National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit to Discharge to Waters of the State of Ohio
For City of Marion Water Pollution Control (WPC)

Public Notice No.: 210315
Public Notice Date: 3/7/2025
Comment Period Ends: 4/6/2025

Ohio EPA Permit No.: 2PD00011*SD
Application No.: OH0026352

Name and Address of Applicant:
City of Marion
233 West Center Street
Marion, OH 43302

Name and Address of Facility Where Discharge Occurs:
Marion WPC
1810 Marion-Agosta Road
Marion, OH 43302
Marion County

Receiving Water: Little Scioto River

Subsequent Stream Network: Scioto River to Ohio River

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 are proposed for silver, dibenz(a,h) anthracene, and bis(2-ethylhexyl) phthalate based on the reasonable potential analysis. A compliance schedule is proposed to meet the new effluent limits.

Lower effluent limits are proposed for zinc based on the waste load allocation.

New monitoring is proposed for selenium, and bromodichloromethane based on the reasonable potential analysis.

Limits are proposed to be removed for total filterable residue and free cyanide based on the reasonable potential analysis. Monitoring is proposed to continue.

Monitoring requirements are proposed to be removed for strontium and barium because reasonable potential was not observed.

Monitoring requirements are proposed to be removed for total suspended solids and 5-day carbonaceous biochemical oxygen demand ($CBOD_5$) from the combined sewer overflow monitoring tables because this data is not needed to characterize the overflows.

Monitoring for temperature, pH, and dissolved oxygen is proposed to be removed from the 801 upstream monitoring station because this data is currently not needed.

Monitoring for nitrate & nitrite is proposed to be added at stations 801 and 901 so that nutrient data is collected for future studies.

Semi-Annual chronic toxicity monitoring with the determination of acute endpoints is proposed for the life of the permit. Increased monitoring is proposed based on the detections in July 2021 and based on the WET reasonable potential being group 3.

A schedule of compliance to implement the combined sewer overflow (CSO) long term control plan (LTCP) is proposed to be carried over from the previous permit.

In Part II of the permit, special conditions are included that address sanitary sewer overflow (SSO) reporting; operator certification, minimum staffing, and operator of record; whole effluent toxicity (WET) testing; stormwater compliance; pretreatment program requirements; 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 Luke Heritage, luke.heritage@epa.ohio.gov, 419-419-3711.

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

Marion WPC discharges to Little Scioto River at River Mile 6.4. Figure 1 shows the approximate location of the facility.

This segment of the Little Scioto River is described by Ohio EPA River Code: 02-158, Hydrologic Unit Code: 05060001-03-03, County: Marion, Ecoregion: Eastern Corn Belt Plains. The Little Scioto River is designated for the following uses under Ohio's WQS (OAC 3745-1-09): Modified Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, 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

Marion WPC was constructed in 1924 and last upgraded in 2020. The average design flow is 10.5 million gallons per day (MGD), peak secondary treatment capacity is 42 MGD, and the peak hydraulic capacity is 51 MGD. Marion WPC serves the City of Marion, Village of Green Camp, Royal Oaks, Eagle Wood/Eagle Creek, and River Valley Trailer Park. Marion WPC has the following treatment processes (Figure 2):

- Screening
- Primary Settling
- Activated Sludge Aeration
- Secondary Clarification
- Chemical Addition
- Tertiary Clarification
- Chlorine Disinfection
- Dechlorination

The City of Marion has 50% separate sewers and 50% combined sewers in the collection system. The City's LTCP was initially submitted in August 2016, amended in January 2020, and approved by Ohio EPA on March 16, 2020. In the LTCP, the City proposed to control CSO discharges to nine events per typical year, which the City's hydraulic model projected to be equivalent to the capture of 95% of wet weather flows. The LTCP proposed a schedule to be implemented over nine phases and completed by December 31, 2044. At a cost of $95M, the City's Financial Capability Analysis projected that the LTCP would place a "high burden" on the community. A compliance schedule with projects for the next ten years of LTCP implementation is proposed in Part I,C of the permit.

Marion WPC has one bypass, monitored as station 603. When influent flow rates exceed 42 MGD and the 5.0-MG equalization basin is full, flow is diverted after primary treatment and is directed to the chlorine contact tanks. Excess flow up to 9 MGD bypasses secondary treatment and is blended with fully treated effluent prior to monitoring at Outfall 001. The LTCP included an evaluation of feasible alternatives to eliminate bypasses at Marion WPC. Based on that assessment, the City has completed the following improvements in Phase 1 of the LTCP to increase treatment at the facility:

- Installation of a step feed system to allow an increase in existing secondary treatment capacity to 21 MGD
- Installation of the 5.0-MG storage basin to enable the capture of additional flows for secondary treatment.
- Capacity improvements to ensure that an additional 21 MGD would receive secondary treatment.

Marion WPC now has a peak secondary treatment capacity of 42 MGD, which the LTCP identified as the appropriate cut-off point at which flows should be diverted from the secondary treatment system. The remaining 9 MGD of peak flows receive at least solids and floatables removal, primary clarification, and disinfection (when necessary) for a total wet weather peak flow of 51 MGD. Given that these improvements and the remainder of the LTCP are projected to place a high financial burden on the community, it was determined to be infeasible to eliminate bypasses at Marion WPC. U.S. EPA's 1994 CSO Control Policy allows that such a feasible alternatives study in the LTCP is sufficient support for approval of a CSO-related bypass. Therefore, bypasses through station 603 are proposed to be approved as a CSO-related bypass.

The City of Marion has an approved pretreatment program. The City of Marion has 2 categorical users that discharge 0.413 MGD of flow. The City of Marion has four significant non-categorical users that discharge 0.294 MGD of flow.

Marion WPC utilizes the following sewage sludge treatment processes:

- Gravity Thickening
- Mechanical Dewatering Belt Press
- Polymer Addition

Table 1 shows the last five years of sludge removed from Marion WPC. Treated sludge is disposed of in a municipal landfill.

DESCRIPTION OF EXISTING DISCHARGE

Table 2 presents the effluent violations for Marion WPC during the previous five years. The occurrence of effluent violations has decreased significantly since the completion of the Phase 1 plant improvements.

Table 3 presents the average annual effluent flow rate for Marion WPC for the previous five years. Marion WPC estimates there is an infiltration/inflow (I/I) rate to the collection system of 4 MGD Marion WPC performs the following activities to minimize I/I: Collection line replacement and repairs, grouting and implementing the CSO LTCP.

Table 4 presents the number of SSOs reported by Marion WPC for the previous five years. SSOs are reported at station 300. Projects implemented under the LTCP and additional I/I reduction efforts are anticipated to alleviate the persistent SSO and basement backup issues in the collection system.

Table 5 presents data characterizing bypass activity at Marion WPC for the previous five years. Bypasses are reported at station 603.

