

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for Newcomerstown Wastewater Treatment Plant (WWTP)

Public Notice No.: 15-05-040
Public Notice Date: March 18, 2015
Comment Period Ends: April 18, 2015

Ohio EPA Permit No.: OPD00024*LD
Application No.: OH0026689

Name and Address of Applicant:

Village of Newcomerstown
777 East State Street
Newcomerstown, Ohio 43832

Name and Address of Facility Where
Discharge Occurs:

Newcomerstown WWTP
60675 County Road 9
Newcomerstown, Ohio 43832
Tuscarawas County

Receiving Water: Tuscarawas River

Subsequent
Stream Network: Muskingum River, 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.

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 (POTWs) 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 effluent limits (WQBELs) 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 WQBELs 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 monitoring requirements proposed for the following parameters are the same as in the current permit, although some monitoring frequencies have changed: flow, temperature, dissolved oxygen, 5-day carbonaceous biochemical oxygen demand (CBOD₅), total suspended solids, ammonia, total phosphorus, nitrate+ nitrite, oil and grease, pH, precipitation, cadmium, chromium, dissolved hexavalent chromium, copper, lead, mercury, nickel, silver and zinc.

Based on best engineering judgment (BEJ), monitoring is proposed for total filterable residue (total dissolved solids). No effluent data is available for this parameter, which is an emerging water quality issue for municipal wastewater treatment plants. The purpose of the monitoring is to obtain data on the level and variability of total filterable residue in the Newcomerstown WWTP effluent.

New final effluent limits are proposed for *Escherichia coli* replacing fecal coliform limits. A compliance schedule is proposed for meeting these new final effluent limits. Based on best engineering judgment (BEJ), it is proposed that the plant monitor *E. coli* during the initial period (12 months). It is proposed that the plant comply with its current fecal coliform limits during the initial period.

This permit no longer authorizes the use of method 4500 CN-I from Standard Methods for free cyanide testing. As soon as possible, the permittee must begin using either ASTM D7237-10 or OIA-1677-09 both of which are approved methods for free cyanide listed in 40 CFR 136.

The permit contains an annual requirement for acute toxicity testing to meet the requirements of U.S. EPA's application rule for POTWs. This rule requires that at least four toxicity tests be submitted with the NPDES application, or that equivalent toxicity test data be collected as a permit condition. Ohio EPA has been implementing this requirement as a permit condition to spread out the testing costs, and obtain data more reliably than through an application requirement. Acute testing, rather than chronic, is being required because the toxicity allocation shows that acute effects are more limiting for this discharge (acute-to-chronic ratio greater than 20:1). This satisfies the minimum testing requirements of rule 3745-33-07(B)(11) of the Ohio Administrative Code (OAC) and will adequately characterize toxicity in the plant's effluent.

A compliance schedule is included for the permittee to submit a collection system operation and maintenance manual and the permittee must follow the manual once approved.

New upstream monitoring is proposed for nutrients, phosphorus and nitrate+ nitrite, at station OPD00024801.

Special conditions are proposed for sanitary sewer overflow (SSO) reporting, storm water, free cyanide testing, operator certification 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 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 Elizabeth Buening, (614) 644-2138, Elizabeth.buening@epa.ohio.gov.

Information Regarding Certain Water Quality Based Effluent Limits

This draft permit may contain proposed water quality based effluent limitations (WQBELs) for parameters that **are not** priority pollutants. (See the following link for a list of the priority pollutants: http://epa.ohio.gov/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, written notification 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 Ohio Administrative Code (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 Rule 3745-1-35. The permittee shall submit written notification regarding their intent to develop site specific WQS for parameters that are not priority pollutants to the above address no later than 30 days after the Public Notice Date.

Location of Discharge/Receiving Water Use Classification

The Newcomerstown WWTP discharges to the Tuscarawas River at River Mile (RM) 19.8. Figure 1 shows the approximate location of the facility.

This segment of the Tuscarawas River is described by Ohio EPA River Code: 17-500, U.S. EPA River Reach #: 05040001-001, County: Tuscarawas, Ecoregion: Western Allegheny Plateau. The Tuscarawas River is designated for the following uses under Ohio's WQS OAC 3745-1-24): Exceptional Warmwater Habitat (EWH), Agricultural Water Supply (AWS), Industrial Water Supply (IWS), and Class A Primary Contact Recreation (PCR).

