National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit to Discharge to Waters of the State of Ohio
for Gallipolis Water Pollution Control Facility (WPCF)

Public Notice No.: 163601
Public Notice Date: November 3, 2022
Comment Period Ends: December 3, 2022

Ohio EPA Permit No.: 0PD00001*RD
Application No.: OH0020478

Name and Address of Applicant:
City of Gallipolis
P.O. Box 339
Gallipolis, OH 45631

Name and Address of Facility Where Discharge Occurs:
Gallipolis WPCF
1547 Chatham Avenue
Gallipolis, OH 45631
Gallia County

Receiving Water: Ohio River

Subsequent Stream Network: Mississippi 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.

Lower final effluent limits are proposed for *Escherichia coli*. New WQS for *E. coli* became effective in April 2016. No compliance schedule is proposed for meeting these new final effluent limits. Based on best technical judgment, it is expected the facility will be able to comply when the permit becomes effective

New monitoring is proposed for cadmium based on Best Technical Judgment. Cadmium is a metal commonly present in municipal sewage and monitored for at Public Owned Treatment Works as outlined in Ohio EPA Permit Guidance 1.

Limits are proposed to be removed for copper because limits are not necessary to protect water quality. Monitoring is proposed to continue at a reduced frequency.

Limits and monitoring requirements are proposed to be removed for free cyanide because limits and monitoring are not necessary to protect water quality.

Sludge monitoring station 588 for sludge hauled to another NPDES permitted facility has been removed as the City of Gallipolis does not intend to handle sludge in that manner.

Annual acute toxicity monitoring is proposed for the life of the permit. This satisfies the minimum testing requirements of Ohio Administrative Code (OAC) 3754-33-07(B)(11) and will adequately characterize toxicity in the plant's effluent.

To ensure that data is obtained that allows Ohio EPA to make water quality-related decisions regarding cadmium and copper a special condition is proposed in Part II of the permit that provides guidance on the analytical method detection limits (MDLs) the permittee should use in analyzing for these contaminants.

A schedule of compliance for Inflow/Infiltration Reduction is included in Part I.C of the permit, which details implementation of Inflow/Infiltration reduction with annual reporting which includes summary of I/I work performed and scheduled for each year.

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; storm water compliance; supplemental effluent data; and outfall signage.

Table of Contents

List of Figures

List of Tables

List of Addendums

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 addressed 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 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 Aaron Pennington, 740-380-5272, aaron.pennington@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 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

Gallipolis WPCF discharges to Ohio River at Mile Point 268.6 to the R.C Byrd dam pool. Figure 1 shows the approximate location of the facility.

This segment of the Ohio River is described by Ohio EPA River Code: 25-350, County: Gallia, Ecoregion: Western Allegheny Plateau. The Ohio River is designated for the following uses under Ohio's WQS (OAC 3745-1-32): Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, Bathing Waters, and Public Water Supply.

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

Gallipolis WPCF was constructed in 1958 and last upgraded in 2016. The average design flow is 2.0 million gallons per day (MGD). Gallipolis WPCF serves the City of Gallipolis, Jackson Pike to Sun Valley Drive area, Kanauga/Addison area and Green/Centenary area. Gallipolis WPCF has the following treatment processes (Figure 2):

- Influent Pumping
- Bar Screen
- Grit Removal
- Scum Removal
- Flow Equalization
- Activated Sludge - Conventional
- Trickling Filter -Plastic media
- Secondary Clarification
- Ultraviolet Disinfection

Gallipolis WPCF has two bypasses shown highlighted in Figure 2. A plant bypass is located at the headworks prior to influent pumping. Flow can be directed to the conduit associated with final outfall 001 with manual operation of a sluice gate. The point of connection of the plant bypass into the conduit associated with final outfall 001 is after the effluent flow meter and composite sampler location. The sluice gate is maintained closed. Based on information in the renewal application, this bypass was not used during the previous year, and during the pre-permit inspection operator stated that the bypass was not used during the previous permit cycle. The second bypass is an overflow pipe on the 1.0-MG equalization basin that functions as a secondary treatment bypass. The flow from the equalization basin overflow can be directed to the ultraviolet disinfection channel and blended with secondary treatment effluent through manual operation of inline valving. The valves are maintained closed. During the pre-permit inspection, operator stated that the bypass has not been used during the previous permit cycle. The Gallipolis WPCF has 100% separate sewers in the collection system. Due to lack of activations, monitoring stations for the bypasses are not proposed for inclusion in the permit.

