluent Toxicity (WET) testing. Part I.D.1. of this permit describes the testing procedures and Part I.D.2. describes the Toxicity Reduction Evaluation (TRE) which is only required if the effluent demonstrates toxicity in two (2) consecutive toxicity tests as described in Part I.D.1.f.

1. Whole Effluent Toxicity (WET) Tests

The permittee must conduct the series of aquatic toxicity tests described below to monitor the acute and chronic toxicity of the effluent discharged from Outfall [#].

If toxicity is demonstrated in two (2) consecutive toxicity tests as described in Part I.D.1.f., with any test species during the term of the permit, the permittee is required to conduct a TRE under Part I.D.2.

- a. Toxicity Test Procedures and Data Analysis

- (1) All test organisms, test procedures, and quality assurance criteria used must be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method 1000.0, and Section 13, Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0, EPA 821-R-02-013, October 2002 (hereinafter “Chronic Toxicity Test Method”), or most recent update that conforms to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. References to specific portions of the Chronic Toxicity Test Method contained in this Part I.D. are provided for informational purposes. If the Chronic Toxicity Test Method is updated, the corresponding provisions of that updated method would be applicable.
 - (2) Any circumstances not covered by the above methods, or that require deviation from the specified methods must first be approved by the IDEM Permits Branch.
 - (3) The determination of acute and chronic endpoints of toxicity (LC₅₀), NOEC, and IC₂₅ values) must be made in accordance with the procedures in Section 9, “Chronic Toxicity Test Endpoints and Data Analysis” and the Data Analysis procedures as outlined in Section 11 for fathead minnow (Test Method 1000.0; see flowcharts in Figures 5, 6, and 9) and Section 13 for *Ceriodaphnia dubia* (Test Method 1002.0; see flowcharts in Figures 4 and 6) of the Chronic Toxicity Test Method. The IC₂₅ value together with 95% confidence intervals calculated by the Linear Interpolation and Bootstrap Methods in Appendix M of the Chronic Toxicity Test Method must be determined in addition to the NOEC value.
- b. Types of Whole Effluent Toxicity Tests
- (1) The permittee must conduct a 3-brood (7-day) definitive static-renewal daphnid (*Ceriodaphnia dubia*) survival and reproduction toxicity test and a 7-day definitive static-renewal fathead minnow (*Pimephales promelas*) larval survival and growth toxicity test.
 - (2) All tests must be conducted using 24-hour composite samples of final effluent. Three effluent samples are to be collected on alternate days (e.g. collected on days one, three, and five). The first effluent sample will be used for test initiation and for test solution renewal on day 2. The second effluent sample will be used for test solution renewal on days 3 and 4. The third effluent sample will be used for test solution renewal on days 5, 6, and 7. If shipping problems are encountered with renewal samples after a test has been initiated, the most recently used sample may

continue to be used for test renewal, if first approved by the IDEM Permits Branch, but for no longer than 72 hours after first use.

- (3) The whole effluent dilution series for the definitive test must include a control and at least five effluent concentrations with a minimum dilution factor of 0.5. The effluent concentrations selected must include and, if practicable, bracket the effluent concentrations associated with the determinations of acute and chronic toxicity provided in Part I.D.1.f. Guidance on selecting effluent test concentrations is included in Section 8.10 of the Chronic Toxicity Test Method. The use of an alternate procedure for selecting test concentrations must first be approved by the IDEM Permits Branch.
 - (4) If, in any control, more than 10% of the test organisms die in the first 48 hours with a daphnid species or the first 96 hours with a fathead minnow, or more than 20% of the test organisms in 7 days, that test is considered invalid and the toxicity tests must be repeated. In addition, if in the *Ceriodaphnia dubia* survival and reproduction test, the average number of young produced per surviving female in the control group is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow (*Pimephales promelas*) survival and growth test, if the mean dry weight of surviving fish in the control group is less than 0.25 mg, that test is considered invalid and must also be repeated. All other test conditions and test acceptability criteria for the fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* chronic toxicity tests must be in accordance with the test requirements in Section 11 (Test Method 1000.0), Table 1 and Section 13 (Test Method 1002.0), Table 3, respectively, of the Chronic Toxicity Test Method.
- c. Effluent Sample Collection and Chemical Analysis