Table 6 presents the number of CSOs reported by Marion WPC during the previous five years. Marion WPC has three known combined sewer overflows (CSOs). In permit version 2PD00011*QD, CSO monitoring station 005 was added for the Mt Vernon CSO. CSO 005 was deleted from previous permits because it was believed that all combined sewage was separated from the area. However, Sanitary wastewater was discovered to be present in the stormwater that discharged through the Mount Vernon Outfall. The sewer was reconnected into the combined system and the outfall designated as an active CSO.

Table 7 presents data characterizing the annual total phosphorus load from Marion WPC during the previous five years.

Table 8 presents chemical specific data compiled from data reported in annual pretreatment reported and data collected by Ohio EPA 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 9 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period June 2018 through October 2023, and current permit limits are provided for comparison.

Table 10 summarizes the chemical specific data for outfall 001 by presenting the average and maximum PEQ values.

Table 11 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

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 City of Marion – Little Scioto River watershed assessment unit, which includes the Little Scioto River in the vicinity of Marion WPC, is listed as impaired for aquatic life and recreation on Ohio's 303(d) list.

The attainment status of the Little Scioto River is reported in the *Ohio 2024 Integrated Water Quality Monitoring and Assessment Report*. 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 multimeric 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 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 12) is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (i.e., full, partial, or non), the Qualitative Habitat Evaluation Index, and comments and observations for each sampling location.

The Little Scioto River in the vicinity of the City of Marion WPC is impaired for aquatic life and recreation due to the following: Sedimentation/Siltation, Direct Habitat Alterations, Dissolved Oxygen, Organic Enrichment, Metals, Abnormal Fish Deformities, Polycyclic Aromatic Hydrocarbon (PAHs) and Bacteria. Marion WPC is likely contributing to the impairments in Little Scioto River due to combined sewer overflow discharges and nutrient loading. Ohio EPA conducted a biological and water quality survey in the watershed in 2024 but data is not yet available.

There is historical creosote and PAH contamination in the sediment downstream of the Marion WPC discharge. A U.S. EPA funded sediment removal project is proposed in 2024. This project is the second sediment remediation project on this section of the Little Scioto River. The area for sediment removal is a 3.25 mile segment north of State Route 95 and ending at State Route 739. Contaminated sediment is proposed to be removed from the stream bed, dewatered, solidified, and hauled offsite for proper disposal. The project is projected to occur over the next three years.

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 *Biological and Water Quality Study of the Upper Scioto River 2009 & 2011* is available through the Ohio EPA, Division of Surface Water website at:
https://epa.ohio.gov/static/Portals/35/documents/UpperSciotoTSD2012.pdf

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 Marion WPC 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)	June 2018 through October 2023
Pretreatment data	2018-2022
Ohio EPA compliance sampling data	2022

Statistical Outliers and Other Non-representative Data
The data were examined, and the following values were removed from the evaluation as non-representative data:
- Metal monitoring from 9/5/2022 was excluded, the data collected at this date appeared to occur during an upset condition.
- Zinc data prior to July 2019 was excluded, a source from an industry was removed from the influent after this date.

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 10). 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 13).

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 (1) free-flowing receiving water/stream or (2) 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 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
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 14, and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Table 13 and Table 14. The WLA results to maintain all applicable criteria are presented in Table 15.

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 TUa for acute toxicity and 1.0 TUc 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 (TUc) and 7Q10 flow for the average and the acute toxicity unit (TUa) and 1Q10 flow for the maximum. WET WLAs are based on meeting the values of 0.3 TUa and 1.0 TUc 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 TUa 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 TUa limit to be granted. For the purposes of establishing WET limitations, the values of 1.0 TUa and 1.0 TUc are the most restrictive limitations that can be applied in NPDES permits [OAC 3745-33-07(B)(10)].

For Marion WPC, the WLA values for outfall 001 are 0.3 TUa and 1.0 TUc.

The chronic toxicity unit (TUc) 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):

$$TUc = 100/IC25$$

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):

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

The acute toxicity unit (TUa) 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:

$$TUa = 100/LC50$$

This equation applies outside the mixing zone for all designated waters. Based on the above, a value of 1.0 TUa is the lowest value that can be calculated using the equation. TUa 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 TUa, 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

$$\text{Acute Dilution Ratio} = \frac{1Q10 + [\text{WWTP flow rate}]}{[\text{WWTP flow rate}]} = \frac{0 \text{ cfs} + 16.2 \text{ cfs}}{16.2 \text{ cfs}} = 1$$

The acute WLA for Marion WPC can be expressed as 30 percent mortality in 100 percent effluent based on the dilution ratio of 1 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 TUa and 1.0 TUa 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 15. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 10, 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 16.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 17 presents the final effluent limits and monitoring requirements proposed for Marion WPC outfall 001 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Total Suspended Solids, 5-Day Carbonaceous Oxygen Demand, Dissolved Oxygen, and Ammonia
The limits proposed for dissolved oxygen (DO), total suspended solids (TSS), 5-day carbonaceous biochemical oxygen demand ($CBOD_5$), and ammonia are all based on plant design criteria. The plant design limits were included in PTI number 03-7365 from 1993 that included upgrades to the chlorination and dechlorination treatment system. These limits are protective of WQS. The TSS and CBOD5 limits are more stringent than the Secondary Treatment Standards in 40 CFR Part 133. The current ammonia limits have been evaluated using the WLA procedures and are protective of WQS for ammonia toxicity. The current dissolved oxygen limit is protective of WQS.

Total Residual Chlorine
The existing daily effluent limit for total residual chlorine is proposed to continue as a plant design value which is based on protection of the inside mixing zone maximum (IMZM) and outside mixing zone maximum (OMZM) PELs. The most stringent daily maximum criterion is applied and is to be met anytime chlorine is being utilized for effluent disinfection. The limit has been evaluated using the WLA procedures and determined to be protective of WQS for chlorine toxicity.

Nitrite+Nitrate, and Total Kjeldahl Nitrogen
Based on best technical judgment (BTJ), monitoring is recommended for, nitrite+nitrate, and total kjeldahl nitrogen. The Little Scioto River is listed as impaired for aquatic life usage. Nutrients and organic enrichment/dissolved oxygen are listed as causes of impairment and CSOs are listed as a source of impairment. The purpose of the monitoring is to maintain a nutrient data set for use in any future TMDL studies.

Oil and Grease, pH, and *Escherichia coli*
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 the Little Scioto River.

Bis(2-ethylhexyl) phthalate, Dibenz(a,h) anthracene, Silver, and Zinc
The Ohio EPA risk assessment (Table 16) places bis(2-ethylhexyl) phthalate, dibenz(a,h) anthracene, silver, and zinc in group 5. This placement, as well as the data in Table 9 and Table 10, indicates that the reasonable potential to exceed WQS exists and limits are necessary to protect water quality. For these parameters, 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 compliance schedule is proposed to meet the effluent limits for bis(2-ethylhexyl) phthalate, dibenz(a,h) anthracene, and silver. A compliance schedule is not proposed for Zinc, based on the evaluation of EDMR data it is believed that the lower Zinc limits will be able to be met.