The City of Gallipolis does not have an approved pretreatment program. The City of Gallipolis has one categorical user, Electrocraft Ohio Inc, that discharges 0.015 MGD of flow. Electrocraft Ohio Inc. is permitted as 0DP00022*EP with discharge limitations subject to Metal Finishing Point Source Categorical Pretreatment Standards, 40 CFR 433.15.

The potable water servicing the collection system comes from groundwater wells associated with the City of Gallipolis and Gallia County Rural Water Association.

Gallipolis WPCF utilizes the following sewage sludge treatment processes:

- Sludge Thickener
- Anaerobic Digestion
- Air Drying (Sand Beds)
- Land Application

Table 1 shows the last five years of sludge removed from Gallipolis WPCF. Treated sludge was disposed of at a solid waste landfill in 2017 through 2020. In 2021, the Gallipolis WPCF land applied the treated sludge. The City of Gallipolis intends to continue to land apply treated sludge.

DESCRIPTION OF EXISTING DISCHARGE

Table 2 presents the effluent violations for Gallipolis WPCF during the previous five years. These violations were not caused by a known process error or upset condition.

Table 3 presents the average annual effluent flow rate for Gallipolis WPCF for the previous five years. Gallipolis WPCF estimates there is an infiltration/inflow (I/I) rate to the collection system of 0.15 MGD. City of Gallipolis performs the following activities to minimize I/I: smoke/dye testing, regular sewer inspections, regular sewer repairs, etc. The existing permit 0PD00001*QD, Part II Item D, Infiltration/Inflow and SSO Control Plan approved a Sanitary System Operation and Maintenance Manual Revised 1/20/15. A schedule of compliance for Inflow/Infiltration Reduction is proposed to be included in Part I.C of the renewal permit to detail ongoing implementation of Inflow/Infiltration reduction through annual reporting.

Table 4 presents the number of SSOs reported by Gallipolis WPCF for the previous five years. SSOs are reported at station 300.The schedule of compliance for Inflow/Infiltration Reduction is proposed to address minimizing SSO occurrences.

Table 5 presents data characterizing the May-October total phosphorus load from Gallipolis during the previous five years.

Table 6 presents chemical specific data compiled from supplemental effluent testing data submitted as part of the NPDES renewal application.

Table 7 presents a summary of unaltered Discharge Monitoring Report (DMR). Data are presented for the period January 2017 through December 2021, and current permit limits are provided for comparison.

Table 8 summarizes the chemical specific data for 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

Gallipolis WPCF discharges directly to the Ohio River in the R.C. Byrd dam pool. Water quality monitoring on the Ohio River is performed by the Ohio River Valley Water Sanitation Commission (ORSANCO). This information can be found in the *2018 Biennial Assessment of Ohio River Water Quality Conditions (305b) Report* and/or biological survey results/pool reports.

The Biennial Report can be found at this website:
https://www.orsanco.org/publications/biennial-assessment-305b-report/
The most recent pool report can be found here:
https://www.orsanco.org/wp-content/uploads/2016/11/2019PoolReport.pdf

ORSANCO evaluates the river for four uses: aquatic life, contact recreation impairment, public water supply, and fish consumption. The segment of the Ohio River that Gallipolis WPCF discharges to is fully supporting aquatic life and public water supply uses. The Ohio River partially supports fish consumption use due to high levels of PCB and dioxin. There is no data to indicate that Gallipolis WPCF is contributing PCB and dioxin. This reach of the Ohio River does not support contact recreation use due to bacterial data exceeding criteria in greater than 25% of sites. Gallipolis WPCF had three limit violations for E. coli in the years 2017-2021. Bacteria limits (fecal and E. coli) are proposed to remain in the permit. Gallipolis WWTP continues to provide regionalization of wastewater treatment to an expanding service area within Gallia County including areas north of the City such as Kanauga, Georges Creek Road and Addison along with areas west of the City such as Centenary and Rodney. The Gallia County Commissioners were issued Director's Final Findings and Orders (DFFOs) to provide sanitary sewer service to the various areas.

