National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit to Discharge to Waters of the State of Ohio
for **Portage County Streetsboro-Hudson Regional Wastewater Treatment Plant (WWTP)**

Public Notice No.: 219007
Public Notice Date: February 19, 2026
Comment Period Ends: March 21, 2026

Ohio EPA Permit No.: **3PK00014*JD**
Application No.: **OH0090131**

Name and Address of Applicant:

Portage County Water Resources Dept.
8116 Infirmary Road
Ravenna, Ohio 44266

Name and Address of Facility Where Discharge Occurs:

Streetsboro-Hudson Regional WWTP
9501 Jefferson Street
Streetsboro, Ohio 44241
Portage County

Receiving Water: **Tinkers Creek**

Subsequent Stream Network: **Cuyahoga River to Lake Erie**

INTRODUCTION

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations (CFR), Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency (Ohio EPA), as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act (CWA) and Ohio Water Pollution Control Law (Ohio Revised Code [ORC] 6111). Decisions to award variances to Water Quality Standards (WQS) or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Antidegradation provisions in Ohio Administrative Code (OAC) Chapter 3745-1 describe the conditions under which water quality may be lowered in surface waters. No antidegradation review was necessary.

Effluent limits based on available treatment technologies are required by Section 301(b) of the CWA. Many of these have already been established by the United States Environmental Protection Agency (U.S. EPA) in the effluent guideline regulations (a.k.a. categorical regulations) for industry categories in 40 CFR Parts 405-499. Technology-based regulations for publicly-owned treatment works are listed in the Secondary Treatment Regulations (40 CFR Part 133). If regulations have not been established for a category of dischargers, the director may establish technology-based limits based on best professional judgment (BPJ).

Ohio EPA reviews the need for water-quality-based limits on a pollutant-by-pollutant basis. Wasteload allocations (WLAs) are used to develop these limits based on the pollutants that have been detected in the discharge, and the receiving water's assimilative capacity. The assimilative capacity depends on the flow in the water receiving the discharge, and the concentration of the pollutant upstream. The greater the upstream flow, and the lower the upstream concentration, the greater the assimilative capacity is. Assimilative capacity may represent dilution (as in allocations for metals), or it may also incorporate the break-down of pollutants in the receiving water (as in allocations for oxygen-demanding materials).

The need for water-quality-based limits is determined by comparing the WLA for a pollutant to a measure of the effluent quality. The measure of effluent quality is called Projected Effluent Quality (PEQ). This is a statistical measure of the average and maximum effluent values for a pollutant. As with any statistical method, the more data that exists for a given pollutant, the more likely that PEQ will match the actual observed data. If there is a small data set for a given pollutant, the highest measured value is multiplied by a statistical factor to obtain a PEQ; for example if only one sample exists, the factor is 6.2, for two samples - 3.8, for three samples - 3.0. The factors continue to decline as samples sizes increase. These factors are intended to account for effluent variability, but if the pollutant concentrations are fairly constant, these factors may make PEQ appear larger than it would be shown to be if more sample results existed.

SUMMARY OF PERMIT CONDITIONS

The effluent limits and/or monitoring requirements proposed for all parameters are the same as in the current permit, except those listed below.

New effluent limits and increased monitoring are recommended for free cyanide due to the reasonable potential to exceed water quality criteria. A 36-month compliance schedule is recommended in Part I.C of the permit to meet the new limits.

Limits are recommended to be removed for mercury because of a lack of reasonable potential to exceed water quality standards. Monitoring is recommended to continue at a frequency of once per month. A tracking condition is included in Part II of the permit.

Based on reasonable potential, monitoring for copper is recommended to increase to once a month.

The previous weekly total filterable residue concentration limitation of 1529 mg/L has been revised to a monthly discharge limitation, with a corresponding loading limitation based on the design flow. Additionally, final compliance reporting and pollutant minimization program requirements are included in Part I, C and Part II, respectively.

Whole effluent toxicity (WET) limits for *Ceriodaphnia dubia* are recommended to be removed. Annual chronic toxicity monitoring, with the determination of acute endpoints, is recommended.

Monthly monitoring for total cyanide at influent station 601 is recommended to adequately document the treatment of cyanide within the facility.

Monitoring for copper at the influent is recommended to be increased to once a month to align with effluent monitoring.

In Part II of the permit, special conditions are included that address sanitary sewer overflow reporting; operator certification, minimum staffing and operator of record; whole effluent toxicity testing; tracking of group four parameters; pretreatment program requirements; TMDL implementation; evaluation of reducing discharge of phosphorus; method detection limits; total filterable residue priority pollutant minimization; and outfall signage.

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PROCEDURES FOR PARTICIPATION IN THE FORMULATION OF FINAL DETERMINATIONS

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be emailed to HClerk@epa.ohio.gov or mailed to:

Legal Records Section
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, Ohio 43216-1049

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted by email to epa.dswcomments@epa.ohio.gov (preferred method) or delivered in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049

The Ohio EPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. The first 250 pages copied are free. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

For additional information about this fact sheet or the draft permit, contact Sabrina Swayne, 614-644-2026, Sabrina.Swayne@epa.ohio.gov.

INFORMATION REGARDING CERTAIN WATER QUALITY BASED EFFLUENT LIMITS

This draft permit may contain proposed water-quality-based effluent limits (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: https://epa.ohio.gov/static/Portals/35/pretreatment/Pretreatment_Program_Priority_Pollutant_Detection_Limits.pdf.) In accordance with ORC 6111.03(J)(3), the Director established these WQBELs after considering, to the extent consistent with the Federal Water Pollution Control Act, evidence relating to the technical feasibility and economic reasonableness of removing the polluting properties from those wastes and to evidence relating to conditions calculated to result from that action and their relation to benefits to the people of the state and to

accomplishment of the purposes of this chapter. This determination was made based on data and information available at the time the permit was drafted, which included the contents of the timely submitted NPDES permit renewal application, along with any and all pertinent information available to the Director.

This public notice allows the permittee to provide to the Director for consideration during this public comment period additional site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness for achieving compliance with the proposed final effluent limitations for these parameters. The permittee shall email to epa.dswcomments@epa.ohio.gov (preferred method) or deliver or mail this information to:

Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits Processing Unit
P.O. Box 1049
Columbus, Ohio 43216-1049

Should the applicant need additional time to review, obtain or develop site-specific pertinent and factual information with respect to the technical feasibility and economic reasonableness of achieving compliance with these limitations, a written request for any additional time shall be sent to the above address no later than 30 days after the Public Notice Date on Page 1.

Should the applicant determine that compliance with the proposed WQBELs for parameters other than the priority pollutants is technically and/or economically unattainable, the permittee may submit an application for a variance to the applicable WQS used to develop the proposed effluent limitation in accordance with the terms and conditions set forth in OAC 3745-33-07(D). The permittee shall submit this application to the above address no later than 30 days after the Public Notice Date.

Alternately, the applicant may propose the development of site-specific WQS pursuant to OAC 3745-1-39. The permittee shall submit written notification regarding their intent to develop site specific WQS for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

LOCATION OF DISCHARGE/RECEIVING WATER USE CLASSIFICATION

The Portage County Streetsboro-Hudson Regional Wastewater Treatment Plant ("Streetsboro-Hudson WWTP") discharges to Tinkers Creek at River Mile (RM) 26.2. Figure 1 shows the approximate location of the facility.

This segment of Tinkers Creek is described by Ohio EPA River Code: 19-007, 12-digit Watershed Assessment Unit (WAU) Code: 04110002-05-02, County: Portage, Ecoregion: Erie/Ontario Drift and Lake Plains. Tinkers Creek is designated for the following uses under Ohio's WQS (OAC 3745-1-26): Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, and Primary Contact Recreation.

Use designations define the goals and expectations of a waterbody. These goals are set for aquatic life protection, recreation use, and water supply use, and are defined in the Ohio WQS (OAC 3745-1-07). The use designations for individual waterbodies are listed in rules -08 through -32 of the Ohio WQS. Once the goals are set, numeric WQS are developed to protect these uses. Different uses have different water quality criteria.

Use designations for aquatic life protection include habitats for coldwater fish and macroinvertebrates, warmwater aquatic life and waters with exceptional communities of warmwater organisms. These uses all meet the goals of the federal CWA. Ohio WQS also include aquatic life use designations for waterbodies which cannot meet the CWA goals because of human-caused conditions that cannot be remedied without causing fundamental changes to land use and widespread economic impact. The dredging and clearing of some small streams to support agricultural or urban drainage is the most common of these conditions. These streams are given Modified Warmwater or Limited Resource Water designations.

Recreation uses are defined by the depth of the waterbody and the potential for wading or swimming. Uses are defined for bathing waters, swimming/canoeing (Primary Contact Recreation) and wading only (Secondary Contact which are generally waters too shallow for swimming or canoeing).

Water supply uses are defined by the actual or potential use of the waterbody. Public Water Supply designations apply near existing water intakes so that waters are safe to drink with standard treatment. Most other waters are designated for agricultural water supply and industrial water supply.

FACILITY DESCRIPTION

The Streetsboro-Hudson WWTP was constructed in 1985 and last upgraded in 2014. The average design flow is 4.0 million gallons per day (MGD) and the peak hydraulic capacity is 10.0 MGD. The advanced wastewater treatment facility serves a population of approximately 27,260 people in the City of Streetsboro and parts of the City of Hudson, Twinsburg Township, Freedom Township, and Shalersville Township. Streetsboro has 100% separate sewers in the collection system.

The plant has the following treatment processes and/or equipment (See Figure 2):

- Influent pumping
- Mechanical bar screening
- Grit and scum removal
- Influent flow monitoring
- Contact stabilization activated sludge biological treatment
- Biological nitrification towers
- Ferric-chloride addition (for phosphorus removal)
- Secondary clarification
- Tertiary rapid sand filtration

- Ultraviolet (UV) disinfection
- Post aeration
- Effluent flow monitoring

Portage County is in the process of working with Ohio EPA's Division of Environmental and Financial Assistance (DEFA) to procure funding for improvements to the plant's headworks and tertiary filtration. Current project estimates have May 2026 as the intended beginning of construction.

A bypass is a diversion of a waste stream from any portion of the treatment facility. Bypasses are prohibited except in very rare circumstances. As depicted in Figure 2, a number of locations exist where flows can be diverted and/or bypassed around various treatment processes: secondary bypass after the bar screens (Internal Monitoring Station 3PK00014602), tertiary bypass after the secondary clarifiers (Internal Monitoring Station 3PD00014603). The internal plant bypasses recombine with the fully-treated tertiary effluent, prior to UV disinfection and the final effluent composite sampler, at Outfall 3PK00014001. No bypasses were reported at Monitoring Station 602 during the review period. There were 49 bypass occurrences reported at Monitoring Station 603, totaling 10.6 million gallons of wastewater that did not receive tertiary treatment before final discharge.

Portage County currently implements an Ohio EPA-approved pretreatment program with three industrial categorical users who contribute 0.877 MGD. Potable water for this portion of the county is provided by groundwater wells belonging to the City of Hudson, the Shalersville Water Treatment Plant, and private, residential well-owners.