- (1) Whole effluent samples taken for the purposes of toxicity testing must be 24-hour composite samples collected at a point that is representative of the final effluent, but prior to discharge. Effluent sampling for the toxicity testing may be coordinated with other permit sampling requirements as appropriate to avoid duplication. First use of the whole effluent toxicity testing samples must not exceed 36 hours after termination of the 24-hour composite sample collection and must not be used for longer than 72 hours after first use.
- (2) Chemical analysis must accompany each effluent sample taken for toxicity testing, including each sample taken for the repeat testing as outlined in Part I.D.1.f.3. The chemical analysis detailed in Part I.A.1. and Part I.A.2.

must be conducted for the effluent sample in accordance with Part I.B.5. of this permit.

d. Toxicity Testing Frequency and duration

The toxicity tests specified in Part I.D.1.b. must be conducted once **every six (6) months**, as calculated from the effective date of the permit, for the duration of the permit.

If a TRE is initiated during the term of the permit, after receiving notification under Part I.D.1.e., the Compliance Data Section will suspend the toxicity testing requirements above for the term of the TRE compliance schedule described in Part I.D.2. After successful completion of the TRE, the toxicity tests specified in Part I.D.1.b must be conducted once **every six (6) months**, as calculated from the first day of the first month following successful completion of the post-TRE toxicity tests (see Part I.D.2.c(4.)) for the remainder of the permit term.

e. Reporting

- (1) Notifications of the failure of two (2) consecutive toxicity tests and the intent to begin the implementation of a TRE under Part I.D.1.f.(4) must be submitted in writing to the Compliance Data Section of IDEM's Office of Water Quality.
- (2) Results of all toxicity tests, including invalid tests, must be reported to IDEM according to the general format and content recommended in the Chronic Toxicity Test Method, Section 10, "Report Preparation and Test Review". However, only the results of valid toxicity tests are to be reported on the discharge monitoring report (DMR). The results of the toxicity tests and laboratory report are due by the earlier of 60 days after completion of the test or the 28th day of the month following the end of the period established in Part I.D.1.d.
- (3) The full WET test laboratory report must be submitted to IDEM electronically as an attachment to an e-mail to the Compliance Data Section at wwreports@idem.IN.gov. The results must also be submitted via NetDMR.
- (4) For quality control and ongoing laboratory performance, the laboratory report must include results from appropriate standard reference toxicant tests. This will consist of acute (LC₅₀ values), if applicable and chronic (NOEC, LOEC, and IC₂₅ values) endpoints of toxicity obtained from

reference toxicant tests conducted within 30 days of the most current effluent toxicity tests and from similarly obtained historical reference toxicant data with mean values and appropriate ranges for each species tested for at least three months to one year. Toxicity test reports must also include copies of chain-of-custody records and laboratory raw data sheets.

- (5) Statistical procedures used to analyze and interpret toxicity data (e.g. Fisher's Exact Test and Steel's Many-one Rank Test for 7-day survival of test organisms; tests of normality (e.g., Shapiro Wilk's Test) and homogeneity of variance (e.g., Bartlett's Test); appropriate parametric (e.g. Dunnett's Test) and non-parametric (e.g. Steel's Many-one Rank Test) significance tests and point estimates (IC_{25}) of effluent toxicity, etc.; together with graphical presentation of survival, growth, and reproduction of test organisms), including critical values, levels of significance, and 95% confidence intervals, must be described and included as part of the toxicity test laboratory report.
- (6) For valid toxicity tests, the WET test laboratory report must include a summary table of the results for each species tested, as shown in the table presented below. This table will provide toxicity test results, reported in acute toxic units (TU_a) and chronic toxic units (TU_c) for evaluation under Part I.D.1.f. and reporting on the DMR.