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 Gallipolis WPCF 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)	January 2017 through December 2021
NPDES renewal application 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: Total Kjeldahl Nitrogen– 38mg/L, 12/11/2019, more than four times the next largest value in the dataset; Orthophosphate, Dissolved (as P) – 21.2mg/L, nearly three times more than the next largest value in the dataset; Copper – total of nine values were removed – 0.1mg/L, 0.3mg/L, 0.1mg/L, 0.3mg/L, 0.7mg/L, 0.3mg/L, 0.1mg/L, 0.1mg/L and 5.8mg/L, 9/3/2018, 9/5/2018, 9/10/2018, 9/12/2018, 9/17/2018, 9/19/2018, 9/24/2018, 9/26/2018, and 11/10/2021 respectively. The values reported in September 2018 appeared to be related to another parameter as the data set expanded from 1/month to 2/week. The November 2021 value was less than the commonly reported MDL.
Mercury – two values were removed – 330ng/L and 67ng/L, 9/10/2018 and 9/17/18, the 67 was nearly three times next highest value in the dataset. In addition, values reported in September 2018 appeared to be related to another parameter as the data set expanded from 1/month to 2/week.

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 10).

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. For free flowing streams, WLAs using this method are calculated 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 to the Ohio River and the associated stream design flows are as follows:

Aquatic life (Warmwater Habitat)		
Toxics (metals, organics, etc.)	Average	10% of annual 7Q10
	Maximum	1% of annual 7Q10
Agricultural Water Supply		10% of harmonic mean flow
Human Health (carcinogens)		10% of harmonic mean flow
Human Health (non-carcinogens)		100% of 7Q10

Allocations are developed using a percentage of stream design flow as specified in Table 11, and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Table 10 and Table 11. The WLA results to maintain all applicable criteria are presented in Table 12.

Whole Effluent Toxicity Wasteload Allocation
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.

WQS for WET are expressed in Ohio's narrative "free from" WQS rule [OAC 3745-1-04(D)]. These "free froms" are translated into toxicity units (TUs) by the associated WQS Implementation Rule (OAC 3745-2-09). WLAs can then be calculated using TUs as if they were water quality criteria.

The WLA calculations for WET are similar to those for aquatic life criteria - using the chronic toxicity unit (TU_c) and 10% of the 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1% of the 7Q10 flow for the maximum. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. For Gallipolis WPCF, the WLA values are 1.0 TU_a and 217.51 TU_c.

However, Gallipolis WPCF is not required to monitor for TU_c because the ratio of the downstream is more than twenty to one [OAC 3745-33-07(B)(11)(c)]. According to the data in Table 11, the dilution ratio for Gallipolis WPCF to the Ohio River is approximately 218 to one.

$$\text{Stream Dilution Ratio} = \frac{\text{10\% of 7Q10 + [WWTP flow rate]}}{\text{[WWTP flow rate]}} = \frac{\text{670 cfs + 3.0945 cfs}}{\text{3.0945 cfs}} = 217.51$$

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 (LC_{50}) for the most sensitive test species:

$$TU_a = 100/LC_{50}$$

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 12. 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 13.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 14 presents the final effluent limits and monitoring requirements proposed for Gallipolis WPCF 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, Ammonia, and 5-day Carbonaceous Biochemical Oxygen Demand
The limits proposed for total suspended solids, ammonia and 5-day carbonaceous biochemical oxygen demand (CBOD5) are all based on antidegradation pursuant OAC 3745-1-05. The TSS and CBOD5 limits are more

stringent than the Secondary Treatment Standards in 40 CFR Part 133. Limits are based on the plant expansion from 1.6 MGD to 2.0 MGD permitted as Permit To Install 981748 where limits were prorated using Best Available Demonstrated Control Technology pursuant OAC 3745-1-05 for the 0.4 MGD increase and technology-based treatment standards included in 40 CFR Part 133, Secondary Treatment Regulation applied to the 1.6 MGD.

Oil and Grease, pH, E. coli, and Fecal Coliform
Limits proposed for oil and grease, pH, E coli., and fecal coliform are based on WQS (OAC 3745-1-32, 35 and 37). New summer WQS for *E. coli* became effective in April 2016. Based on best technical judgment (BTJ), it is expected the plant can comply with the lower *E. coli* limits and does not require a compliance schedule.

Mercury
The Ohio EPA risk assessment (Table 13) places Mercury in group 4. This placement, as well as the data in Table 7 and Table 8, support that this parameter does 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). Monitoring is proposed to continue at the same frequency.

Cadmium, Hexavalent Chromium, Total Chromium, Copper, Nickel, Lead, Total Filterable Residue, and Zinc
The Ohio EPA risk assessment (Table 13) places hexavalent chromium, total chromium, copper, nickel, lead, total filterable residue, and zinc in groups 2 and 3. Cadmium is not shown in the table. Cadmium meets group 2 placement criteria. 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 is proposed to continue to document that these pollutants continue to remain at low levels. Limits for copper are proposed to be removed but monitoring will continue at a reduced frequency. Monitoring for cadmium is proposed as cadmium is a metal commonly present in municipal sewage and monitored for at Public Owned Treatment Works as outlined in Ohio EPA Permit Guidance 1.