Streetsboro-Hudson WWTP utilizes the following sewage sludge treatment processes (See Figure 3):

- Aerobic digestion
- Mechanical dewatering via filter press
- Mechanical dewatering via centrifuge
- Polymer, lime, and ferric-chloride alum addition
- Heat treatment

Table 1 shows the last five years of sludge removed from Streetsboro-Hudson WWTP. The facility primarily disposes of sludge via municipal landfill but also has the option to treat sludge for land application or have it hauled for treatment/disposal at another NPDES permitted facility.

DESCRIPTION OF EXISTING DISCHARGE

Table 2 presents the effluent violations for Streetsboro-Hudson WWTP during the previous five years. Reported pH violations in December 2020 were attributed to performance/calibration issues of the pH probe. After the probe was properly cleaned and calibrated, all readings were within acceptable limits.

Table 3 presents the annual effluent flow rates for Streetsboro-Hudson WWTP for the previous five years.

Table 4 presents the number of collection system sanitary sewer overflows (SSOs) reported by Streetsboro-Hudson WWTP for the previous five years reported at Station 3PK00014300. Six SSOs were reported in 2020 due to various extreme weather events and a leak in the sewer force main. The leak was addressed and SSO events have reduced significantly. Portage County Water Resources developed a Capital Improvement Plan that has allocated $2 million for treatment improvements of Streetsboro's aging collection system from 2027 to 2030.

Table 5 presents data characterizing the annual total phosphorus load from Streetsboro-Hudson WWTP during the previous five years. The current phosphorus effluent limits in place for Streetsboro are part of a phased plan to reach phosphorus levels presented in the Lower Cuyahoga TMDL.
Table 6 presents chemical specific data compiled from data reported in annual pretreatment reports. Because this data is substantially identical to the application requirements in CFR 122.21(j), the Director has waived the requirement for submittal of supplemental effluent testing data as part of the NPDES renewal application.

Table 7 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period December 2019 to November 2024; the current permit limits are provided for comparison.

Table 8 summarizes the chemical specific data for Outfall 3PK00014001 (Outfall 001) by presenting the average and maximum PEQ values.

Table 9 summarizes the results of acute and chronic Whole Effluent Toxicity (WET) tests of the final effluent, using the water flea (*Ceriodaphnia dubia*) and fathead minnow (*Pimephales promelas*) as test organisms.

ASSESSMENT OF IMPACT ON RECEIVING WATERS

An assessment of the impact of a permitted point source on the immediate receiving waters includes an evaluation of the available chemical/physical, biological, and habitat data which have been collected by Ohio EPA pursuant to the Five-Year Basin Approach for Monitoring and NPDES Reissuance. Other data may be used provided it was collected in accordance with Ohio EPA methods and protocols as specified by the Ohio WQS and Ohio EPA guidance documents. Other information which may be evaluated includes but is not limited to: NPDES permittee self-monitoring data; effluent and mixing zone bioassays conducted by Ohio EPA, the permittee, or U.S. EPA.

In evaluating this data, Ohio EPA attempts to link environmental stresses and measured pollutant exposure to the health and diversity of biological communities. Stresses can include pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. Indicators of exposure to these stresses include whole effluent toxicity tests, fish tissue chemical data, and fish health biomarkers (for example, fish blood tests).

Use attainment is a term which describes the degree to which environmental indicators are either above or below criteria specified by the Ohio WQS (OAC 3745-1). Assessing use attainment status for aquatic life uses primarily relies on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-1). These criteria apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on measuring several characteristics of the fish and macroinvertebrate communities; these characteristics are combined into multimetric biological indices including the Index of Biotic Integrity and modified Index of Well-Being, which indicate the response of the fish community, and the Invertebrate Community Index, which indicates the response of the macroinvertebrate community. Numerical criteria are broken down by ecoregion, use designation, and stream or river size. Ohio has five ecoregions defined by common topography, land use, potential vegetation and soil type.

Three attainment status results are possible at each sampling location -full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails to meet the biocriteria. Nonattainment means that either none of the applicable indices meet the biocriteria or one of the organism groups indicates poor or very poor performance. An aquatic life use attainment table (see
Table 10) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the use attainment status (i.e., full, partial, or non), and comments and observations for each sampling location.

Pursuant to Section 303(d) of the Clean Water Act, each state is required to develop and submit a list to US EPA of its impaired and threatened waters (e.g. stream/river segments, lakes). For each water on the list, the state identifies the pollutant(s) causing the impairment, when known. The Headwaters Tinkers Creek watershed assessment unit, which includes Tinkers Creek in the vicinity of Streetsboro-Hudson WWTP, is listed as impaired for aquatic life, recreation, and human health (fish consumption) on Ohio's 303(d) list.

The Total Maximum Daily Load (TMDL) program focuses on identifying and restoring polluted rivers, streams, lakes and other surface water bodies. A TMDL is a written, quantitative assessment of water quality problems in a water body and contributing sources of pollution. It specifies the amount a pollutant needs to be reduced to meet water quality standards (WQS), allocates pollutant load reductions, and provides the basis for taking actions needed to restore a water body. TMDLs are prepared for waters identified as impaired on the 303(d) list in Ohio's Integrated Report.

The "*Total Maximum Daily Loads for the Lower Cuyahoga River"* was approved by U.S. EPA on September 26, 2003. It includes the Tinkers Creek watershed which is impaired for aquatic life, human health, and recreation. The goal of the TMDL is to achieve full attainment of Ohio's WQS.

As part of the TMDL, a stressor identification study was recommended for the Tinkers Creek watershed. The reasons for this recommendation were to identify unknown sources of impairment and to present a methodology for addressing them. To date, the following sources and causes have been explored: elevated nutrients, elevated water column turbidity, and PPCPs (pharmaceuticals and personal care products). To date, the stressor study has indicated that nutrient elimination alone will not be adequate to address impairments in Tinkers Creek.

The approved TMDL assigned a total phosphorus load of 26.76 kg/day to the major municipal wastewater treatment plants in the Tinkers Creek watershed (i.e. City of Aurora Westerly WWTP, City of Bedford WWTP, City of Bedford Heights WWTP, City of Solon WRF, Portage County Streetsboro Hudson WWTP, and City of Twinsburg WWTP) to meet the Lower Cuyahoga River nutrient target. Based on the assigned TMDL load, and the average daily flow rates of these facilities at the time the TMDL was written, a weekly maximum phosphorus permit limit of 0.26 mg/L, and a corresponding monthly permit average of 0.17 mg/L, would need to be assigned to each major discharger.

The Lower Cuyahoga River TMDL also recommends that the Tinkers Creek permits include language requiring the establishment of a nutrient trading program pursuant to Ohio's Water Quality Trading rules, OAC 3745-5. The intent of the trading program will be to further reduce phosphorus loading from non-point sources to the watershed, with the goal of providing an additional load reduction of 34.14 kg/day to meet the phosphorus target of 26.76 kg/day established in the TMDL. Implementation actions such as riparian restoration/protection and wetland restoration/protection, as well as improved storm water management, will also reduce water column turbidity in addition to nutrient reduction.

During development of the implementation strategy, Ohio EPA determined that a staged approach would be appropriate to address the phosphorus target set in the TMDL. As an initial step, it was recommended that NPDES permit renewals include an effluent phosphorus limit of 0.7 mg/L. This limit represented a readily achievable treatment level for each of the permitted facilities. Additionally, the total permitted load of 60.6 kg/day represented a significant reduction from the pre-TMDL load of 152.64 kg/day.

The most recent data available for Tinkers Creek is from 2017 and 2018 and documented in the Ohio EPA technical report, *Biological and Water Quality Study of The Cuyahoga River Watershed, 2017 and 2018"*, May 2023. Table 10 shows a summary of the results from this assessment for the portion of Tinkers Creek where Streetsboro-Hudson WWTP discharges. The partial attainment directly downstream is listed as due to stormwater and urban runoff in addition to natural habitat degradation.

The full Integrated Report is available through the Ohio EPA Division of Surface Water website at: https://epa.ohio.gov/divisions-and-offices/surface-water/reports-data/ohio-integrated-water-quality-monitoring-and-assessment-report

The 2003 Lower Cuyahoga TMDL report and the 2023 study report can be found here: https://epa.ohio.gov/divisions-and-offices/surface-water/reports-data/cuyahoga-river-watershed

DEVELOPMENT OF WATER-QUALITY-BASED EFFLUENT LIMITS

Determining appropriate effluent concentrations is a multiple-step process in which parameters are identified as likely to be discharged by a facility, evaluated with respect to Ohio water quality criteria, and examined to determine the likelihood that the existing effluent could violate the calculated limits.

Parameter Selection

Effluent data for the Streetsboro-Hudson WWTP were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA, DMR data submitted by the permittee, compliance sampling data collected by Ohio EPA, and any other data submitted by the permittee, such as priority pollutant scans required by the NPDES application or by pretreatment, or other special conditions in the NPDES permit. The sources of effluent data used in this evaluation are as follows:

Self-monitoring data (DMR)	December 2019 through November 2024
Pretreatment data	2020 through 2024

Statistical Outliers and Other Non-representative Data

The data were examined and no values were removed from the evaluation.

This data is evaluated statistically, and PEQ values are calculated for each pollutant. Average PEQ (PEQ_{avg}) values represent the 95th percentile of monthly average data, and maximum PEQ (PEQ_{max}) values represent the 95th percentile of all data points (see Table 8). See Modeling Guidance #1 for more information on PEQ calculations, available through the Ohio EPA, Division of Surface Water website at: https://www.epa.ohio.gov/portals/35/guidance/model1.pdf

The PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required (see Table 11).

Wasteload Allocation

For those parameters that require a WLA, the results are based on the uses assigned to the receiving waterbody in OAC 3745-1. Dischargers are allocated pollutant loadings/concentrations based on the Ohio WQS (OAC 3745-1). Most pollutants are allocated by a mass-balance method because they do not break down in the receiving water. By rule, mixing zones are not authorized for pollutants, such as mercury, which have been designated as bioaccumulative chemicals of concern (BCCs). For BCCs, the WLA is set equal to the respective WQS value.

The methodology employed generally depends on whether the facility is considered a direct discharger to a free-flowing receiving water/stream or non-flowing receiving water/Lake.

For free-flowing streams, WLAs for both average and maximum criteria are performed using the following general equation:

Discharger WLA = (Downstream Flow x WQS) - (Upstream Flow x Background Concentration).

Discharger WLAs are divided by the discharge flow so that the allocations are expressed as concentrations.

The following dischargers to Tinkers Creek were considered interactive (see Figure 4):

- City of Aurora-Westerly WWTP
- City of Bedford WWTP
- City of Bedford Heights WWTP
- City of Solon WRF
- Portage County Streetsboro-Hudson WWTP
- City of Twinsburg WWTP

The outfalls were allocated together for most parameters due to the size of the plant discharges, the flows of Tinkers Creek, and the relatively close proximity of the six discharge points. The exception was the wasteload allocations (WLAs) for ammonia toxicity, which were done separately for each facility because ammonia is considered a non-conservative parameter.