Test Organism [1]	Test Type	Endpoint [2]	Units	Result	Compliance Limit [6]	Pass/Fail [7]	Reporting
<i>Ceriodaphnia dubia</i>	3-brood (7-day) Definitive Static-Renewal Survival and Reproduction	48-hr. LC ₅₀	%	Report			Laboratory Report
			TU _a	Report			
		NOEC Survival	%	Report			
			TU _c	Report			
		NOEC Reproduction	%	Report			
			TU _c	Report			
	IC ₂₅ Reproduction	%	Report				
		TU _c	Report				
	Toxicity (acute) [3]	TU _a	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61425)	
	Toxicity (chronic) [4]	TU _c	Report [5]	1.6	Report	Laboratory Report and NetDMR (Parameter Code 61426)	
<i>Pimephales promelas</i>	7-day Definitive Static-Renewal Larval Survival and Growth	96-hr. LC ₅₀	%	Report			Laboratory Report
			TU _a	Report			
		NOEC Survival	%	Report			
			TU _c	Report			
		NOEC Growth	%	Report			
			TU _c	Report			
	IC ₂₅ Growth	%	Report				
		TU _c	Report				
	Toxicity (acute) [3]	TU _a	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61427)	
	Toxicity (chronic) [4]	TU _c	Report [5]	1.6	Report	Laboratory Report and NetDMR (Parameter Code 61428)	

[1] For the WET test laboratory report, eliminate from the table any species that was not tested.

- [2] A separate acute test is not required. The endpoint of acute toxicity must be extrapolated from the chronic toxicity test.
- [3] The toxicity (acute) endpoint for *Ceriodaphnia dubia* is the 48-hr. LC₅₀ results reported in acute toxic units (TU_a). The toxicity (acute) endpoint for *Pimephales promelas* is the 96-hr. LC₅₀ result reported in acute toxic units (TU_a).
- [4] The toxicity (chronic) endpoint for *Ceriodaphnia dubia* is the higher of the NOEC Survival, NOEC Reproduction, and IC₂₅ Reproduction values reported in chronic toxic units (TU_c).
- [5] Report the values for acute and chronic endpoints of toxicity determined in [3] and [4] for the corresponding species. These values are the ones that need to be reported on the DMR.
- [6] These values do not represent effluent limitations, but rather exceedance of these values results in a demonstration of toxicity that triggers additional action and reporting by the permittee.
- [7] If the toxicity result (in TU_s) is less than or equal to the compliance limit, report "Pass". If the toxicity result (in TU_s) exceeds the compliance limit, report "Fail".

f. Demonstration of Toxicity

- (1) Toxicity (acute) will be demonstrated if the effluent is observed to have exceeded **1.0** TU_a (acute toxic units) for *Ceriodaphnia dubia* in 48 hours or in 96 hours for *Pimephales promelas*. For this purpose, a separate acute toxicity test is not required. The results for the acute toxicity demonstration must be extrapolated from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.D.1.b.2., the effluent concentration associated with acute toxicity is 100%.
- (2) Toxicity (chronic) will be demonstrated if the effluent is observed to have exceeded **1.6** TU_c (chronic toxic units) for *Ceriodaphnia* or *Pimephales promelas* from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.D.1.b.2., the effluent concentration associated with chronic toxicity is 62.5%.

- (3) If toxicity (acute) or toxicity (chronic) is demonstrated in any of the chronic toxicity tests specified above, a repeat chronic toxicity test using the procedures in Part I.D.1. of this permit and the same test species must be initiated within two (2) weeks of test failure. During the sampling for any repeat tests, the permittee must also collect and preserve sufficient effluent samples for use in any Toxicity Identification Evaluation (TIE) and/or TRE, if necessary.
- (4) If any two (2) consecutive chronic toxicity tests, including any and all repeat tests, demonstrate acute or chronic of toxicity, the permittee must notify the Compliance Data Section under Part I.D.1.e. within 30 days of the termination of the second test, and begin the implementation of TRE as described in Part I.D.2. After receiving notification from the permittee, The Compliance Data Section will suspend the whole effluent toxicity testing requirements in Part I.D.1. for the term of the TRE compliance schedule.

g. Definitions

- (1) "Acute toxic unit" or "TU_a" is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organism.
- (2) "Chronic toxic unit" or "TU_c" is defined as $100/NOEC$ or $100/IC_{25}$, where the $NOEC$ or IC_{25} are expressed as a percent effluent in the test medium.
- (3) "Inhibition concentration 25" or "IC₂₅" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.
- (4) "No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant (effluent) in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule

The development and implementation of a TRE is only required if toxicity is demonstrated in two (2) consecutive tests as described in Part I.D.1.f.(4). The post-TRE toxicity testing requirements in Part I.D.2.c. must also be completed as part of the TRE compliance schedule.