Free Cyanide
The Ohio EPA risk assessment (Table 13) places free cyanide in group 3. This placement, as well as the data in Table 7 and Table 8, support that this parameter does not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring and limits for free cyanide are proposed to be removed.

Temperature, Dissolved Oxygen, and Flow
Monitoring for these parameters is proposed to continue in order to evaluate the performance of the treatment plant.

Total Kjeldahl Nitrogen, and Nitrate plus Nitrite
Based on best technical judgment, monitoring is proposed to continue for total kjeldahl nitrogen and nitrate plus nitrite. The purpose of the monitoring is to obtain data on the level and variability of, total kjeldahl nitrogen, and nitrate plus nitrite in the effluent as these pollutants contribute a nutrient loading to the river as well as the Gulf of Mexico hypoxia.

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.

Whole Effluent Toxicity Reasonable Potential
Based on evaluating the WET data presented in Table 9 and other pertinent data under the provisions of OAC 3745-33-07(B), the Gallipolis WWTP is placed in Category 4 with respect to WET. While this indicates that the plant's effluent does not currently pose a toxicity problem, annual toxicity testing is proposed consistent with the minimum monitoring requirements at OAC 3754-33-07(B)(11). Annual acute toxicity monitoring is proposed for the life of the permit. The proposed monitoring will adequately characterize toxicity in the plant's effluent.

Additional Monitoring Requirements
Additional monitoring requirements proposed at the final effluent, influent and upstream 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.

OTHER REQUIREMENTS

Inflow/Infiltration Reduction Compliance Schedule
A 60-month compliance schedule is proposed for Gallipolis WWTP to reduce and/or eliminate Inflow/Infiltration and associated SSOs by continuing to implement Inflow/Infiltration reduction activities. 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 Gallipolis WPCF 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 of record to oversee the technical operation of the treatment works and sewerage system.

Sufficiently Sensitive Method
Part II of the permit includes a condition requiring the City of Gallipolis to use laboratory analytical methods with a sufficiently sensitive MDL.

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, as indicated in Permit Guidance 9: *Limits below Quantification*. 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 Ohio River providing information about the discharge. Signage at outfalls is required pursuant to OAC 3745-33-08(A).

NPDES Renewal Application Supplemental Effluent Data
The permittee must submit supplemental effluent data as part of the next NPDES permit renewal application. A minimum of three samples must be tested for 101 parameters, each collected within four and one-half years of the application submission date. The complete list of parameters to be analyzed is contained in Table 2 of "Appendix J to Part 122 - NPDES Permit Testing Requirements for Publicly Owned Treatment Works (§122.21(j))." Existing effluent data may be used, if available, in lieu of sampling performed solely for the purpose of the renewal application. See Part II of the permit for details.

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

Storm Water Compliance
To comply with industrial storm water regulations, the permittee submitted a form for "No Exposure Certification" which was signed on 4/2/2019. The certification number is 0GRN00375*AG. Compliance with the industrial storm water regulations must be re-affirmed every five years. No later than 4/2/2024 the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial storm water regulations.
.