The available assimilative capacity was distributed among them using the conservative substance wasteload allocation (CONSWLA) water-quality model for conservative parameters. CONSWLA is the model Ohio EPA typically uses in multiple-discharger situations. CONSWLA model inputs for flow are fixed at their critical low levels and inputs for effluent flow are fixed at their design or 50th percentile levels. Background concentrations are fixed at a representative value (generally a 50th percentile) using available ambient stream data from upstream sampling stations. A mass balancing method is then used to allocate effluent concentrations that maintain WQS under these conditions. This technique is appropriate when databases are unavailable to generate statistical distributions for inputs and if the parameters modeled are conservative.

The applicable waterbody uses for this facility's discharge and the associated stream design flows are as follows:

Aquatic life (Warmwater Habitat)		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia	Average	Summer 30Q10
		Winter 30Q10
Wildlife		Annual 90Q10
Agricultural Water Supply		Harmonic mean flow
Human Health (nondrinking)		Harmonic mean flow

Allocations are developed using a percentage of stream design flow as specified in Table 12, and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Table 11 and Table 12. The WLA results to maintain all applicable criteria are presented in Table 13.

Whole Effluent Toxicity Wasteload Allocation

Whole effluent toxicity (WET) is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent. WQC for WET are 0.3 TU_a for acute toxicity and 1.0 TU_c for chronic toxicity (OAC 3745-1-44).

There are two separate reasonable potential procedures in Ohio - one for the Lake Erie watershed and one for the Ohio River watershed. Dischargers in the Ohio River watershed are assessed using OAC 3745-33-07(B). Dischargers in the Lake Erie watershed are assessed in accordance with the "Great Lakes Water Quality Initiative Implementation Procedures" contained in 40 CFR Part 132, Appendix F, Procedure 6.

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU_c) and 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1Q10 flow for the maximum. WET WLAs are based on meeting the values of 0.3 TU_a and 1.0 TU_c downstream of the discharge, and include any available dilution. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. WLAs for acute toxicity are capped at 1.0 TU_a unless the discharger demonstrates that an Area-of-Initial-Mixing (AIM) exists under OAC 3745-1-06, or that one of the factors in OAC 3745-33-07(B)(5)-(9) allows a higher TU_a limit to be granted. For the purposes of establishing WET limitations, the values of 1.0 TU_a and 1.0 TU_c are the most restrictive limitations that can be applied in NPDES permits [OAC 3745-33-07(B)(10)].

For Streetsboro-Hudson WWTP, the WLA values for outfall 001 are 0.4 TU_a and 1.0 TU_c.

The chronic toxicity unit (TU_c) is defined as 100 divided by the estimate of the effluent concentration which causes a 25% reduction in growth or reproduction of test organisms (IC25):

$$TU_c = 100/IC25$$

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, and seasonal salmonid use designations except when the following equation is more restrictive (*Ceriodaphnia dubia* only):

TU_c = 100/geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration

The acute toxicity unit (TU_a) is defined as 100 divided by the concentration in water having 50% chance of causing death to aquatic life (LC50) for the most sensitive test species:

$$TU_a = 100/LC50$$

This equation applies outside the mixing zone for all designated waters. Based on the above, a value of 1.0 TU_a is the lowest value that can be calculated using the equation. TU_a values between 0.2 and 1.0 are based on an interpolation of toxic effects where an LC50 cannot be identified.

When the acute WLA is less than 1.0 TU_a, it may be defined as a ratio of the stream dilution to the effluent flow:

Acute Dilution Ratio (downstream flow to discharger flow)	Allowable Effluent Toxicity (percent effects in 100% effluent)
up to 2 to 1	30
greater than 2 to 1 but less than 2.7 to 1	40
2.7 to 1 to 3.3 to 1	50

Acute Dilution Ratio = $\frac{\text{1Q10 + [WWTP flow rate]}}{\text{[WWTP flow rate]}} = \frac{\text{1.28 cfs + 6.19 cfs}}{\text{6.19 cfs}} = 1.21$

The acute WLA for Streetsboro-Hudson WWTP can be expressed as 30 percent mortality in 100 percent effluent based on the dilution ratio of 1.21 to 1. If the acute dilution ratio is less than 3.3 to 1.0, and there is evidence that effluent values between 0.3 TU_a and 1.0 TU_a cause or contribute to violations of WQS, the permittee may be required to investigate and remediate toxicity in this range.

REASONABLE POTENTIAL/EFFLUENT LIMITS/MANAGEMENT DECISIONS

After appropriate effluent limits are calculated, the reasonable potential of the discharger to violate the WQS must be determined. Each parameter is examined and placed in a defined "group". Parameters that do not have a WQS or do not require a WLA based on the initial screening are assigned to either group 1 or 2. For the allocated parameters, the preliminary effluent limits (PEL) based on the most restrictive average and maximum WLAs are selected from Table 13. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 8, and the PEL_{max} is compared to the PEQ_{max}. Based on the calculated percentage of the allocated value [($PEQ_{avg} \div PEL_{avg}$) X 100, or ($PEQ_{max} \div PEL_{max}$) X 100)], the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 14.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 15 presents the final effluent limits and monitoring requirements proposed for Streetsboro-Hudson WWTP Outfall 3PK00014001 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Flow Rate and Water Temperature

Monitoring for these parameters is recommended to continue in order to evaluate the performance of the treatment plant.

Dissolved Oxygen and Ammonia

The limits recommended for dissolved oxygen (DO) and winter ammonia are based on plant design criteria, as contained in the 1998 Permit to Install (PTI) No. 90-601. As part of the WLA performed for Permit No. 3PK00014*ID, the summer ammonia limits were lowered from those in the 1998 PTI. Although the current WLA would allow slightly higher limits for both summer and winter ammonia, anti-backsliding provisions of OAC 3745-33-05(F) require that an anti-degradation review must be completed before an existing permit limit can be made less stringent. The rule requires other conditions to be satisfied as well. In the case of the Streetsboro-Hudson WWTP, none of those conditions have been satisfied. Therefore, the existing limits are recommended to continue. The existing DO and ammonia limits remain protective of WQS.

5-Day Carbonaceous Biochemical Oxygen Demand and Total Suspended Solids

The limits recommended for total suspended solids (TSS) and 5-day carbonaceous biochemical oxygen demand (CBOD5) are recommended to continue and are technology-based treatment standards included in 40 CFR Part 122.29, Best Available Demonstrated Control Technology.

Nitrate Plus Nitrite and Total Kjeldahl Nitrogen (TKN)

Monitoring for nitrate plus nitrite and TKN are recommended to continue based on best technical judgment. The Streetsboro-Hudson WWTP discharges a nutrient load to the Tinkers Creek watershed, and continued monitoring will allow Ohio EPA to adequately characterize the influence of the treatment plant on the receiving stream. Additionally, monitoring will ensure that a nutrient data set is maintained for use in future stream studies and/or TMDLs.

Total Phosphorus
Limits for phosphorus are based on the Lower Cuyahoga TMDL; as an adaptive management step, a monthly average limit of 0.7 mg/L total phosphorus was applied to the effluent. The most recent biological study conducted in the Cuyahoga River watershed indicates there is no longer impairment related to total phosphorus downstream of Streetsboro and, therefore, no further reduction in phosphorus load is necessary at this time. A Part II condition is included in the permit to evaluate phosphorus reduction in the future.

Due to the increased concern with nutrient-related impacts to Lake Erie, a detailed reasonable potential analysis of the phosphorus discharge from the Streetsboro-Hudson WWTP is included in Attachment 2.

***E. coli*, Oil and Grease, and pH**
Limits proposed for oil and grease, pH, and *Escherichia coli* are based on WQS (OAC 3745-1-35 and 37). Primary contact recreation *E. coli* standards apply to Tinkers Creek.

Free Cyanide
The Ohio EPA risk assessment (Table 14) places free cyanide in group 5. This placement, as well as the data in Table 7 and Table 8, indicates that there is reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For parameters in this grouping, the PEQ is greater than 100 percent of the WLA or the PEQ is between 75 and 100 percent of the WLA and certain conditions exist that increase the risk to the environment. Pollutants that meet this requirement must have permit limits under OAC 3745-33-07(A)(1). A monthly monitoring frequency and new limits are recommended. A 36-month compliance schedule is included in Part I.C of the permit to meet the new limits.

Total Filterable Residue
The Ohio EPA risk assessment (Table 14) places total filterable residue (aka total dissolved solids or TDS) in group 5. The previous permit contained a schedule of compliance for the facility to attain compliance with the final effluent limitations. The previous weekly total filterable residue concentration limitation of 1529 mg/L has been revised to a monthly discharge limitation, along with a corresponding loading limitation. This change is consistent with the fact that the water quality standard for TDS is based on an “average” criteria (i.e. monthly).

The permittee has determined that the highest contributing source of TDS is salt usage at the Portage County Shalersville Water Treatment Plant. Since 2022, salt usage has been reduced via the following water treatment plant improvements: refurbishing the water softeners (new media and interior coatings) and replacing the plant operating line and service valves. The majority of the improvements were completed by September 2024, with the remaining projects scheduled for the first quarter of 2026.

From March 2020 to the end of September 2024, the effluent discharge exceeded the 1529 mg/L TDS final effluent limitation approximately 28% of the time. From October 2024 to October 2025, the effluent TDS concentration values exceeded the effluent limitation only 4% of the time. This data appears to show that the salt-reduction efforts at the water treatment plant have been effective at reducing TDS loads to the wastewater plant, and thus the wastewater plant’s effluent. A compliance schedule has been included in the permit for Portage County to submit a final report, no later than two months after the permit effective date, providing a complete summary of all actions undertaken to attain compliance with the final TDS effluent limitations. Additionally, a pollutant minimization program (PMP) has been included for this parameter. An annual PMP report is required to be submitted along with the facility’s annual pretreatment report. Details can be found in Part II of the permit.

Although the current WLA would allow slightly higher limits for total filterable residue, the anti-backsliding provisions in OAC 3745-33-05(F) require that an anti-degradation review must be completed before an existing permit limit can be made less stringent. The rule requires other conditions to be satisfied as well. In the case of

the Streetsboro-Hudson WWTP, none of those conditions have been satisfied. Therefore, the existing limits have not been increased.

Copper and Mercury
The Ohio EPA risk assessment (Table 14) places copper and mercury in group 4. This placement, as well as the data in Table 7 and Table 8, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). Due to the higher grouping placement of copper compared to previous periods of record, an increased monitoring frequency of once per month is recommended. Limits for mercury are recommended to be removed, and monitoring is recommended to remain at once per month.

In addition, the effluent quality for mercury falls within 75 to 100 percent of the WLA. Under OAC 3745-33-07(A)(2), parameters in this range must have a tracking requirement in the permit that specifies reductions in pollutant concentrations if effluent concentrations exceed the WLA. The tracking/reduction requirements are included in Part II of the permit.

Cadmium, Chromium, Dissolved Hexavalent Chromium, Lead, Nickel, and Zinc
The Ohio EPA risk assessment (Table 14) places these parameters in groups 2 and 3. This placement, as well as the data in Table 7 and Table 8, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a quarterly frequency is recommended to continue to document that these pollutants continue to remain at low levels.

Antimony, Arsenic, Molybdenum, Selenium, and Silver
The Ohio EPA risk assessment (Table 14) places these parameters in groups 2 and 3. This placement, as well as the data in Table 7 and Table 8, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed. Data for future reasonable potential analyses will be available through priority pollutant scans submitted as part of the permittee's pretreatment program.