Bromodichloromethane, Total Filterable Residue, and Selenium
The Ohio EPA risk assessment (Table 16) places bromodichloromethane, total filterable residue, and selenium in group 4. This placement, as well as the data in Table 9 and Table 10, 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). Limits for total filterable residue are proposed to be removed but monitoring will continue.

Cadmium, Chromium, Dissolved Hexavalent Chromium, Copper, Free Cyanide, Lead, Mercury, and Nickel
The Ohio EPA risk assessment (Table 16) places cadmium, chromium, dissolved hexavalent chromium, copper, free cyanide, lead, mercury and nickel in groups 2 and 3. This placement, as well as the data in Table 9 and Table 10, 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 is proposed to document that these pollutants continue to remain at low levels. Limits for free cyanide are proposed to be removed but monitoring will continue.

Antimony, Arsenic, Barium, Chloroform, Dibromochloromethane, 1,4-Dichlorobenzene, Methyl ethyl ketone, Molybdenum, Strontium, Toluene, Methylene Chloride, and 1,3,5 Trimethylbenzene.
The Ohio EPA risk assessment (Table 16) places antimony, arsenic, barium, chloroform, dibromochloromethane, 1,4-dichlorobenzene, methyl ethyl ketone, molybdenum, strontium, toluene, methylene chloride, and 1,3,5 trimethylbenzene in groups 2 and 3. This placement, as well as the data in Table 9 and Table 10, 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. Monitoring for barium and strontium are proposed to be removed. Data for these parameters will be available for future reasonable potential analyses through pretreatment program monitoring.

Temperature and Flow Rate
Monitoring for these parameters is proposed to continue to evaluate the performance of the treatment plant.

Dissolved Orthophosphate and Total Phosphorus

Monitoring for dissolved orthophosphate (as P) and total phosphorus 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.

Bis(2-ethylhexyl) phthalate, Bromodichloromethane, and Dibenz(a,h) anthracene
Bis(2-ethylhexyl) phthalate, bromodichloromethane, dibenz(a,h) anthracene are carcinogens, which require the evaluation of the additive effect of these pollutants. OAC 3745-33-07(A)(8) states that a pollutant may be removed from the consideration of additivity if the PEL for the pollutant is less than the quantification level for that pollutant. For bis(2-ethylhexyl) phthalate and dibenz(a,h) anthracene, the average PELs are less than the respective quantification levels, so these parameters removed from additivity consideration. As a result, there is no additive effect and carcinogenic additivity is not proposed for inclusion in the permit.

Whole Effluent Toxicity Reasonable Potential
Based on evaluating the WET data presented in Table 11 and Attachment 1, and other pertinent data under the provisions of OAC 3745-33-07(B), the Marion WPC is placed in Category 3 with respect to WET. No limits are proposed, but increased testing is proposed for the duration of the permit.

Additional Monitoring Requirements
Monitoring for temperature, pH, and dissolved oxygen is proposed to be removed from the 801 upstream monitoring station because this data is currently not needed for the reasonable potential analysis. Monitoring for nitrate & nitrite is proposed to be added at stations 801 and 901 so that nutrient data is collected for future studies.

Monitoring requirements are proposed to be removed for total suspended solids and 5-day carbonaceous biochemical oxygen demand ($CBOD_5$) from the combined sewer overflow monitoring tables because this data is not needed to characterize the overflows.

Additional monitoring requirements proposed 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 proposed for the disposal of sewage sludge by the following management practices are based on OAC 3745-40: land application, removal to sanitary landfill or transfer to another facility with an NPDES permit.

OTHER REQUIREMENTS

Compliance Schedule

Pretreatment Local Limits Review - A 6-month compliance schedule is proposed for the City to submit a technical justification for either revising its local industrial user limits or retaining its existing local limits. If revisions to local limits are required, the City must also submit a pretreatment program modification request. Details are in Part I.C of the permit.

Effluent limits – A 36 month compliance schedule is proposed to meet the final effluent limits for. Details are in Part I.C of the permit

Combined Sewer Overflow LTCP – The schedule to implement the phases of the LTCP will be carried over in this permit. 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 August 15, 2018 (OAC 3745-7). These rules require the Marion WPC to have a Class IV 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 of record to oversee the technical operation of the treatment works and sewerage system.

Method Detection Limit Reporting
When submitting monitoring results in eDMR, the permittee must report all detected concentration values above the method detection limit (MDL), even if that value is below the quantification level. A detection above the MDL indicates the presence of a pollutant with strong confidence, which must be considered in reasonable potential analyses. Per OAC 3745-33-07(C)(2)(c), for the purpose of assessing compliance, any value reported below the quantification level shall be considered in compliance with an effluent limit.

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

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

Stormwater Compliance
To comply with industrial stormwater regulations, the permittee requested coverage under the industrial stormwater general permit. Permit 2GR00549*GG became effective on 9/1/2022. No later than 90 days after the effective date of the renewed general permit, the permittee must request renewed coverage under the industrial storm water general permit or make other provisions to comply with the industrial storm water regulations.