Figure 1. Location of Gallipolis WPCF

Figure 2. Diagram of Wastewater Treatment System

Bypasses shown highlighted

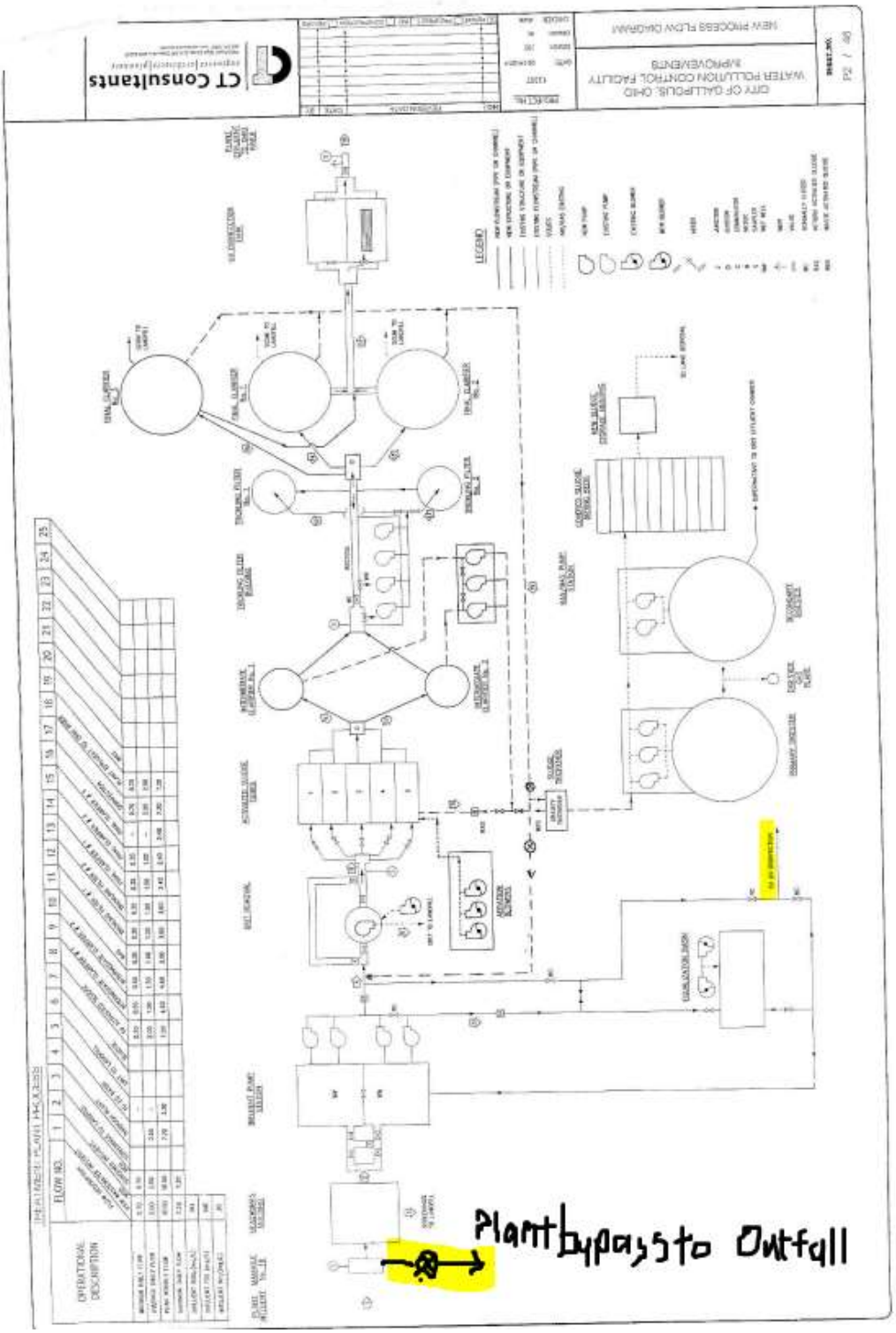

Table 1. Sewage Sludge Removal

Year	Dry Tons Removed
2017	223
2018	125
2019	128
2020	195
2021	129

Table 2. Effluent Violations for Outfall 001

Parameter	2017	2018	2019	2020	2021
CBOD 5 day	0	0	0	1	0
E. coli	0	0	2	0	1
Nitrogen, Ammonia (NH3)	0	0	0	1	0
Oil and Grease, Hexane	2	0	0	0	0
Total Suspended Solids	3	0	0	1	1
Total	5	0	2	3	2

Table 3. Average Annual Effluent Flow Rates

	Annual Flow (MGD)		
Year	50th Percentile	95th Percentile	Maximum
2017	0.82	1.90	4.88
2018	1.02	2.98	6.04
2019	0.94	2.70	4.95
2020	0.96	2.69	5.89
2021	0.88	2.43	5.21

MGD = million gallons per day.

Table 4. Sanitary Sewer Overflows Discharges

Year	Occurrences
2017	13
2018	38
2019	13
2020	17
2021	0

Table 5. Calculated May-October Total Phosphorus Loadings

Year	n	Median Phosphorus (mg/L)	Median Flow (MGD)	Median Loading (kg/day)
2017 [a]	2	2.97	0.74	8.28
2018	2	3.78	1.14	15.70
2019	2	3.18	0.92	11.00
2020	2	0.60	1.16	2.70
2021 [b]	2	1.97	1.82	12.50

[a] = data set begins on 5/1/17
[b] = data set ends on 10/31/21
MGD = million gallons per day
n = number of samples