Dissolved Orthophosphate
Monitoring for dissolved orthophosphate (as P) is required by ORC 6111.03. This monitoring will further develop nutrient datasets that are used in stream and watershed assessments and studies. Because Ohio EPA monitoring, as well as other in-stream monitoring, for dissolved orthophosphate is taken by grab sample, grab samples are proposed for orthophosphate to maintain consistent data. The grab samples must be filtered within 15 minutes of collection using a 0.45-micron filter. The filtered sample must be analyzed within 48 hours.

Whole Effluent Toxicity Reasonable Potential
The acute and chronic toxicity results in Table 9 show that there have been no detections of toxicity. Under the provisions of 40 CFR Part 132, Appendix F, Procedure 6, as shown in Attachment 1, no PEQ values can be calculated. Reasonable potential for toxicity is not demonstrated. While this indicates that the plant's effluent does not currently pose a toxicity problem, annual chronic toxicity testing with the determination of acute endpoints is proposed consistent with the minimum monitoring requirements at OAC 3745-33-07(B)(11). The proposed monitoring will adequately characterize toxicity in the plant's effluent.

Toxicity limits are recommended to be removed for *Ceriodaphnia dubia*, in addition to a reduction in monitoring from twice a year to once a year.

Additional Monitoring Requirements
Following Ohio EPA guidance, new monitoring for total cyanide is being recommended at Influent Monitoring Station 3PK00014601. A monthly monitoring frequency is recommended.

Monitoring for copper at Influent Station 3PK00014601 is recommended to be increased to once a month to align with effluent monitoring frequency.

Monitoring for *Ceriodaphnia dubia* toxicity at Upstream Station 3PK00014801 is recommended to be reduced to once a year to align with effluent monitoring frequency.

Additional monitoring requirements recommended at the final effluent, influent and upstream/downstream stations are included for all facilities in Ohio and vary according to the type and size of the discharge. In addition to permit compliance, this data is used to assist in the evaluation of effluent quality and treatment plant performance and for designing plant improvements and conducting future stream studies.

Sludge
Limits and monitoring requirements recommended for the disposal of sewage sludge by the following management practices are based on OAC 3745-40: land application of non-exceptional quality (non-EQS) Sludge/Biosolids (Station 3PK00014581), land application of EQS Sludge/Biosolids (Station 3PK00014584), disposal at a solid waste landfill (Station 3PK00014586), or transfer to another facility with an NPDES permit (Station 3PK00014588).

OTHER REQUIREMENTS

Compliance Schedule

Pretreatment Local Limits Review - A 12-month compliance schedule is included for the County to submit a technical justification for either revising its local industrial user limits or retaining the existing limits, including an evaluation of whether a local limit for total phosphorus is appropriate. If revisions to local limits are required, the County must also submit a pretreatment program modification request. Details are in Part I.C of the permit.

New Free Cyanide Limit - A 36-month compliance schedule included for the Streetsboro-Hudson WWTP to meet the new free cyanide concentration limits. Details are in Part I.C of the permit.

Total Filterable Residue Final Reporting - A 2-month compliance schedule is included for the Streetsboro-Hudson WWTP to submit a final progress report detailing the actions completed to consistently meet the final effluent limits for total filterable residue. Details are in Part I.C of the permit.

Sanitary Sewer Overflow Reporting
Provisions for reporting SSOs are again proposed in this permit. These provisions include: the reporting of the system-wide number of SSO occurrences on monthly operating reports; telephone notification of Ohio EPA and the local health department, and 5-day follow-up written reports for certain high risk SSOs; and preparation of an annual report that is submitted to Ohio EPA and made available to the public. Many of these provisions were already required under the “Noncompliance Notification”, “Records Retention”, and “Facility Operation and Quality Control” general conditions in Part III of Ohio NPDES permits.

Operator Certification and Operator of Record
Operator certification requirements have been included in Part II of the permit in accordance with rules effective on July 3, 2025 (OAC 3745-7). These rules require the Streetsboro-Hudson WWTP to have a Class III wastewater treatment plant operator in charge of the sewage treatment plant operations discharging through outfall 001. These rules also require the permittee to designate one or more operator(s) of record to oversee the technical operation of the treatment works and sewerage system.

Outfall Signage
Part II of the permit includes requirements for the permittee to place and maintain a sign at each outfall to Tinkers Creek providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

Sufficiently Sensitive Methods/Method Detection Limit Reporting
Part II of the permit includes a condition requiring the permittee to use laboratory analytical methods with a sufficiently sensitive Method Detection Limit (MDL). The MDL represents the minimum concentration at which we can be confident that a pollutant is present, i.e. above zero, in a discharge. The Quantification Level (QL) is the minimum concentration at which we can be confident that the numerical result is accurate. Minimum Level (ML) and Practical Quantification Level (PQL) are specific ways to measure the QL. In general, Ohio law requires that Ohio EPA use PQL as the quantification level in NPDES permits and sets PQL at 5 times the MDL for the most sensitive test method (ORC 6111.13). This statute also allows the director to set other PQLs and MDLs based on a national consensus standard or other generally accepted standard.

When submitting Discharge Monitoring Reports (DMRs), NPDES permit holders must report all detected concentration values above the MDL, even if that value is below the QL. A detection above the MDL indicates the presence of a pollutant, with strong confidence, which must be considered when performing a reasonable potential analyses.

For more information on MDLs, see Ohio EPA Modeling Guidance #9 at the following webpage: https://epa.ohio.gov/static/Portals/35/guidance/Permit%20Guidance%209%20-%20Limits%20Below%20Quantification%20Levels.pdf

Part III
Part III of the permit details standard conditions that include monitoring, reporting requirements, compliance responsibilities, and general requirements.

Stormwater Compliance
Parts IV, V, and VI have been included with the draft permit to ensure that any stormwater flows from the facility site are properly regulated and managed. As an alternative to complying with Parts IV, V, and VI, the Streetsboro-Hudson WWTP may seek permit coverage under the general permit for industrial stormwater (permit # OHR000007) or submit a "No Exposure Certification." Parts IV, V, and VI will be removed from the final permit if: 1) the Streetsboro-Hudson WWTP submits a Notice of Intent (NOI) for coverage under the general permit for industrial stormwater or submits a No Exposure Certification, 2) Ohio EPA determines that the facility is eligible for coverage under the general permit or meets the requirements for a No Exposure Certification, and 3) the determination by Ohio EPA can be made prior to the issuance of the final permit.