Figure 1. Location of Marion WPC

Figure 2. Diagram of Wastewater Treatment System

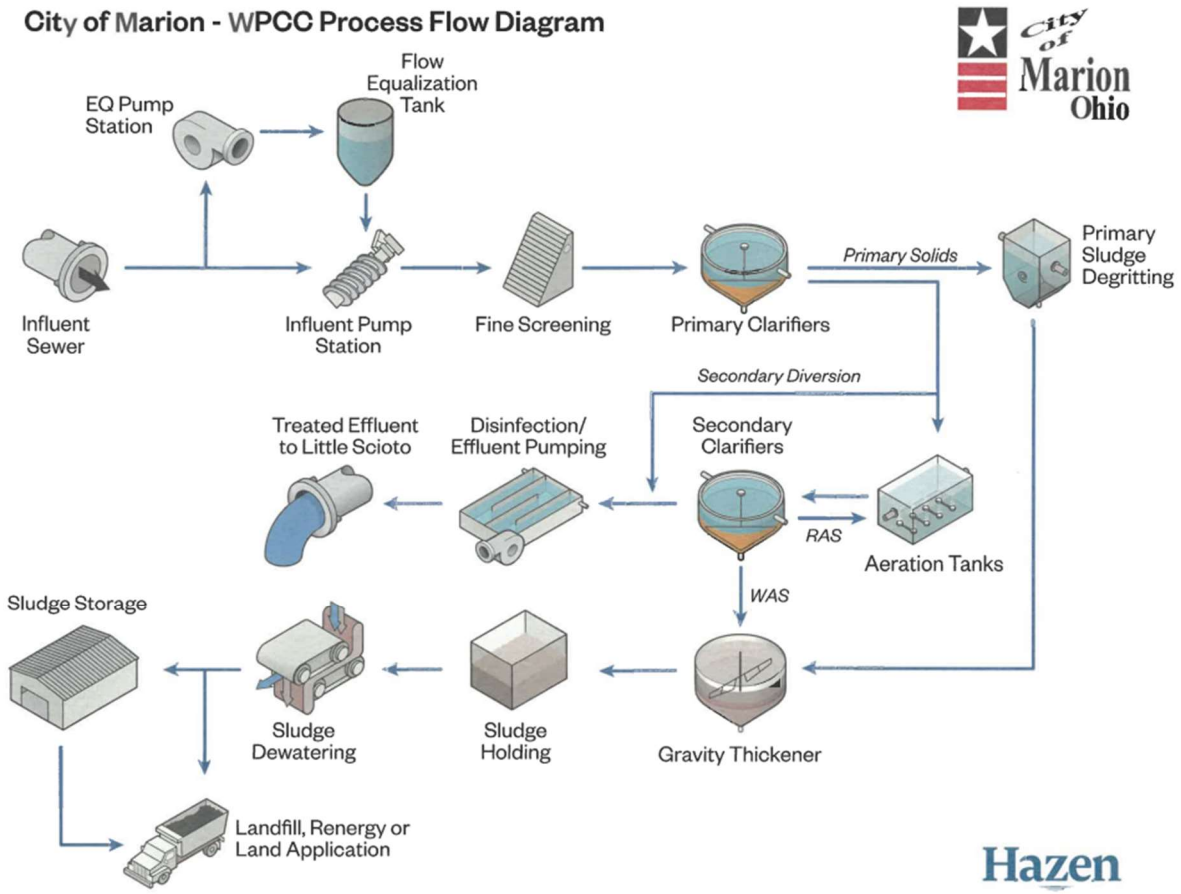

Table 1. Sewage Sludge Removal

Year	Dry Tons Removed
2018	2700
2019	1730
2020	1790
2021	1540
2022	1590
2023	1628

Table 2. Effluent Violations for Outfall 001

PARAMETER	2018[a]	2019	2020	2021	2022	2023[b]	Total
Chlorine, Total Residual	0	0	0	17	7	2	26
Dissolved Oxygen	11	40	23	12	0	1	87
E. coli	2	1	4	0	0	0	7
Nitrogen, Ammonia (NH3)	0	1	0	1	0	0	2
Total Suspended Solids	0	3	0	1	1	0	5
Zinc	0	5	0	0	0	0	5
pH, Minimum	0	0	1	33	0	0	34
Total	**13**	**50**	**28**	**64**	**8**	**3**	**166**

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23

Table 3. Average Annual Effluent Flow Rates

Flow Rate (Million Gallons per Day)					
Year	# obs	Average	Median	95th Percentile	Maximum
2018[a]	214	9.0	7.4	17.3	27.9
2019	360	10.4	8.6	23.9	28.8
2020	366	9.9	9.0	19.5	27.2
2021	365	9.3	7.5	20.0	36.0
2022	365	8.9	7.0	20.3	34.4
2023[b]	304	8.0	6.4	19.6	33.4

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23

Table 4. Sanitary Sewer Overflow Discharges

Year	Number of SSOs
2018[a]	6
2019	13
2020	25
2021	12
2022	11
2023[b]	0

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23

Table 5. Bypass Discharges

Outfall	Year	Days with bypass flow	Annual Bypass Volume (MG)	Median Bypass Volume (MG)	Median TSS (mg/L)	Median CBOD (mg/L)
603	2018[a]	9	24	2	52	33
603	2019	32	88	1	56	37
603	2020	18	61	2	73	51
603	2021	25	102	4	112	38
603	2022	5	13	3	55	35
603	2023[b]	2	0.2	0.1	56	37

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23

Table 6. Combined Sewer Overflow Discharges

Station No.	Occurrences							Volume (MG)					
	2018[a]	2019	2020	2021	2022	2023[b]		2018[a]	2019	2020	2021	2022	2023[b]
003	25	45	46	42	41	33		9.8	81.1	103.4	143.4	211.8	6.8
004	28	46	46	55	46	41		58.9	117.2	103.6	101.3	263.7	36.5
005	--	--	--	3	22	13		--	--	--	0.09	7.2	4.1

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23

Table 7. Calculated Annual Total Phosphorus Loadings

Year	Median Phosphorus (mg/L)	Median Flow (MGD)	Median Loading (kg/day)
2018[a]	1.79	7.4	50
2019	1.72	8.6	56
2020	1.52	9.0	52
2021	2.22	7.5	63
2022	2.10	7.0	56
2023[b]	2.61	6.4	63

[a] = data set begins on 6/1/18
[b] = data set ends on 10/31/23
MGD = million gallons per day

Table 8. Effluent Characterization Using Pretreatment and Ohio EPA Data

Parameter	Ohio EPA 3/28/2023	Ohio EPA 5/16/2023	PT 7/26/2018	PT 5/9/2019	PT 6/22/2020	PT 7/21/2021	PT 7/13/2022
Antimony	0.74	0.808	AA (5)	AA (5)	2	AA (5)	AA (5)
Arsenic	1.53	1.87	AA (5)	AA (5)	1	AA (5)	AA (5)
Cadmium	0.043	0.0325	AA (3)	AA (3)	AA (0.1)	AA (3)	AA (3)
Chromium	0.875	1.34	AA (7)	AA (7)	2	AA (7)	AA (7)
Copper	2.83	3.3	AA (8)	AA (8)	4	AA (8)	AA (8)
Lead	0.307	0.269	AA (10)	AA (10)	AA (0.1)	AA (10)	AA (10)
Nickel	8.3	9.69	20	11	10	17	15
Selenium	1.59	0.778	AA (4)	AA (4)	1	AA (4)	AA (4)
Silver	0.06	AA (0.01)	AA (5)	AA (5)	AA (0.4)	AA (5)	AA (5)
Strontium	1620	3100	NT	NT	NT	NT	NT
Zinc	36.1	48.5	345	315	83	77	71
Nitrate + Nitrite (mg/L)	9.36	14.5	NT	NT	NT	NT	NT
Molybdenum	NT	NT	AA (20)	AA (20)	20	AA (20)	AA (20)
Chloroform	0.683	3.88	AA (5)	AA (5)	0.7	AA (5)	AA (5)
Acetone	AA (0.545)	2.51	NT	NT	NT	NT	NT
Butylbenzene, tert-	0.448	AA (0.207)	NT	NT	NT	NT	NT
Chlorodibromomethane	AA (0.15)	0.74	AA (5)	AA (5)	AA (0.4)	AA (5)	AA (5)
Dibenzo[a,h]anthracene	AA (1.77)	1.93	AA (10)	AA (10)	AA (1.37)	AA (10)	AA (10)
Dichlorobenzene, 1,4-	0.536	AA (0.277)	AA (5)	AA (5)	AA (0.5)	AA (5)	AA (5)
Dichlorobromomethane	0.589	1.78	AA (5)	AA (5)	AA (0.4)	AA (5)	AA (5)
Methyl ethyl ketone	AA (0.511)	0.647	NT	NT	NT	NT	NT
Methyl tertiary butyl ether (MTBE)	0.939	AA (0.644)	NT	NT	NT	NT	NT
Methylene chloride	0.608	AA (0.303)	AA (10)	AA (10)	AA (0.6)	AA (10)	AA (10)
Toluene	2.6	0.63	AA (5)	AA (5)	AA (0.4)	AA (5)	AA (5)
Trihalomethanes (unspecified mix)	1.27	6.41	NT	NT	NT	NT	NT
Trimethylbenzene, 1,3,5-	0.443	AA (0.182)	NT	NT	NT	NT	NT
Bis (2-ethylhexyl) Phthalate	AA (1.71)	AA (1.79)	AA (5)	AA (5)	AA (1.1)	AA (5)	AA (5)