Table 6. Effluent Characterization Using Supplemental Effluent Data

Parameter	Units	2/1/2022	2/9/2022	2/15/2022
Cadmium	µg/L	AA (10)	AA (10)	AA (10)
Chromium	µg/L	AA (10)	AA (10)	AA (10)
Copper	µg/L	AA (10)	AA (10)	AA (10)
Lead	µg/L	AA (10)	AA (10)	AA (10)
Mercury	ng/L	AA (0.2)	AA (0.2)	AA (0.2)
Nickel	µg/L	AA (10)	AA (10)	AA (10)
Zinc	µg/L	AA (10)	AA (10)	AA (10)
Free Cyanide	mg/L	AA (0.01)	AA (0.01)	0.01
Hardness	mg/L	232	212	258

AA = not-detected (analytical method detection limit)

Table 7. Effluent Characterization Using Self-Monitoring Data

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range
			30 day	Daily		50th	95th	
Outfall 001								
Water Temperature	Annual	C	- - Monitor - -		1263	18	24	8-26
Dissolved Oxygen	Summer	mg/l	- - Monitor - -		644	6.4	8.3	2.4-74
Dissolved Oxygen	Winter	mg/l	- - Monitor - -		619	8.3	10	2.3-16
pH	Annual	S.U.	9.0 max. – 6.5 min.		1263	7.6	8.1	6.5-8.5
Total Suspended Solids	Annual	mg/l	26.4	39.6[a]	521	8	21	1-130
Oil and Grease, Hexane Extraction Method	Annual	mg/l	- - -	10	60	0	9.91	0-13.3
Nitrogen, Ammonia (NH3)	Summer	mg/l	10.6	15.9[a]	261	0.5	2.2	0.1-8
Nitrogen, Ammonia (NH3)	Winter	mg/l	11.0	16.5[a]	261	0.5	7.1	0.1-34
Nitrogen Kjeldahl, Total	Annual	mg/l	- - Monitor - -		20	1.99	9.27	0-38
Nitrite Plus Nitrate, Total	Annual	mg/l	- - Monitor - -		24	10.1	16.9	4.12-17.5
Ortho Phospate, Total	Annual	mg/l	- - Monitor - -		2	2.1	2.65	1.48-2.71
Phosphorus, Total (P)	Annual	mg/l	- - Monitor - -		20	2.32	3.84	0-4.19
Orthophosphate, Dissolved (as P)	Annual	mg/l	- - Monitor - -		60	2.9	5.41	0-21.2
Cyanide, Free	Annual	mg/l	- - Monitor - -		2	0	0	0-0
Nickel, Total Recoverable	Annual	µg/L	- - Monitor - -		18	0	0.00405	0-0.027
Zinc, Total Recoverable	Annual	µg/L	- - Monitor - -		20	11.2	58	0-58
Lead, Total Recoverable	Annual	µg/L	- - Monitor - -		20	0	0.00075	0-0.015
Chromium, Total Recoverable	Annual	µg/L	- - Monitor - -		18	0	0.0036	0-0.024
Copper, Total Recoverable	Annual	µg/L	- - -	33	60	0	0.323	0-18
Chromium, Dissolved Hexavalent	Annual	µg/L	- - Monitor - -		20	0	0	0-0
Fecal Coliform	Winter	#/100 ml	130	240[a]	277	3	230	3-1800
E. coli	Summer	#/100 ml	1000	2000[a]	246	3	246	0-4400
Flow Rate	Summer	MGD	- - Monitor - -		920	0.848	2.16	0.394-6.04
Flow Rate	Winter	MGD	- - Monitor - -		906	1.01	2.88	0.5-5.21
Flow Rate	Annual	MGD	- - Monitor - -		1826	0.924	2.6	0.394-6.04
Mercury, Total (Low Level)	Annual	ng/l	- - Monitor - -		60	3.47	7.15	0-23.3
Cyanide, Free (Low-Level)	Annual	µg/L	- - -	44	53	0	0	0-3.54
Acute Toxicity, Ceriodaphnia dubia	Annual	TUa	- - Monitor - -		5	0	0	0-0
Acute Toxicity, Pimephales promelas	Annual	TUa	- - Monitor - -		5	0	0	0-0
Residue, Total Filterable	Annual	mg/l	- - Monitor - -		20	587	943	243-1000

Table 7. Effluent Characterization Using Self-Monitoring Data

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range
			30 day	Daily		50th	95th	
CBOD 5 day	Summer	mg/l	22	33[a]	260	3	5.05	1-134
CBOD 5 day	Winter	mg/l	22	33a	257	3	7	1-11