Figure 1. Location of Streetsboro-Hudson WWTP

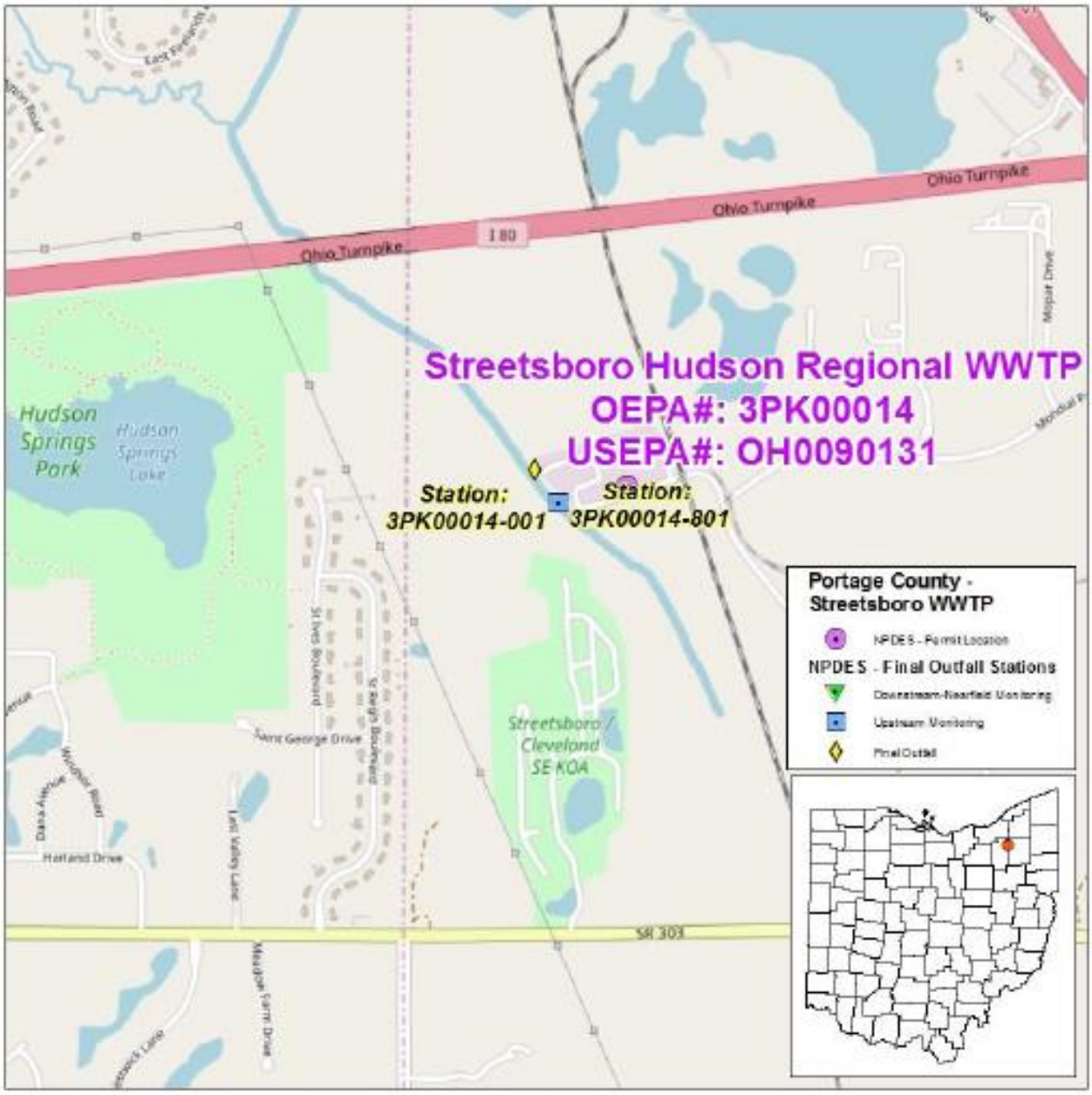


Figure 2. Diagram of Wastewater Treatment System

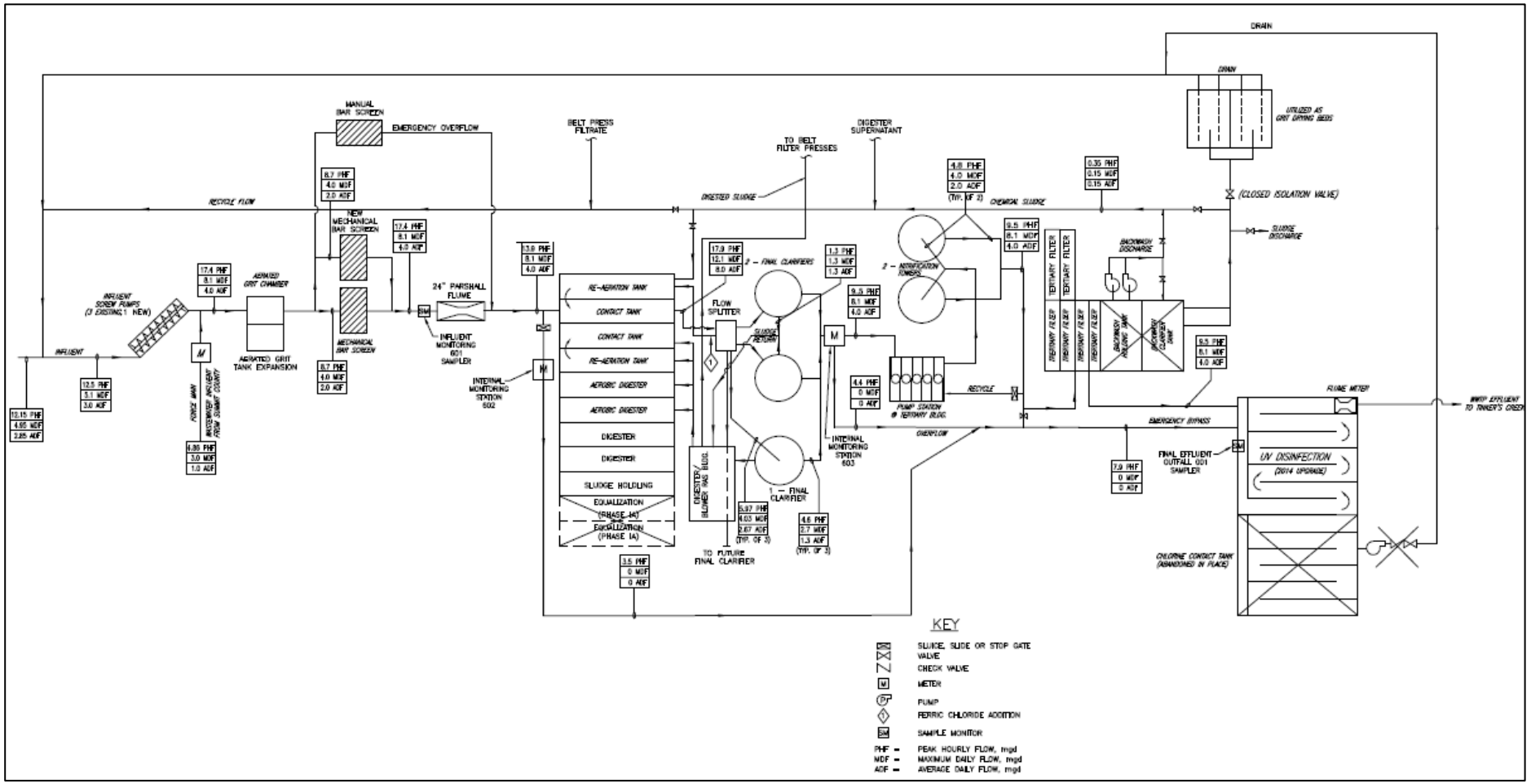


Figure 3. Diagram of Sludge Treatment System

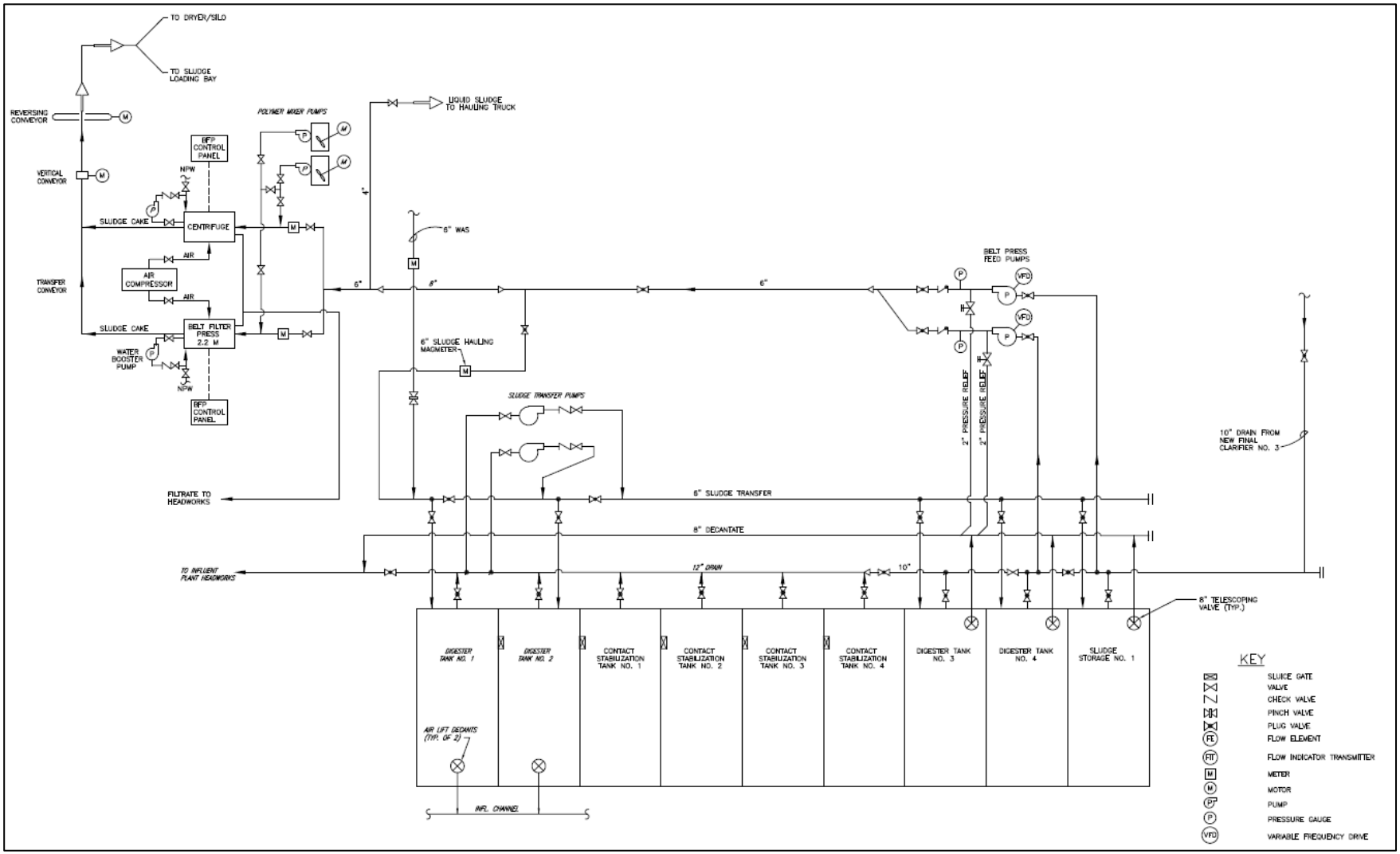


Figure 4. Tinkers Creek Study Area

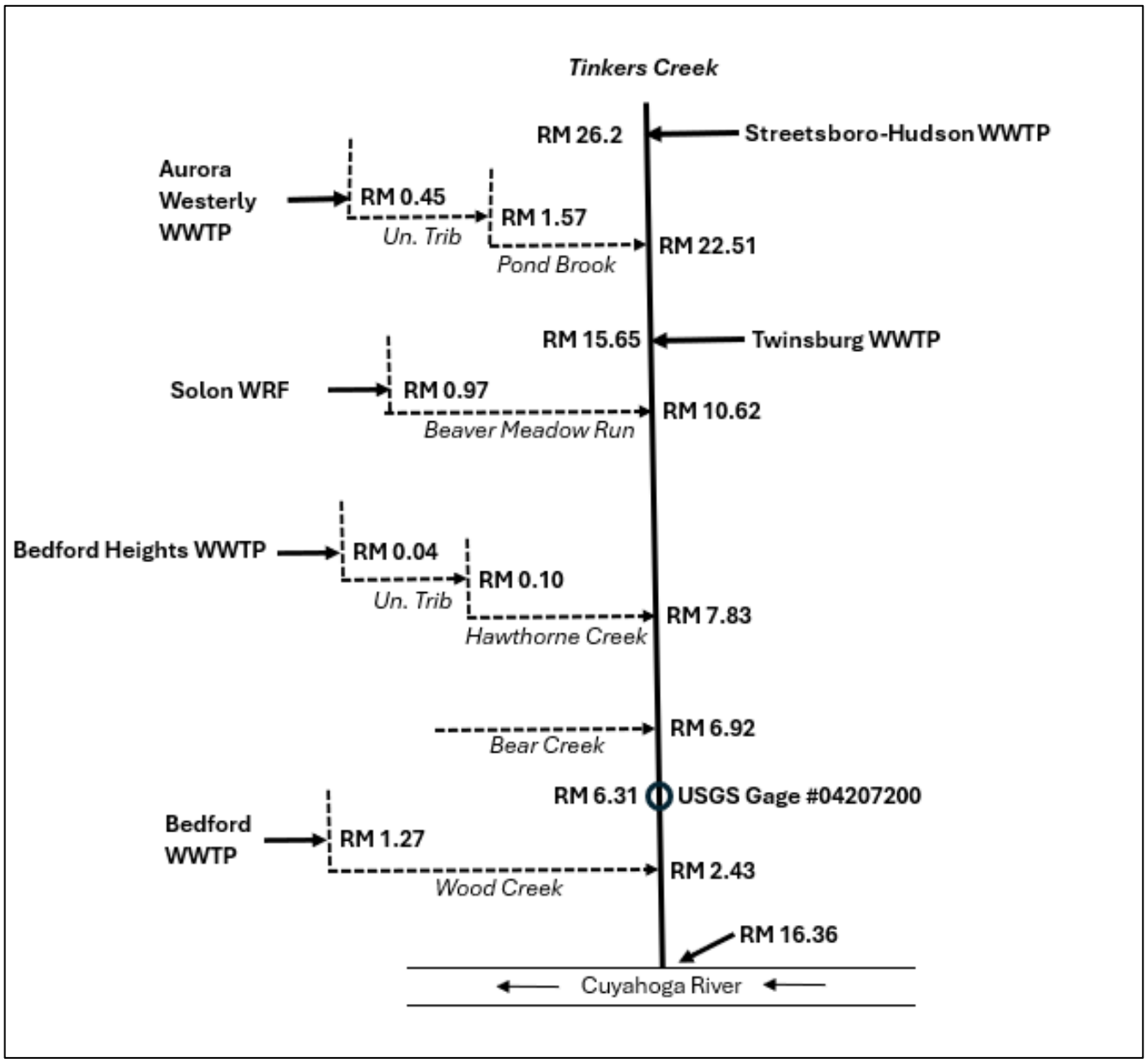


Table 1. Sewage Sludge Removal

Year	Dry Tons Removed
2019	954
2020	901
2021	898
2022	730
2023	899
2024	711

Table 2. Effluent Violations for Outfall 3PK00014001

Parameter	2019[a]	2020	2021	2022	2023	2024[b]	Total
Ammonia	0	0	0	3	0	0	**3**
CBOD 5-Day	0	1	0	0	0	0	**1**
Copper	0	0	0	0	1	0	**1**
E. coli	0	0	0	0	0	1	**1**
Mercury (Low-Level)	0	0	3	0	0	0	**3**
pH, Maximum	1	25	0	0	0	0	**26**
Phosphorus	0	0	0	0	1	1	**2**
Total Filterable Residue	0	0	0	0	0	3	**3**
Total	**1**	**26**	**3**	**3**	**2**	**5**	**40**