Milestone Dates: See a. through e. below for more detail on the TRE milestone dates.

Requirement	Deadline
Development and Submittal of a TRE Plan	Within 90 days of the date of two (2) consecutive failed toxicity tests.
Initiate a TRE Study	Within 30 days of TRE Plan submittal
Submit TRE Progress Reports	Every 90 days beginning six (6) months from the date of two (2) consecutive failed toxicity tests.
Post-TRE Toxicity Testing Requirements	Immediately upon completion of the TRE, conduct three (3) consecutive months of toxicity tests with both test species; if no acute or chronic toxicity is shown with any test species, reduce toxicity tests to once every six (6) months for the remainder of the permit term. If post-TRE toxicity testing demonstrates toxicity, continue the TRE study.
Submit Final TRE Report	Within 90 days of successfully completing the TRE (including the post-TRE toxicity testing requirements), not to exceed three (3) years from the date that toxicity is initially demonstrated in (two (2) consecutive toxicity tests).

a. Development of TRE Plan

Within 90 days of the date of two (2) consecutive failed toxicity tests (i.e. the date of termination of the second test), the permittee must submit plans for an effluent TRE to the Compliance Data Section. The TRE plan must include appropriate measures to characterize the causative toxicants and reduce toxicity in the effluent discharge to levels that demonstrate no toxicity with any test species as described in Part I.D.1.f. Guidance on conducting effluent

toxicity reduction evaluations is available from EPA and from the EPA publications listed below:

(1) Method for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characterization Procedures, Second Edition (EPA/600/6-91/003), February 1991.

Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081), September 1993.

(2) Toxicity Identification Evaluation: Characterization of chronically Toxic Effluents, Phase I (EPA/600/6-91/005F), May 1992.

(3) Toxicity Reduction evaluation Guidance for Municipal Wastewater Treatment Plants (EPA/833B-99-002), August 1999.

(4) Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program, U.S. EPA, March 27, 2001.

b. Conduct the TRE

Within 30 days after submittal of the TRE plan to the Compliance Data Section, the permittee must initiate the TRE consistent with the TRE plan.

c. Post-TRE Toxicity Testing Requirements

(1) After completing the TRE, the permittee must conduct monthly post-TRE toxicity tests with the two (2) test species *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) for a period of three (3) consecutive months.

(2) If the three (3) monthly tests demonstrate no toxicity with any test species as described in Part I.D.1.f., the TRE will be considered successful. Otherwise, the TRE study must be continued.

- (3) The post-TRE toxicity tests must be conducted in accordance with the procedures in Part I.D.1. The results of these tests must be submitted as part of the final TRE Report required under Part I.D.2.d.
- (4) After successful completion of the TRE, the permittee must resume the chronic toxicity tests required in Part I.D.1. The established starting date for the frequency in Part I.D.1.d. is the first day of the first month following successful completion of the post-TRE toxicity tests.

d. Reporting

- (1) Progress reports must be submitted every 90 days to the Compliance Data Section beginning six (6) months from the date of two (2) consecutive failed toxicity tests. Each TRE progress report must include a listing of proposed activities for the next quarter and a schedule to reduce toxicity in the effluent discharge to acceptable levels through control of the toxicant source or treatment of whole effluent.
- (2) Within 90 days of successfully completing the TRE, including the three (3) consecutive monthly tests required as part of the post-TRE toxicity testing requirements under Part I.D.2.c., the permittee must submit to the Compliance Data Section a final TRE Report that includes a discussion of the TRE results, along with the starting date established under Part I.D.2.c.(4). for the continuation of the toxicity testing required in Part I.D.1.

e. Compliance Date

The permittee must complete items a., b., c., and d. from Part I.D.2. and reduce toxicity in the effluent discharge to acceptable levels as soon as possible, but no later than three (3) years from the date that toxicity is initially demonstrated in two (2) consecutive toxicity tests (i.e. the date of the termination of the second test) as described in Part I.D.1.f.4.