* = 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.
Fecal coliform and E. Coli are geometric mean limits

Table 8. Projected Effluent Quality for Outfall 001

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Chromium - TR	µg/L	21	1	22.776	31.2
Chromium, Dissolved Hexavalent	µg/L	20	0	--	--
Copper - TR	µg/L	61	5	15.728	23.326
Cyanide - free	µg/L	52	4	2.92	4
Total Filterable Residue	mg/L	20	20	891.08	1256.1
Lead - TR	µg/L	17	1	15.33	21
Mercury - TR (BCC)	ng/L	68	61	7.128	10.89
Nickel - TR	µg/L	21	1	25.623	35.1
Nitrate-N + Nitrite-N	mg/L	24	24	15.316	20.884
Oil & grease	mg/L	60	25	10.789	13.461
Zinc - TR	µg/L	22	17	68.993	106.74

MDL = analytical method detection limit
PEQ = projected effluent quality
TR = total recoverable

Table 9. Summary of Acute Toxicity Results

	Ceriodaphnia Dubia	*Pimephales promelas*
Date	**TU_a**	**TU_a**
9/5/2017	AA	AA
9/5/2018	AA	AA
9/4/2019	AA	AA
9/4/2020	AA	AA
9/8/2021	AA	AA

AA = non-detection; analytical method detection limit of 0.2 TU_a,
TU_a = acute toxicity unit

Table 10. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum Aquatic Life	
		Human Health	Agri-culture	Aquatic Life		
Chromium - TR	µg/L	--	100	91	1900	7200
Chromium, Dissolved Hexavalent	µg/L	--	--	11	16	31
Copper - TR	µg/L	1300	500	9.9	15	62
Cyanide - free	µg/L	700	--	5.2	22	44
Total Filterable Residue	mg/L	--	--	1500	--	--
Lead - TR	µg/L	--	100	7	130	720
Mercury - TR (BCC)	ng/L	12	10000	910	1700	--
Nickel - TR	µg/L	610	200	55	500	1900
Nitrate-N + Nitrite-N	mg/L	10	100	--	--	--
Oil & grease	mg/L	--	--	--	10[a]	--
Zinc - TR	µg/L	9100	25000	130	130	490

TR – Total Recoverable
BCC – Bioaccumulative Chemical of Concern

[a] This criterion is based on protection against adverse aesthetic effects.

Table 11. Instream Conditions and Discharger Flow

Parameter	Units	Season	Value	Basis
Stream Flows				
7Q10	cfs	annual	6700	ORSANCO: Ohio River Valley Water Sanitation Commission (orsanco.org) Appendix C; Racine to R.C. Byrd; WLA calculates using 1% 7Q10 for OMZM; WLA calculates using 10% 7Q10 for OMZA
Harmonic Mean	cfs	annual	26000	ORSANCO: Ohio River Valley Water Sanitation Commission (orsanco.org) Appendix C; Racine to R.C. Byrd
Mixing Assumption	%	average	10	(***WLAs for non-carcinogens are developed using 100 percent of the 7Q10.)
		maximum	1	
Hardness, OMZ	mg/L	annual	107	Modeling Guidance 8: value for Racine to R.C. Byrd
Hardness, IMZ	mg/L	annual	234	Average of three effluent results 232, 212, 258
Gallipolis WPCF flow	cfs MGD	annual	3.0945 2.0	NPDES application Form 2A Average Daily Design Flow
Background Water Quality				
Chromium - TR	µg/L		1.11	ORSANCO; 2014-2019; n=30; 13<MDL;
Chromium, Dissolved Hexavalent	µg/L		0	No representative data available.
Copper - TR	µg/L		2.06	ORSANCO; 2014-2019; n=30; 0<MDL;
Cyanide - free	µg/L		0	No representative data available.
Total Filterable Residue	mg/L		216	ORSANCO; 2014-2019; n=26; 0<MDL;
Lead - TR	µg/L		0.5	ORSANCO; 2014-2019; n=30; 17<MDL;
Mercury - TR (BCC)	ng/L		1.7	ORSANCO; 2014-2019; n=30; 8<MDL;
Nickel - TR	µg/L		2.32	ORSANCO; 2014-2019; n=30; 0<MDL;
Nitrate-N + Nitrite-N	mg/L		0.84	ORSANCO; 2014-2019; n=26; 1<MDL;
Oil & grease	mg/L		0	No representative data available.
Zinc - TR	µg/L		6.06	ORSANCO; 2014-2019; n=30; 0<MDL;