[a] Data set starts 12/1/2019
[b] Data set ends 11/30/2024

Table 3. Annual Effluent Flow Rates

Year	Annual Flow (MGD)		
	50th Percentile	95th Percentile	Maximum
2019[a]	2.73	4.24	5.14
2020	2.79	4.77	7.35
2021	2.51	4.30	9.26
2022	2.49	4.38	9.21
2023	2.56	4.52	6.20
2024[b]	2.40	4.20	7.44

[a] Data set starts 12/1/2019
[b] Data set ends 11/30/2024

Table 4. Sanitary Sewer Overflows Discharges

Year	Occurrences
2019[a]	0
2020	6
2021	1
2022-2024[b]	0

[a] Data set starts 12/1/2019
[b] Data set ends 11/30/2024

Table 5. Calculated Annual Total Phosphorus Loadings

Year	Median Phosphorus (mg/L)	Median Flow (MGD)	Median Loading (kg/day)
2020	0.35	2.79	3.20
2021	0.41	2.51	3.85
2022	0.42	2.49	4.08
2023	0.48	2.56	4.62
2024	0.39	2.43	3.56

Table 6. Effluent Characterization Using Pretreatment Data

Parameter (µg/L unless otherwise indicated)	9/4/2019	8/20/2020	9/16/2021	8/24/2022	8/23/2023	8/21/2024
Antimony	AA (5.0)	AA (5.0)	AA (0.8)	AA (0.8)	0.6	AA (2.0)
Arsenic	AA (5.0)	AA (5.0)	AA (0.3)	0.5	AA (1.5)	AA (0.4)
Cadmium	AA (3.0)	AA (3.0)	AA (0.1)	AA (0.1)	AA (0.2)	AA (0.1)
Chromium	AA (7.0)	AA (7.0)	AA (1.5)	AA (1.5)	0.6	AA (2.5)
Copper	AA (8.0)	AA (8.0)	10	11	8.4	11
Lead	AA (10.0)	AA (10.0)	AA (0.2)	AA (0.2)	5.3	AA (2.1)
Mercury (ng/L)	AA (0.5)	AA (0.5)	0.4	AA (0.2)	0.37	0.23
Molybdenum	AA (20.0)	AA (20.0)	3.8	5.0	4.0	AA (8.6)
Nickel	AA (8.0)	AA (8.0)	6.3	4.4	2.7	AA (3.3)
Phenolics	AA (50.0)	110	AA (45.0)	AA (34.0)	AA (7.7)	AA (7.7)
Selenium	AA (4.0)	AA (4.0)	AA (0.2)	0.3	AA (2.4)	AA (1.4)
Silver	AA (5.0)	AA (5.0)	AA (0.4)	AA (0.4)	AA (0.07)	AA (0.4)
Zinc	29	28	33	17	20	18

AA = not-detected (analytical method detection limit)

Table 7. Effluent Characterization Using Unaltered Self-Monitoring Data

Parameter	Units	Current Limits		# Obs	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Water Temperature	°C	- - Monitor - -		1827	17.0	23.0	8.0 - 27.0
Dissolved Oxygen	mg/L	--	6.0[m]	1827	9.3	7.8*	6.8 - 16.1
Total Suspended Solids	kg/day	182	273[w]	760	< 15.5	66.1	0 - 247
	mg/L	12	18[w]	760	< 2	6	0 - 20
Oil and Grease	mg/L	--	10	124	--	--	< 5
Ammonia-Nitrogen (Summer)	kg/day	22.5	33.7[w]	379	< 0.386	4.69	0 - 156
	mg/L	1.48	2.22[w]	379	< 0.05	0.461	0 - 17.6
Ammonia-Nitrogen (Winter)	kg/day	30.3	45.5[w]	381	0.645	11.4	0 - 46.2
	mg/L	2.0	3.0[w]	381	0.06	0.72	0 - 5.0
Total Kjeldahl Nitrogen	mg/L	- - Monitor - -		60	1.20	3.26	0 - 19.0
Nitrite Plus Nitrate (as N)	mg/L	- - Monitor - -		61	17.8	28.6	10.1 - 43.0
Phosphorus, Total	kg/day	10.6	10.6[w]	324	3.82	6.55	0 - 13.7
	mg/L	0.70	0.70[w]	324	0.4	0.58	0 - 0.85
Orthophosphate (as P)	mg/L	- - Monitor - -		60	0.29	0.47	0.04 - 0.6
Nickel	µg/L	- - Monitor - -		20	--	--	< 10.0
Zinc	µg/L	- - Monitor - -		20	30.5	40.1	16.0 - 42.0
Cadmium	µg/L	- - Monitor - -		20	--	--	< 0.5
Lead	µg/L	- - Monitor - -		20	< 2.0	10.0	0 - 12.0
Chromium	µg/L	- - Monitor - -		20	--	--	< 10.0
Copper	µg/L	25	41	3	16	25	0 - 26
	kg/day	0.379	0.621	3	0.192	0.282	0 - 0.293
Dissolved Hexavalent Chromium	µg/L	- - Monitor - -		20	--	--	< 4.0
E. coli	#/100 mL	126	284[w]	380	12	96	0 - 2420
Flow Rate	MGD	- - Monitor - -		1827	2.53	4.52	1.35 - 9.26
Mercury (Low-Level)	kg/day	0.000032	0.013	62	< 0.00000386	0.0000111	0 - 0.0000456
	ng/L	2.08	858	62	< 0.5	1.02	0 - 4.21
Free Cyanide (Low-Level)	µg/L	- - Monitor - -		19	< 3.0	0.47	0 - 4.70
Acute Toxicity, *C. dubia*	TU_a	--	1.0	10	--	--	--
Chronic Toxicity, *C. dubia*	TU_c	1.0	--	10	--	--	--
Acute Toxicity, *P. promelas*	TU_a	- - Monitor - -		5	--	--	--
Chronic Toxicity, *P. promelas*	TU_c	- - Monitor - -		5	--	--	--
pH, Maximum	S.U.	--	9.0	1824	8.1	8.8	7.4 - 9.4
pH, Minimum	S.U.	--	6.5[m]	1823	7.7	7.2*	6.6 - 8.9
Total Filterable Residue	kg/day	--	23149[w]	119	12700	18800	8880 - 26300
	mg/L	--	1529[w]	119	1340	1690	682 - 1950
CBOD 5-Day	kg/day	152	228[w]	758	26	68	0 - 1230
	mg/L	10	15[w]	758	2.5	4.8	0 - 122

Table 8. Projected Effluent Quality for Outfall 3PK00014001

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Ammonia (Winter)*	mg/L	188	126	0.686	1.27
Ammonia (Summer)*	mg/L	258	82	0.587	0.804
Antimony	µg/L	3	1	1.75	2.40
Arsenic	µg/L	3	1	1.10	1.50
Cadmium	µg/L	25	0	--	--
Chromium	µg/L	1	1	2.72	3.72
Copper	µg/L	27	14	14.6	21.0
Dissolved Hexavalent Chromium	µg/L	20	0	--	--
Free Cyanide (Low-Level)	µg/L	19	1	4.80	6.58
Lead	µg/L	25	9	9.84	16.5
Mercury, Total (Low Level)	ng/L	67	20	1.18	1.75
Molybdenum	µg/L	3	3	11.0	15.0
Nickel	µg/L	25	3	9.49	13.0
Nitrite Plus Nitrate	mg/L	61	61	25.5	33.3
Phenolics	µg/L	5	1	185	253
Phosphorus, Total (P)	mg/L	324	308	0.508	0.656
Selenium	µg/L	2	1	0.832	1.14
Silver	µg/L	5	0	--	--
Total Filterable Residue	mg/L	131	131	1570	1850
Zinc	µg/L	25	25	38.4	50.6

MDL = analytical method detection limit
PEQ = projected effluent quality
* Per OAC 3745-2-04(E)(3), ammonia PEQ is based on data collected during the following months:
Summer – June through September
Winter – December through February

Table 9. Summary of Acute and Chronic Toxicity Results

Date	*Ceriodaphnia dubia*		*Pimephales promelas*	
	TU_a	TU_c	TU_a	TU_c
6/15/2020	AA (0.2)	AA (1.0)	--	--
9/7/2020	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
6/20/2021	AA (0.2)	AA (1.0)	--	--
9/20/2021	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
6/19/2022	AA (0.2)	AA (1.0)	--	--
9/5/2022	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
6/18/2023	AA (0.2)	AA (1)	--	--
9/17/2023	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
6/16/2024	AA (0.2)	AA (1.0)	--	--
9/15/2024	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)

AA = non-detection; analytical method detection limit of 0.2 TU_a, 1.0 TU_c

Table 10. Aquatic Life Use Attainment Table

Location	RM*	Aquatic Life Attainment Use	Status	Cause(s) of Impairment	Source(s) of Impairment
Tinkers Creek Southeast of Hudson, at Seasons Road	28.8	WWH	Partial	Natural conditions; Pollutants in urban stormwater; Other flow regime alterations	Natural sources; Urban runoff/stormwater
Tinkers Creek near Twinsburg, upstream State Route 82	18.00	WWH	Partial	Natural conditions; Pollutants in urban stormwater; Other flow regime alterations	Natural sources; Urban runoff/stormwater
Tinkers Creek downstream Twinsburg WWTP at East Idlewood Drive	13.80	WWH	Full	N/A	N/A

Data gathered from the *Biological and Water Quality Study of The Cuyahoga River Watershed, 2017 and 2018,* Ohio EPA, May 2023
RM = River mile
WWH = warmwater habitat
*Streetsboro-Hudson WWTP discharges to Tinkers Creek at RM 26.2

Table 11. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Zone Maximum
		Average				Maximum Aquatic Life	
		Wildlife	Human Health	Agri-culture	Aquatic Life		
Ammonia (Summer)	mg/L	--	--	--	2.2	--	--
Ammonia (Winter)	mg/L	--	--	--	5.1	--	--
Antimony	µg/L	--	780	--	190	900	1800
Arsenic	µg/L	--	580	100	150	340	680
Cadmium	µg/L	--	730	50	5.7	15	30
Chromium	µg/L	--	14000	100	210	4300	8700
Copper	µg/L	--	64000	500	23	39	77
Dissolved Hexavalent Chromium	µg/L	--	14000	--	11	16	31
Free Cyanide (Low-Level)	µg/L	--	48000	--	5.2	22	44
Lead	µg/L	--	--	100	25	480	960
Mercury	ng/L	1.3	3.1	10000	910	1700	3400
Molybdenum	µg/L	--	10000	--	20000	190000	370000
Nickel	µg/L	--	43000	200	130	1200	2300
Nitrate + Nitrite	mg/L	--	--	100	--	--	--
Phenolics	µg/L	--	--	--	--	--	--
Selenium	µg/L	--	3100	50	5	62	120
Silver	µg/L	--	11000	--	1.3	10	20
Total Filterable Residue	mg/L	--	--	--	1500	--	--
Zinc	µg/L	--	35000	25000	300	300	600