Units in µg/L, unless otherwise noted
PT = pretreatment
AA = not-detected (analytical method detection limit)

Table 9. Effluent Characterization Using Self-Monitoring Data

Parameter	Unit	Current Limits		# Obs	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Water Temperature	°C	Monitoring Only		1963	18.7	27.6	9.4 - 30
Dissolved Oxygen	mg/L	--	5.0[m]	1935	7.4	5.1*	0 - 11.4
Total Suspended Solids	kg/day	477	715[w]	1256	84.6	430	0 - 3590
Total Suspended Solids	mg/L	12	18[w]	1261	2.8	8	0 - 61
Oil and Grease	mg/L	--	10	152	--	--	< 5
Nitrogen, Ammonia - Summer	kg/day	40	60[w]	673	2.78	51.2	0 - 224
Nitrogen, Ammonia - Summer	mg/L	1.0	1.5[w]	678	.11	1.47	0 - 4.44
Nitrogen, Ammonia - Winter	kg/day	100	159[w]	574	2.78	62.1	0 - 416
Nitrogen, Ammonia - Winter	mg/L	2.5	4.0[w]	574	.0718	1.18	0 - 9.14
Nitrogen Kjeldahl, Total	mg/L	Monitoring Only		66	1.7	4.24	0 - 7.4
Nitrite Plus Nitrate, Total	mg/L	Monitoring Only		65	9.16	15.2	3.4 - 22.8
Phosphorus, Total	mg/L	Monitoring Only		229	1.95	4.22	.0626 - 6.08
Orthophosphate, Dissolved	mg/L	Monitoring Only		66	1.81	4.87	.079 - 35.8
Barium, TR	µg/L	Monitoring Only		63	30.2	40.8	15.9 - 43
Nickel, TR	µg/L	Monitoring Only		63	9	18.9	0 - 42.1
Silver, TR	µg/L	Monitoring Only		63	< 1	< 1	0 - 1.72
Strontium, TR	µg/L	Monitoring Only		63	2270	3700	1000 - 4260
Zinc, TR - All	kg/day	--	12	58	1.98	10.7	.32 - 18.3
Zinc, TR - All	µg/L	--	300	59	66	234	16.6 - 418
Zinc, TR - Quarterly	µg/L	Monitoring Only		4	322	375	206 - 378
Cadmium, TR	µg/L	Monitoring Only		63	< 2	< 2	0 - 42.8
Lead, TR	µg/L	Monitoring Only		63	< 2	1.65	0 - 38.5
Chromium, TR	µg/L	Monitoring Only		63	< 5	< 5	0 - 37.7
Copper, TR	µg/L	Monitoring Only		63	< 5	6.01	0 - 48.1
Chromium, Dissolved Hexavalent	µg/L	Monitoring Only		59	--	--	< 4
E. coli	#/100 mL	126	284[w]	1061	26	816	0 - 2420
Bis(2-ethylhexyl) Phthalate	µg/L	Monitoring Only		65	< 5	< 5	0 - 4.9
Flow Rate	MGD	Monitoring Only		1974	7.68	20.2	2.38 - 36
Chlorine, Total Residual	mg/L	--	0.019	1073	< .01	< .01	0 - 1.47
Mercury, Total	kg/day	0.0005	0.012	11	.00002	.0000823	0 - .0000866

Parameter	Unit	Current Limits		# Obs	Percentiles		Data Range
		30 Day	Daily		50th	95th	
Mercury, Total - 2018-2019	ng/L	12	300	11	.609	1.17	0 - 1.5
Mercury, Total - 2019-2023	ng/L	Monitoring Only		55	.765	1.76	0 - 2.68
Cyanide, Free (Low-Level) - All	kg/day	0.48	1.84	55	< .0647	.0975	0 - .368
Cyanide, Free (Low-Level) - All	µg/L	12	46	55	< 3	5.21	0 - 10
Cyanide, Free (Low-Level) - Quarterly	µg/L	Monitoring Only		4	--	--	< 3
Acute Toxicity, Ceriodaphnia dubia	TUa	Monitoring Only		5	--	--	< .2
Chronic Toxicity, Ceriodaphnia dubia	TUc	Monitoring Only		5	< 1	1.84	0 - 2.3
Acute Toxicity, Pimephales promelas	TUa	Monitoring Only		6	< .2	1.03	0 - 1.3
Chronic Toxicity, Pimephales promelas	TUc	Monitoring Only		6	< 1	1.35	0 - 1.8
pH, Maximum	S.U.	--	9.0	1876	7.58	8.02	6.56 - 8.89
pH, Minimum	S.U.	--	6.5[m]	1876	7.35	6.88*	6.08 - 8.71
Residue, Total Filterable	kg/day	59700	--	152	20000	42500	4910 - 70800
Residue, Total Filterable	mg/L	1500	--	152	650	879	230 - 1400
CBOD 5 day	kg/day	398	596[w]	1110	55.9	208	0 - 2180
CBOD 5 day	mg/L	10	15[w]	1115	2	4	0 - 27

* = For minimum pH, 5th percentile shown in place of 50th percentile.
** = For dissolved oxygen, 5th percentile shown in place of 95th percentile.
[a] = weekly average.
[m] = minimum limit