MDL = analytical method detection limit
n = number of samples
NPDES = National Pollutant Discharge Elimination System
Ohio EPA = Ohio Environmental Protection Agency
TR = Total Recoverable
BCC = Bioaccumulative Chemical of Concern

Table 12. Summary of Effluent Limits to Maintain Applicable Water Quality Criteria

Parameter	Units	Outside Mixing Zone Criteria				Inside Mixing Zone Maximum
		Average			Maximum Aquatic Life	
		Human Health	Agri-culture	Aquatic Life		
Chromium - TR	µg/L	--	83187	19553	43013	7200
Chromium, Dissolved Hexavalent	µg/L	--	--	2393	362	31
Copper - TR	µg/L	2811511	418869	1707	295	62
Cyanide - free	µg/L	1516292	--	1131	498	44
Total Filterable Residue	mg/L	--	--	279503	--	--
Lead - TR	µg/L	--	83700	1414	2934	720
Mercury - TR (BCC)	ng/L	12	10000	910	1700	--
Nickel - TR	µg/L	1316317	166291	11461	11275	1900
Nitrate-N + Nitrite-N	mg/L	19843	83414	--	--	--
Oil & grease	mg/L	--	--	--	10[c]	--
Zinc - TR	µg/L	19698678	21024917	26965	2813	490

[A] Allocation must not exceed the Inside Mixing Zone Maximum

[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] This criterion is based on protection against adverse aesthetic effects and applied without mixing.

Table 13. Parameter Assessment

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

None

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

Chromium, Dissolved Hexavalent

Group 3: PEQ_{max} < 50 percent of maximum PEL and PEQ_{avg} < 50 percent of average PEL.
No limit recommended; monitoring optional.

Chromium - TR	Copper - TR	Cyanide - free
Total Filterable Residue	Lead - TR	Nickel - TR
Nitrate-N + Nitrite-N	Zinc - TR	

Group 4: PEQ_{max} >= 50 percent, but < 100 percent of the maximum PEL or
PEQ_{avg} >= 50 percent, but < 100 percent of the average PEL. Monitoring is appropriate.

Mercury - TR (BCC)

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
Oil & grease	mg/L	--	10

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

Table 14. 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	- - - - - - - - - - Monitor - - - - - - - - - - -				M[c]
pH	SU	6.5 minimum to 9.0 maximum				WQS
TSS (summer)	mg/L	39.6[d]	26.4	300[d]	200	AD/BADCT
Oil & Grease	mg/L	10	--	--	--	WQS
Ammonia (summer)	mg/L	15.9 [d]	10.6	121 [d]	80.3	AD/BADCT
Ammonia (winter)	mg/L	16.5 [d]	11.0	125 [d]	83.3	AD/BADCT
Total Kjeldahl Nitrogen	mg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				BTJ
Nitrate plus Nitrite	mg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				BTJ
Phosphorus	mg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				PMR
Orthophosphate	mg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				PMR
Nickel	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
Zinc	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
Cadmium	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M, BTJ
Lead	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
Chromium	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
Copper	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
Chromium, Dissolved Hexavalent	µg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
E. coli (Summer)	#/100 mL	240 [d]	126	--	--	WQS
Fecal Coliform (Winter)	#/100 mL	2000 [d]	1000	--	--	WQS
Flow Rate	MGD	- - - - - - - - - - Monitor - - - - - - - - - - -				M[c]
Mercury	ng/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M, RP
Acute Toxicity						
Ceriodaphnia dubia	TUa	- - - - - - - - - - Monitor - - - - - - - - - - -				WET
Pimephales promelas	TUa	- - - - - - - - - - Monitor - - - - - - - - - - -				WET
Total Filterable Residue	mg/L	- - - - - - - - - - Monitor - - - - - - - - - - -				M
CBOD5 (summer)	mg/L	33[d]	22	250[d]	167	AD/BADCT

[a] Effluent loadings based on average design discharge flow of 2.0 MGD.

[b] Definitions:
AD = Antidegradation (OAC 3745-1-05)
BADCT = Best Available Demonstrated Control Technology, 40 CFR Part 122.29, and OAC 3745-1-05
BTJ = Best Technical Judgment
M = Division of Surface Water NPDES Permit Guidance 1: Monitoring frequency requirements for Sanitary Discharges
NPDES = National Pollutant Discharge Elimination System
OAC = Ohio Administrative Code
ORC = Ohio Revised Code
PMR = Phosphorus monitoring requirements (ORC 6111.03)
RP = Reasonable Potential
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

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