Table 12. Instream Conditions and Discharger Flow

Parameter	Units	Season	Value	Basis
Stream Flows				
1Q10	cfs	Annual	1.28	USGS StreamStats Ver. 4.28.1; USGS gage #04207200 - Tinkers Creek at Bedford OH; 1962 - 1997; DA ratio
7Q10	cfs	Annual	1.44	
30Q10	cfs	Summer	1.91	
		Winter	4.54	
90Q10	cfs	Annual	2.79	
Harmonic Mean	cfs	Annual	7.33	
Mixing Assumption	%	Average	25	Wasteload Allocation procedure (OAC 3745-2)
		Maximum	100	
Hardness, OMZ	mg/L	Annual	302	Streetsboro-Hudson WWTP Station 3PK00014901; 2019-2024; n=58; median
pH	S.U.	Summer	7.61	Streetsboro-Hudson WWTP Station 3PK00014901; 2019-2024; n=20; 75th percentile
		Winter	7.76	Streetsboro-Hudson WWTP Station 3PK00014901; 2019-2024; n=15; 75th percentile
Temperature	ºC	Summer	20.25	Streetsboro-Hudson WWTP Station 3PK00014901; 2019-2024; n=20; 75th percentile
		Winter	7.5	Streetsboro-Hudson WWTP Station 3PK00014901; 2019-2024; n=15; 75th percentile
Streetsboro WWTP flow	cfs (MGD)	Annual	6.19 (4.0)	NPDES Application Form 2A
Background Water Quality				
Ammonia	mg/L	Summer	0.06	Streetsboro-Hudson WWTP Station 3PK00014801; 2019-2024; n=20; 6<MDL; median
	mg/L	Winter	0	Streetsboro-Hudson WWTP Station 3PK00014801; 2019-2024; n=15; 8<MDL; median
Antimony	µg/L	Annual	0	No representative data available.
Arsenic	µg/L	Annual	3.2	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10; mean
Cadmium	µg/L	Annual	0	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10
Chromium	µg/L	Annual	0	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10
Dissolved Hexavalent Chromium	µg/L	Annual	0	No representative data available.
Copper	µg/L	Annual	1.6	EA3; 2011 - 2018; n=6; 5<MDL; Station F99Q10; mean
Free Cyanide (Low-Level)	µg/L	Annual	0	No representative data available.
Lead	µg/L	Annual	0	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10
Mercury	ng/L	Annual	0	No representative data available.
Molybdenum	µg/L	Annual	0	No representative data available.
Nickel	µg/L	Annual	2.6	EA3; 2011 - 2018; n=6; 0<MDL; Station F99Q10; mean
Nitrate + Nitrite	mg/L	Annual	0.1	EA3; 2011 - 2018; n=6; 2<MDL; Station F99Q10; mean
Phenolics	µg/L	Annual	0	No representative data available.

Parameter	Units	Season	Value	Basis
Selenium	µg/L	Annual	0	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10; mean
Silver	µg/L	Annual	0	No representative data available.
Zinc	µg/L	Annual	0	EA3; 2011 - 2018; n=6; 6<MDL; Station F99Q10; mean
Total Filterable Residue	mg/L	Annual	430	EA3; 2011 - 2018; n=6; 0<MDL; Station F99Q10; mean

DA Ratio = Drainage area ratio of 83.9 square miles at gage to 12.3 sq. mi. at discharge site
EA3 = Ohio EPA Ecological Assessment and Analysis Application
EA3 Station F99Q10 = Tinkers Creek at River Mile 28.8, southeast of Hudson @ Seasons Road
MDL = analytical method detection limit
n = number of analyses
USGS = United States Geological Survey

Table 13. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria					Inside Mixing Zone Maximum
		Average				Maximum Aquatic Life	
		Wildlife	Human Health	Agri-culture	Aquatic Life		
Ammonia (Summer)	mg/L	--	--	--	2.86	--	--
Ammonia (Winter)	mg/L	--	--	--	8.84	--	--
Antimony	µg/L	--	1011	--	201	1086	1800
Arsenic	µg/L	--	751	129	159	410	680
Cadmium	µg/L	--	946	65	4.4	12	30
Chromium	µg/L	--	18145	130	159	3741	8700
Copper	µg/L	--	82950	648	18	31	77
Dissolved Hexavalent Chromium	µg/L	--	18145	--	12	19	31
Free Cyanide	µg/L	--	62213	--	5.5	27	44
Lead	µg/L	--	--	130	16	350	960
Mercury	ng/L	1.3	3.1	10000	910	1700	3400
Molybdenum	µg/L	--	12961	--	21163	229296	370000
Nickel	µg/L	--	55731	258	97	1001	2300
Nitrate + Nitrite	mg/L	--	--	129.6	--	--	--
Phenolics	µg/L	--	--	--	--	--	--
Selenium	µg/L	--	4018	65	5.3	75	120
Silver	µg/L	--	14257	--	1.4	6	20
Total Filterable Residue	mg/L	--	--	--	1562	--	--
Zinc	µg/L	--	45363	32402	222	253	600

Table 14. Parameter Assessment

Group 1: Due to a lack of numeric criteria, the following parameters could not be evaluated at this time.

Phenolics

Group 2: PEQ < 25 percent of WQS or all data below minimum detection limit.
WLA not required. No limit recommended; monitoring optional.

Antimony	Arsenic	Cadmium
Chromium	Dissolved Hexavalent Chromium	Molybdenum
Nickel	Selenium	Silver
Zinc		

Group 3: PEQmax < 50 percent of maximum PEL and PEQavg < 50 percent of average PEL.
No limit recommended; monitoring optional.

Nitrate + Nitrite Lead

Group 4: PEQmax >= 50 percent, but < 100 percent of the maximum PEL or
PEQavg >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Copper Mercury

Group 5: Maximum PEQ >= 100 percent of the maximum PEL or average PEQ >= 100 percent of the average PEL, or either the average or maximum PEQ is between 75 and 100 percent of the PEL and certain conditions that increase the risk to the environment are present. Limit recommended.

Limits to Protect Numeric Water Quality Criteria

		Recommended Effluent Limits	
Parameter	***Units***	***Average***	***Maximum***
Free Cyanide	µg/L	5.2	27
Total Filterable Residue	mg/L	1562	--

PEL = preliminary effluent limit
PEQ = projected effluent quality
WQS = water quality standard

Table 15. Final Effluent Limits for Outfall 3PK00014001

Parameter	Units	Concentration		Loading (kg/day)[a]		Basis[b]
		Daily Maximum	30 Day Average	Daily Maximum	30 Day Average	
Water Temperature	°C	- - - - - - - - Monitor - - - - - - - -				M[c]
Dissolved Oxygen	mg/L	6.0 (Minimum)	--	--	--	PD
Total Suspended Solids	mg/L	18[d]	12	273[d]	182	PD
Oil & Grease	mg/L	10	--	--	--	PD/WQS
Ammonia (Summer)	mg/L	1.95[d]	1.3	29.5[d]	19.7	ABS
Ammonia (Winter)	mg/L	3.0[d]	2.0	45.5[d]	30.3	PD/ABS
Total Kjeldahl Nitrogen	mg/L	- - - - - - - - Monitor - - - - - - - -				M
Nitrate plus Nitrite	mg/L	- - - - - - - - Monitor - - - - - - - -				M
Phosphorus	mg/L	0.7[d]	0.7	10.6[d]	10.6	TMDL
Orthophosphate	mg/L	- - - - - - - - Monitor - - - - - - - -				PMR
Nickel	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Zinc	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Cadmium	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Lead	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Chromium	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Copper	µg/L	- - - - - - - - Monitor - - - - - - - -				M
Dissolved Hexavalent Chromium	µg/L	- - - - - - - - Monitor - - - - - - - -				M
E. coli	#/100 mL	284[d]	126	--	--	WQS
Flow Rate	MGD	- - - - - - - - Monitor - - - - - - - -				M[c]
Mercury (Low-Level)	ng/L	- - - - - - - - Monitor - - - - - - - -				M
Free Cyanide (Low-Level)[e]	µg/L	27	5.2	0.41	0.079	WLA
Acute Toxicity, *Ceriodaphnia dubia*	TU_a	- - - - - - - - Monitor - - - - - - - -				WET
Chronic Toxicity, *Ceriodaphnia dubia*	TU_c	- - - - - - - - Monitor - - - - - - - -				WET
Acute Toxicity, *Pimephales promelas*	TU_a	- - - - - - - - Monitor - - - - - - - -				WET
Chronic Toxicity, *Pimephales promelas*	TU_c	- - - - - - - - Monitor - - - - - - - -				WET
pH, Maximum	SU	9.0	--	--	--	WQS
pH, Minimum	SU	6.5 (Minimum)	--	--	--	WQS
Total Filterable Residue	mg/L	--	1529	--	23000	WLA/ABS
CBOD5 (Summer)	mg/L	15[d]	10	228[d]	152	PD

[a] Effluent loadings based on average design discharge flow of 4.0 MGD.

[b] Definitions:

ABS = Antibacksliding Rule (OAC 3745-33-05(F) and 40 CFR Part 122.44(l))
M = Division of Surface Water NPDES Permit Guidance 1: Monitoring frequency requirements for Sanitary Discharges
PD = Plant Design (OAC 3745-33-05(E))
PMR = Phosphorus monitoring requirements (ORC 6111.03)
RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in permits (OAC 3745-33-07(A))
TMDL = Total Maximum Daily Load [*Total Maximum Daily Loads for the Lower Cuyahoga River, September 2003*]
WET = Minimum testing requirements for whole effluent toxicity [OAC 3745-33-07(B)(11)]
WLA = Wasteload Allocation procedures (OAC 3745-2)

WQS = Ohio Water Quality Standards (OAC 3745-1)

[c] Monitoring of flow and other indicator parameters is specified to assist in the evaluation of effluent quality and treatment plant performance.
[d] 7-day average limit.
[e] 36-month compliance schedule recommended.

Attachment 1. Whole Effluent Toxicity Reasonable Potential Analysis

	Water Flea (*Ceriodaphnia dubia*)		**Fathead Minnow (*Pimephales promelas*)**	
	Acute	**Chronic**	**Acute**	**Chronic**
WLA (TU)	0.4	1.0	0.4	1.0
Total # of Tests	10	10	5	5
Maximum Value (TU)	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
Coefficient of Variation[1]	0.6	0.6	0.6	0.6
Multiplying Factors[2]	2.3	2.3	2.3	2.3
PEQ (Maximum Value x Multiplying Factor)	0.0	0.0	0.0	0.0
Reasonable Potential Demonstrated? (Yes/No) (Yes if PEQ > WLA)	No	No	No	No

[1] 40 CFR Part 132, Appendix F, Paragraph D(3)
[2] 40 CFR Part 132, Appendix F, Table F6-1

Attachment 2. Streetsboro-Hudson WWTP Phosphorus Reasonable Potential Analysis

Nutrient Related Water Quality Impairments in Lake Erie's Central Basin

The Streetsboro-Hudson WWTP discharges to Tinkers Creek, which flows into the Cuyahoga River and eventually into the Lake Erie "Central Shoreline" assessment unit (Figure 1-1 below). The discharge is tributary to the downstream Central Open Water assessment unit. The Central Open Water unit is not listed as impaired for nutrient-related issues, but the Central Shoreline unit is (Table 1-1 below). The aquatic life use in the Central Shoreline unit is listed for siltation and nutrient enrichment but there are no numeric targets associated with this impairment.