E. REOPENING CLAUSES

In addition to the reopening clause provisions cited at 327 IAC 5-2-16, the following reopening clauses are incorporated into this permit:

1. This permit may be modified or, alternately, revoked and reissued after public notice and opportunity for hearing to incorporate effluent limitations reflecting the results of a wasteload allocation if the Department of Environmental Management determines that such effluent limitations are needed to assure that State Water Quality Standards are met in the receiving stream.
2. This permit may be modified due to a change in sludge disposal standards pursuant to Section 405(d) of the Clean Water Act, if the standards when promulgated contain different conditions, are otherwise more stringent, or control pollutants not addressed by this permit.
3. This permit may be modified, or, alternately, revoked and reissued, to comply with any applicable effluent limitation or standard issued or approved under section 301(b)(2)(C), (D) and (E), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. controls any pollutant not limited in the permit.
4. This permit may be modified or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate monitoring requirements and effluent limitations for cadmium, chromium, copper, cyanide, lead, and/or zinc if the Department of Environmental Management determines that such monitoring requirements and effluent limitations are needed to assure that State Water Quality standards are met in the receiving streams.
5. This permit may be modified, or alternately, revoked and reissued after public notice and opportunity for hearing to include Whole Effluent Toxicity (WET) limitations or to include limitations for specific toxicants if the results of the WET testing and/or the Toxicity Reduction Evaluation (TRE) study indicate that such limitations are necessary.
6. This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing, to include a case-specific Method Detection Level (MDL). The permittee must demonstrate that such action is warranted in accordance with the procedure specified under Appendix B, 40 CFR Part 136, or approved by the Indiana Department of Environmental Management.
7. This permit may be modified or, alternatively, revoked and reissued after public notice and opportunity for hearing to incorporate additional requirements or limitations for specific toxicants if the required additional analyses in Part I.A. indicate that such additional requirements and/or limitations are necessary to assure that State Water Quality Standards are met in the receiving stream.

F. NOTIFICATION REQUIREMENT

The permittee is proposing to replace the existing facility from a Class III, 1.5 MGD facility to a Class III, 1.5 MGD facility with increased peak flow to 5.0 MGD. The permittee received Construction Approval No. 25195 for the aforementioned construction activities on October 30, 2023. The permittee shall submit a written notice to the Compliance Data Section of the Office of Water Quality at 100 N. Senate Avenue, Indianapolis, IN 46204-2251 which specifies the expected facility construction completion date. This notice shall be submitted a minimum of thirty (30) days prior to completion of facility construction. Any deviation from the completion date specified in this notice will require a revised notice to be submitted to the same office. Notification of the facility construction completion date is necessary to ensure that the final effluent limitations contained in this permit become effective at the correct time.



**National Pollutant Discharge Elimination System
Briefing Memo for
Town of Bremen Wastewater Treatment Plant
Draft: February 2024
Final: TBD**

Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Permittee:	William Daily, Council President Town of Bremen 311 S. Shumaker St. Bremen, IN 46506 Bdaily46506@yahoo.com , 574-546-2044
Existing Permit Information:	Permit Number: IN0020427 Expiration Date: June 30, 2028
Facility Contact:	Matthew Cunningham, Superintendent wastewater@townofbremen.org , 574/546-3829
Facility Location:	561 Keyser St. Bremen, IN 46506 Marshall County
Receiving Stream:	Yellow River to the Kankakee River
Non-GLI	Non-GLI
Proposed Permit Action:	Modification
Date Application Received:	December 8, 2023
Facility Category:	NPDES Major Municipal
Permit Writer:	Nicholas Eilerman, Senior Environmental Manager neilerma@idem.in.gov , 317/232-8619