Table 10. Projected Effluent Quality for Outfall 001

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Ammonia (Summer)	mg/L	471	441	0.85	1.8
Ammonia (Winter)	mg/L	296	257	0.7	1.5
Antimony	µg/L	3	3	4.38	6
Arsenic - TR	µg/L	3	3	4.10	5.61
Barium	µg/L	63	63	38.6	47.9
Bis(2-ethylhexyl) phthalate	µg/L	68	1	3.65	5
Bromodichloromethane	µg/L	3	2	3.90	5.34
tert-Butylbenzene	µg/L	2	1	1.24	1.70
Cadmium - TR	µg/L	2	2	0.12	0.16
Chloroform (Trichloromethane)	µg/L	7	3	7.3	10
Chromium - TR	µg/L	65	3	3.65	5
Hexavalent Chromium (Dissolved)	µg/L	59	0	--	--
Copper - TR	µg/L	69	13	4.6	7.2
Cyanide, Free	µg/L	59	5	2	7.4
Dibenz(a,h)anthracene	µg/L	3	1	4.22	5.79
Dibromochloromethane	µg/L	3	1	1.62	2.22
1,4-Dichlorobenzene	µg/L	3	1	1.17	1.61
Total Filterable Residue	mg/L	152	152	793	940
Lead - TR	µg/L	59	5	2.20	3.01
Mercury	ng/L	66	53	1.4	2.1
Methyl ethyl ketone	µg/L	2	1	1.79	2.46
Molybdenum	µg/L	5	1	33.6	46
Nickel - TR	µg/L	69	50	15.5	21.7
Nitrate-N + Nitrite-N	mg/L	67	67	14.3	19.4
Selenium - TR	µg/L	3	3	3.48	4.77
Silver	µg/L	50	4	1.25	1.72
Strontium	µg/L	65	65	3184	4098
Toluene	µg/L	3	2	5.69	7.8
Zinc - TR	µg/L	62	62	148	224
Methylene chloride (Dichloromethane)	µg/L	3	1	1.33	1.82
1,3,5-Trimethylbenzene	µg/L	2	1	1.23	1.68
Chlorine, Total Residual	mg/L	1073	30	0.54	0.74

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 11. Summary of Acute and Chronic Toxicity Results

	Ceriodaphnia dubia		*Pimephales promelas*	
Date	**Acute (Tu_a)**	**Chronic (Tu_c)**	**Acute (Tu_a)**	**Chronic (Tu_c)**
7/1/2018	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
7/1/2019	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
7/1/2020	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
7/1/2021	AA (0.2)	2.3	1.3	1.8
7/26/2022	AA (0.2)	AA (1.0)	AA (0.2)	AA (1.0)
7/25/2023	AE ()	AE ()	.2	AA (1.0)
8/28/2023	AA (0.2)	AA (1.0)	--	--

AA = non-detection; analytical method detection limit of 0.2 TU_a, 1.0 TU_c
AE = test not valid
TU_a = acute toxicity unit
TU_c = chronic toxicity unit

Table 12. Use Attainment Table

Location	RM	Use	Status	Cause	Source
Little Scioto River at Marion, upstream of Marion WPC, downstream of Rockswale Ditch	6.50	MWH-C	PARTIAL	Organic Enrichment/ dissolved oxygen Habitat alterations	CSOs Channelization
Little Scioto River at landfill, Township Road 97-A	6.24	MWH-C	PARTIAL	Organic Enrichment/ dissolved oxygen Habitat alterations	CSOs Channelization
Little Scioto River at Green Camp, at Owens-Green Camp Road	0.39	MWH-C	NON	Sediment contamination, chronic ammonia	CSOs Creosote

Data gathered from Table 2, *Biological and Water Quality Study of the Upper Scioto River 2009 & 2011*
MWH-C = Modified warmwater habitat (channelized)

Table 13. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum	
		Human Health	Agri-culture	Aquatic Life	Aquatic Life	
Ammonia (Summer)	mg/L	--	--	2.7	--	--
Ammonia (Winter)	mg/L	--	--	4.8	--	--
Antimony	µg/L	640	--	190	900	1800
Arsenic - TR	µg/L	--	100	150	340	680
Barium	µg/L	--	--	1500	6300	13000
Bis(2-ethylhexyl)phthalate	µg/L	3.7[c]	--	8.4	1100	2100
Bromodichloromethane	µg/L	5.6[c]	--	--	--	--
tert-Butylbenzene	µg/L	--	--	--	--	--
Cadmium - TR	µg/L	--	50	5.2	13	27
Chloroform (Trichloromethane)	µg/L	20000[c]	--	140	1300	2600
Chromium - TR	µg/L	--	100	190	3900	7900
Hexavalent Chromium (Dissolved)	µg/L	--	--	11	16	31
Copper - TR	µg/L	--	500	21	34	69
Cyanide, Free	µg/L	400	--	12	46	92
Dibenz(a,h)anthracene	µg/L	0.0013[c]	--	--	--	--
Dibromochloromethane	µg/L	210[c]	--	--	--	--
1,4-Dichlorobenzene	µg/L	900	--	9.4	57	110
Total Filterable Residue	mg/L	--	--	1500	--	--
Lead - TR	µg/L	--	100	22	410	830
Mercury	ng/L	12	10000	910	1700	3400
Methyl ethyl ketone	µg/L	--	--	22000	200000	400000
Molybdenum	µg/L	--	--	20000	190000	370000
Nickel - TR	µg/L	4600	200	120	1100	2100
Nitrate-N + Nitrite-N	mg/L	--	100	--	--	--
Selenium - TR	µg/L	4200	50	5	62	120
Silver	µg/L	--	--	1.3	8.3	17
Strontium	µg/L	--	--	72000	190000	380000
Toluene	µg/L	520	--	62	560	1100
Zinc - TR	µg/L	26000	25000	270	270	540
Methylene chloride (Dichloromethane)	µg/L	10000[c]	--	1900	11000	22000
1,3,5-Trimethylbenzene	µg/L	950	--	26	230	460
Chlorine, Total Residual	mg/L	--	--	0.011	0.019	0.038