Ohio EPA has convened a multidisciplinary workgroup comprising agency staff and university researchers to reevaluate the aquatic life uses of Lake Erie and nutrients are being considered in that effort. The outcome of that workgroup was a set of metrics that describe the performance of aquatic life in Lake Erie's open waters and shoreline. Ohio EPA reported on those metrics and the status of the effort to evaluate aquatic life use in the 2024 Integrated Report.

As required by 40 CFR 422.44(d) and companion provisions in the Ohio Administrative Code, a reasonable potential analysis must be completed to determine if an NPDES-permitted facility causes or contributes to a water-quality impairment.

Figure 1-1. Lake Erie Assessment Units from Ohio's 2024 Integrated Report

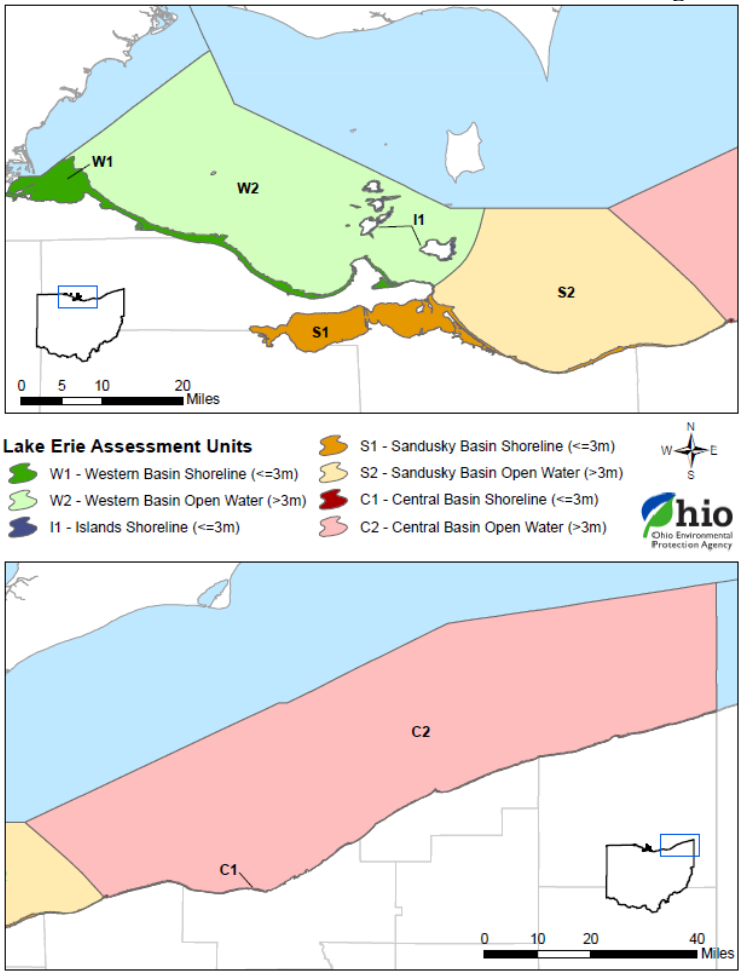


Table 1-1. Lake Erie Central Basin Assessment Units Beneficial Use Designations

Beneficial Use	Lake Erie Central Basin Shoreline (OHLE 04120200 02 03)		Lake Erie Central Basin Open Water (OHLE 04120200 03 03)	
	Attainment Status	Cause	Attainment Status	Cause
Human Health (Fish Consumption)	✖	PCBs in fish tissue	✖	PCBs in fish tissue
Aquatic Life (Exceptional Warmwater Habitat)	✖	Siltation, nutrients, non-native fish species	Not Assessed	--
Recreation (Bathing Waters)	✖	*E. coli*	✓	--
Water Supply (Public Drinking)	--	--	✓	--

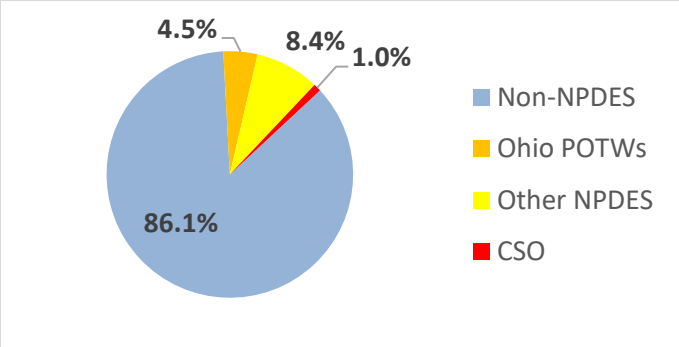
OHLE = Ohio Lake Erie Assessment Unit number
PCBs = Polychlorinated biphenyls
X = Impaired
✓ = Not Impaired

Role of Point Sources in Total Phosphorus Loading to Lake Erie

The Lake Erie Shoreline units are defined as those areas along the coast that have depth of three meters or less. In the Central Basin, depth increases rapidly from the coast (Figure 1-1), such that the Central Basin Shoreline unit is very narrow. Due to wind influence, lake currents, and wave action, interaction between the Central Basin Shoreline and Open Waters units is significant - to the extent that phosphorus levels between the two are the same.

Since the signing of the "Western Basin of Lake Erie Collaborative Agreement" with Michigan and Ontario in 2015, Ohio has done extensive work to define the loads from different sources and define strategies to reduce the loads from these sources. One of the primary efforts for that is the biennial Nutrient Mass Balance Report, first published in 2016. In part the report tracks total loads from tributaries to Lake Erie but also seeks to identify the role of different sources (Ohio Environmental Protection Agency, 2022). The report has focused on the sources originating in Ohio however, a comparable project has been undertaken at the national level with cooperation with Canadian partners (Great Lake Commission, 2024). Through implementation of the NPDES permit program and associated self-monitoring requirements, Ohio EPA has considerable data to accurately characterize total phosphorus loads from Ohio's point sources. Combining data from these sources we can consider the role of Ohio's publicly-operated treatment works (POTWs) compared to the total phosphorus load delivered to Lake Erie. Ohio's major POTWs contributed just 4.5% of the total phosphorus load to Lake Erie in water years 2017 - 2020 (Figure 1-2).

Figure 1-2. Role of Ohio's POTW discharges in the total phosphorus load to Lake Erie



Reducing Nutrient Loads from Ohio's Point Sources Tributary to Lake Erie

In the early 1990's the nutrient related impacts to Lake Erie were thought to be largely mitigated. This was followed by a period of re-eutrophication that occurred from the mid-1990s to the early 2000s. This time period was associated with consistent regulatory action on point sources discharging in the larger Great Lakes watershed. Throughout that time period all major POTWs were required to meet a monthly average phosphorus effluent limit of 1.0 mg/L. Since that time, Ohio EPA and communities in Ohio have continued to take action to reduce phosphorus from POTWs and further limit their role in nutrient loading to Lake Erie. This has been accomplished programmatically without lower numeric effluent limits. Since 2008, when it was widely recognized that Lake Erie was returning to a more eutrophic state, Ohio has taken the following steps to mitigate nutrient loads from POTWs:

1) Limitations to the use of phosphates in dishwashing detergents.
2) Removal of phosphorus from most lawn fertilizer products.
3) Ensure that facilities are optimizing the use of the existing infrastructure.
4) Facilitate implementation control plans for CSOs and other wet weather-associated discharges. Nutrient reduction was not the focus of these plans, but it is an added benefit. As these plans are implemented Ohio has included monitoring requirements to help quantify the nutrient reduction impacts. Reducing the discharged volume of untreated wet weather flows will result in nutrient reductions from the community.
5) Provide financial incentives to POTWs that implement nutrient reduction projects (lower interest and principal forgiveness)
6) Continue to implement phosphorus TMDLs where they are developed, most recently the Maumee Watershed Nutrient TMDL, approved by U.S.EPA in September 2023.

These strategies have been implemented by Ohio EPA and have had impacts at the Streetsboro-Hudson WWTP. Restrictions of phosphorus in consumer products works to reduce phosphorus loads in POTW influents. In recent years, Streetsboro has consistently discharged below the 0.7 mg/L phosphorus effluent limits currently applied to its final outfall, averaging 0.39 mg/L over the last five years. As a result, Streetsboro discharges 0.015% of the total phosphorus delivered to Lake Erie on an annual basis.

Continuing the implementation of these various strategies for Streetsboro, the proposed permit includes a requirement in Part II for the permittee to complete a phosphorus reduction evaluation - the form should be attached to the next NPDES permit renewal application. The strategies discussed will inevitably evolve as more detailed loading analyses occur through the development of TMDLs for identified water quality impairments.

Streetsboro-Hudson WWTP Phosphorus Reasonable Potential Determination

The performance of the treatment at the Streetsboro-Hudson WWTP, additional requirements for evaluation of reduction, and the insignificance of the facility load relative to the total nutrient load delivered to Lake Erie, combine to generate a scenario where Streetsboro does not cause or have the reasonable potential to cause nutrient-related impairments in the Central Basin of Lake Erie. The current nutrient limits are recommended to continue.

References

Great Lake Commission. 2021. *Sources of total phosphorus to the Western and Central Basins of Lake Erie*. Published at: https://data.blueaccounting.org/documents/e154458b190246a192b305a7c156c2d1/about

Ohio Environmental Protection Agency. 2022. *Nutrient Mass Balance Study for Ohio's Major Rivers 2022*. Published at: https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/35/documents/2022-NMB-Final.pdf

Addendum 1. Acronyms

ABS	Anti-backsliding
BPJ	Best professional judgment
CFR	Code of Federal Regulations
CMOM	Capacity Management, Operation, and Maintenance
CONSWLA	Conservative substance wasteload allocation
CSO	Combined sewer overflow
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DMT	Dissolved metal translator
IMZM	Inside mixing zone maximum
LTCP	Long-term Control Plan
MDL	Analytical method detection limit
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
OAC	Ohio Administrative Code
Ohio EPA	Ohio Environmental Protection Agency
ORC	Ohio Revised Code
ORSANCO	Ohio River Valley Water Sanitation Commission
PEL	Preliminary effluent limit
PEQ	Projected effluent quality
PMP	Pollution Minimization Program
PPE	Plant performance evaluation
SSO	Sanitary sewer overflow
TMDL	Total Daily Maximum Load
TRE	Toxicity reduction evaluation
TU	Toxicity unit
U.S. EPA	United States Environmental Protection Agency
WET	Whole effluent toxicity
WLA	Wasteload allocation
WPCF	Water Pollution Control Facility
WQBEL	Water-quality-based effluent limit
WQS	Water Quality Standards
WWTP	Wastewater Treatment Plant