[c] carcinogen

Table 14. Instream Conditions and Discharger Flow

Parameter	Units	Season	Value	Basis
Stream Flows				
1Q10	cfs	annual	0	USGS station 03218000 1938-1971
7Q10	cfs	annual	0	USGS station 03218000 1938-1971
30Q10	cfs	summer	0	USGS station 03218000 1938-1971
		winter	0.12	USGS station 03218000 1938-1971
90Q10	cfs	annual	0	USGS station 03218000 1938-1971
Harmonic Mean	cfs	annual	1.66	USGS station 03218000 1938-1971
Mixing Assumption	%	average	100	
		maximum	100	
Hardness, OMZ	mg/L	annual	260	901 Station 50th percentile n=66
Hardness, IMZ	mg/L	annual	260	901 Station 50th percentile n=66
pH	S.U.	summer	7.7	901 station 75th percentile n=38
		winter	7.8	901 station 75th percentile n=21
Temperature	ºC	summer	22.5	901 station 75th percentile n=38
		winter	8.7	901 station 75th percentile n=21
Marion WPC flow	cfs	annual	16.246	NPDES Application Form 2A
Background Water Quality				
Ammonia (Summer)	mg/L		0.109	EDMR; 2018-2023; n=39; 0<MDL; 801 Station
Ammonia (Winter)	mg/L		0.132	EDMR; 2018-2023; n=20; 0<MDL; 801 Station
Antimony	µg/L		0	No representative data available.
Arsenic - TR	µg/L		1.57	OEPA; 2023; n=1; 0<MDL; Station 610750
Barium	µg/L		57	OEPA; 2023; n=1; 0<MDL; Station 610750
Bis(2-ethylhexyl)phthalate	µg/L		0	No representative data available.
Bromodichloromethane	µg/L		0	No representative data available.
tert-Butylbenzene	µg/L		0	No representative data available.
Cadmium - TR	µg/L		0.0938	OEPA; 2023; n=1; 0<MDL; Station 610750
Chloroform (Trichloromethane)	µg/L		0	No representative data available.
Chromium - TR	µg/L		2.9	OEPA; 2023; n=1; 0<MDL; Station 610750
Hexavalent Chromium (Dissolved)	µg/L		0	No representative data available.
Copper - TR	µg/L		4.49	OEPA; 2023; n=1; 0<MDL; Station 610750
Cyanide, Free	µg/L		0	No representative data available.
Dibenz(a,h)anthracene	µg/L		0	No representative data available.
Dibromochloromethane	µg/L		0	No representative data available.
1,4-Dichlorobenzene	µg/L		0	No representative data available.
Total Filterable Residue	mg/L		0	No representative data available.
Lead - TR	µg/L		2.85	OEPA; 2023; n=1; 0<MDL; Station 610750
Mercury	ng/L		0	No representative data available.
Methyl ethyl ketone	µg/L		0	No representative data available.

Parameter	Units	Season	Value	Basis
Molybdenum	µg/L		0	No representative data available.
Nickel - TR	µg/L		5.24	OEPA; 2023; n=1; 0<MDL; Station 610750
Nitrate-N + Nitrite-N	mg/L		0	No representative data available.
Selenium - TR	µg/L		0.716	OEPA; 2023; n=1; 0<MDL; Station 610750
Silver	µg/L		0	No representative data available.
Strontium	µg/L		448	OEPA; 2023; n=1; 0<MDL; Station 610750
Toluene	µg/L		0	No representative data available.
Zinc - TR	µg/L		17.9	OEPA; 2023; n=1; 0<MDL; Station 610750
Methylene chloride (Dichloromethane)	µg/L		0	No representative data available.
1,3,5-Trimethylbenzene	µg/L		0	No representative data available.
Chlorine, Total Residual	mg/L		?	No representative data available.

MDL = analytical method detection limit
n = number of samples
OEPA = Ohio Environmental Protection Agency

Table 15. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum	
		Human Health	Agri-culture	Aquatic Life	Aquatic Life	
Ammonia (Summer)	mg/L	--	--	2.7	--	--
Ammonia (Winter)	mg/L	--	--	4.83	--	--
Antimony	µg/L	705	--	190	900	1800
Arsenic - TR	µg/L	--	110	150	340	680
Barium	µg/L	--	--	1500	6300	13000
Bis(2-ethylhexyl)phthalate	µg/L	4.1 [C]	--	8.4	1100	2100
Bromodichloromethane	µg/L	6.2 [C]	--	--	--	--
tert-Butylbenzene	µg/L	--	--	--	--	--
Cadmium - TR	µg/L	--	55	5.2	13	27
Chloroform (Trichloromethane)	µg/L	22044 [C]	--	140	1300	2600
Chromium - TR	µg/L	--	110	190	3900	7900
Hexavalent Chromium (Dissolved)	µg/L	--	--	11	16	31
Copper - TR	µg/L	--	551	21	34	69
Cyanide, Free	µg/L	441	--	12	46	92
Dibenz(a,h)anthracene	µg/L	0.0014 [C]	--	--	--	--
Dibromochloromethane	µg/L	231	--	--	--	--
1,4-Dichlorobenzene	µg/L	992	--	9.4	57	110
Total Filterable Residue	mg/L	--	--	1500	--	--
Lead - TR	µg/L	--	110	22	410	830
Mercury[B]	ng/L	12	10000	910	1700	3400
Methyl ethyl ketone	µg/L	--	--	22000	200000	400000
Molybdenum	µg/L	--	--	20000	190000	370000
Nickel - TR	µg/L	5069	220	120	1100	2100
Nitrate-N + Nitrite-N	mg/L	--	110	--	--	--
Selenium - TR	µg/L	4629	55	5	62	120
Silver	µg/L	--	--	1.3	8.3	17
Strontium	µg/L	--	--	72000	190000	380000
Toluene	µg/L	573	--	62	560	1100
Zinc - TR	µg/L	28655	27553	270	270	540
Methylene chloride (Dichloromethane)	µg/L	11022 [C]	--	1900	11000	22000
1,3,5-Trimethylbenzene	µg/L	1047	--	26	230	460
Chlorine, Total Residual	mg/L	--	--	0.011	0.019	0.038

[B] Bioaccumulative Chemical of Concern (BCC); no mixing zone allowed after 11/15/2010, WQS must be met at end-of-pipe, unless requirements for an exception are met as listed in OAC 3745-2-05(A)(2)(e)(ii)

[C] carcinogen

Table 16. Parameter Assessment

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

tert-Butylbenzene

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

Antimony	Arsenic - TR	Barium
Cadmium - TR	Chloroform (Trichloromethane)	Chromium - TR
Hexavalent Chromium (Dissolved)	Copper - TR	Cyanide, Free
Dibromochloromethane	1,4-Dichlorobenzene	Lead - TR
Mercury	Methyl ethyl ketone	Molybdenum
Nickel - TR	Nitrate-N + Nitrite-N	Strontium
Toluene	Methylene chloride (Dichloromethane)	1,3,5-Trimethylbenzene

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

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.

Bromodichloromethane	Total Filterable Residue	Selenium - TR

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*
Bis(2-ethylhexyl) phthalate	µg/L	4.1	1100
Dibenz(a,h)anthracene	µg/L	0.0014	--
Silver	µg/L	1.3	8.3
Zinc - TR	µg/L	270	270
Chlorine, Total Residual	mg/L	0.011	0.019

PEL = preliminary effluent limit
PEQ = projected effluent quality
WLA = wasteload allocation
WQS = water quality standard

Table 17. Final Effluent Limits for Outfall 001

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	5.0[m]	--	--	--	WQS
TSS	mg/L	18[d]	12	715[d]	477	PD
Oil & Grease	mg/L	10	--	--	--	WQS
Ammonia (summer)	mg/L	1.5 [d]	1.0	60 [d]	40	PD
Ammonia (winter)	mg/L	4.0 [d]	2.5	159 [d]	100	PD
Total Kjeldahl Nitrogen	mg/L	- - - - - - - - - - Monitor - - - - - - - - - -				M
Nitrate plus Nitrite	mg/L	- - - - - - - - - - Monitor - - - - - - - - - -				M
Phosphorus	mg/L	- - - - - - - - - - Monitor - - - - - - - - - -				PMR
Orthophosphate	mg/L	- - - - - - - - - - Monitor - - - - - - - - - -				PMR
Selenium	µg/L	- - - - - - - - - - Monitor - - - - - - - - - -				RP
Nickel	µg/L	- - - - - - - - - - Monitor - - - - - - - - - -				M
Silver	µg/L	8.3	1.3	0.33	0.052	RP
Zinc	µg/L	270	--	11	--	RP
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
Bromodichloromethane	µg/L	- - - - - - - - - - Monitor - - - - - - - - - -				RP
Dibenzo (A,H) Anthracene	µg/L	--	0.0014	--	0.000056	RP
Bis(2-ethylhexyl) Phthalate	µg/L	1100	4.1	44	0.164	RP
Flow Rate	MGD	- - - - - - - - - - Monitor - - - - - - - - - -				M[c]
Chlorine	mg/L	0.019	--	--	--	PD/WLA
Mercury	ng/L	- - - - - - - - - - Monitor - - - - - - - - - -				M
Free Cyanide	µg/L	- - - - - - - - - - Monitor - - - - - - - - - -				M
Acute Toxicity, *Ceriodaphnia dubia*	TUa	- - - - - - - - - - Monitor - - - - - - - - - -				WET
Chronic Toxicity, *Ceriodaphnia dubia*	TUc	- - - - - - - - - - Monitor - - - - - - - - - -				WET
Acute Toxicity, *Pimephales promelas*	TUa	- - - - - - - - - - Monitor - - - - - - - - - -				WET
Chronic Toxicity, *Pimephales promelas*	TUc	- - - - - - - - - - Monitor - - - - - - - - - -				WET
Total Filterable Residue	mg/L	- - - - - - - - - - Monitor - - - - - - - - - -				RP
pH, maximum	SU	9.0	--	--	--	WQS
pH, minimum	SU	6.5[m]	--	--	--	WQS
CBOD5	mg/L	15[d]	10	596[d]	398	PD

[a] Effluent loadings based on average design discharge flow of 10.5 MGD.

[b] Definitions:

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))
WLA = Wasteload Allocation procedures (OAC 3745-2)
WQS = Ohio Water Quality Standards (OAC 3745-1)
WET = Minimum testing requirements for whole effluent toxicity [OAC 3745-33-07(B)(11)]
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.
[m] minimum limit

Attachment 1. Whole Effluent Toxicity Reasonable Potential Analysis

Whole effluent toxicity testing produced only non-detection results for acute toxicity in *Ceriodaphnia dubia*, and therefore it falls under Hazard Category 4. The reasonable potential analyses in Tables 3B, 3C, and 3D were only performed for chronic *Ceriodaphnia dubia* (TUc CD) and *Pimephales promelas* acute (TUa Pp) and chronic toxicity (TUc Pp).

Hazard Category Summary

	Ceriodaphnia dubia		***Pimephales promelas***	
	Acute	**Chronic**	**Acute**	**Chronic**
Effluent Toxicity (Table A)	4	3	4	3
Near-Field Impact (Table B)	4		3	
Far-field Impact (Table C)		3		4
	3		3	

Hazard Categories: 1: Toxicity adequately documented 3: Toxicity possible
2: Toxicity strongly suspected 4: No toxicity

Table A. Effluent Toxicity

	Ceriodaphnia dubia		***Pimephales promelas***	
	Acute	**Chronic**	**Acute**	**Chronic**
WLA	0.3	1.0	0.3	1.0
# of tests	6	6	6	6
Maximum value	AA	2.3	1.3	1.8
Percent of tests >WLA	--	17	17	17
Geometric mean	--	1.2	0.27	1.1
Average Exceedance (Geomean * Percent of tests >WLA)	--	0.20	0.05	0.19
Average Exceedance / WLA	--	0.2	0.17	0.19

Attribute Evaluated	**Hazard Category 1**	**Hazard Category 2**	**Hazard Category 3**	**Hazard Category 4**
Degree of Toxicity	Adequately Documented	Strongly Suspected	Possible	None
(1) Minimum number of tests	3 TUc Cd TUa, TUc Pp	1	0 or 1	0 or 1
(2) Percent of tests >WLA	>30	20 to 30	10 to 20 TUc Cd TUa, TUc Pp	10
(3) Average Exceedance/WLA[1] (Tables B and C data available)				
(a) Acute[2]	> 0.5	≥ 0.3	≥ 0.3	< 0.3 TUa PP
(b) Chronic	>0.67	≥ 0.5	≥ 0.5	< 0.5 TUc Pp TUc Cd
(4) Maximum TU value (Tables 3B and 3C data available)	> WLA TUc Cd TUa, TUc Pp	≥ WLA	≥ 0.5xWLA	< 0.5xWLA

Table B. Near-Field Toxicity

Attribute Evaluated	**Hazard Category 1**	**Hazard Category 2**	**Hazard Category 3**	**Hazard Category 4**
Degree of Toxicity	Adequately Documented	Strongly Suspected	Possible	None
(1) Mortality within mixing zone[3]	≥ 20%	≤ 20%	≤ 20%	< 20%
(2) Stream community impact				
(a) implied chemically[4, 6]	≥3xIMZM or >LC50	≥1.5xIMZM or >LC50	≥0.75xIMZM or >0.75xLC50	≤0.5xIMZM or ≤0.75xLC50 TUa Pp
(b) implied toxicologically[4]	≥1.0 TUa	≥1.0 TUa	≥1.0 TUa TUa Pp	<1.0 TUa
(c) implied biologically	Toxic	Fair/poor community	Slight impact	None TUa Pp

Table C. Far-Field Toxicity

Attribute Evaluated	**Hazard Category 1**	**Hazard Category 2**	**Hazard Category 3**	**Hazard Category 4**
Degree of Toxicity	Adequately Documented	Strongly Suspected	Possible	None
(1) Aquatic life use impairment (Ohio EPA biological criteria)	Yes[5]	Yes or partial[5]	Partial	None TUc Cd, TUc Pp
(2) Stream community impact implied toxicologically[3]	Significant effect	Significant effect	Unknown or slight effect	None TUc Cd, TUc Pp
(3) Other indicators	Stress indicated	Stress indicated	Stress indicated	No stress TUc Cd, TUc Pp

[1] Compare (per cent exceedances x geometric mean TU) to table factor.
[2] Use 0.3 x WLA for situations where AIM exists.
[3] Results of ambient toxicity test are not binding or required for classification as to category but, if available, will be interpreted under the weight of evidence principle giving due consideration as to sampling location and conditions.
[4] Based on effluent data. May not be appropriate for situations where AIM exists.
[5] Lack of attainment due to toxic, complex or unidentifiable type of impact.
[6] The LC50-based criteria are used only for pollutant parameters that do not have numeric criteria.

Attachment 2. 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