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 (PCR) and wading only (Secondary Contact - 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 AWS and IWS.

Facility Description

The Newcomerstown WWTP serves the villages of Newcomerstown and Port Washington. The plant was originally constructed in 1954, and was most recently modified in 2005. The average daily design flow is 1.25 million gallons per day (MGD). Wet stream processes are:

- bar screening,
- grit removal,
- primary sedimentation or clarification (two primary clarifiers),
- aeration using a trickling filter and oxidation ditch,
- secondary clarification (three secondary clarifiers),
- post aeration and
- Ultraviolet disinfection.

The trickling filters are used only when processing concentrated or high volume organic loads through the plant.

Sludge is removed from the clarification tanks and processed using aerobic digestion and dewatering with a belt filter press. Sludge is removed from the plant and landfilled.

The wastewater collection system consists of 100% sanitary sewers. The collection system takes wastewater from five industrial users, of which two are considered significant. None of these industries are subject to federal categorical treatment standards. The average daily flow from all industrial users is approximately 0.022 MGD.

The Village of Newcomerstown does not have any industrial users nor implements an Ohio EPA-approved industrial pretreatment program.

Description of Existing Discharge

Table 1 presents chemical specific data compiled from the data collected by Ohio EPA.

Table 2 presents a summary of unaltered Discharge Monitoring Report (DMR) data for outfall 001. Data are presented for the period September 2009 through August 2014, and current permit limits are provided for comparison.

Table 3 summarizes the chemical specific data for outfall 001 by presenting the average and maximum PEQ values.

Table 4 summarizes the results of acute whole effluent toxicity tests (WET) of the final effluent.

Newcomerstown has separate sanitary and storm sewers. There are 8 lift stations on the sanitary system. The Village reports SSO occurrences under Station 300 in its NPDES permit. The Village reported no SSOs for the period September 2009 through August 2014.

Under the provisions of 40 CFR 122.21(j), the Director has waived the requirement for submittal of expanded effluent testing data as part of the NPDES renewal application. Ohio EPA has access to substantially identical information through the submission of effluent testing conducted by the Agency.

Assessment of Impact on Receiving Waters

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

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

Use attainment is a term which describes the degree to which environmental indicators are either above or below criteria specified by the Ohio WQS (OAC 3745-1). Assessing use attainment status for aquatic life uses primarily relies on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-15). These criteria apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on measuring several characteristics of the fish and macroinvertebrate communities; these characteristics are combined into multimetric biological indices including the Index of Biotic Integrity (IBI) and modified Index of Well-Being (MIwb), which indicate the response of the fish community, and the Invertebrate Community Index (ICI), 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 5) 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 (QHEI), and comments and observations for each sampling location.

Newcomerstown WWTP

River survey data collected in 2003 and 2004 (Table 5) show that sites in this segment of the Tuscarawas River generally meet biological criteria for the Exceptional Warmwater Habitat use. No impacts were related to the discharges from the Newcomerstown WWTP. The *Total Maximum Daily Loads (TMDL) for the Tuscarawas River Watershed, Final Report* (Ohio EPA Division of Surface Water) was approved by U.S. EPA on September 15, 2009. The TMDL report for the Tuscarawas River did not recommend any additional limits for this WWTP.

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 Newcomerstown WWTP were used to determine what parameters should undergo WLA. The parameters discharged are identified by the data available to Ohio EPA - Discharge Monitoring Report (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)	September 2009 through August 2014
Ohio EPA compliance sampling data	2012

The data were examined, and the following values were removed from the evaluation to give a more reliable PEQ: 1 low nickel value (4.6 µg/l on October 15, 2012).

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. The average and maximum PEQ values are presented in Tables 1 and 3.

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 9 for a summary of the screening results.

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 degrade in the receiving water. WLAs using this method are done 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 (EWH)		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia	Average	Summer 30Q10
		Winter 30Q10
AWS		Harmonic mean flow
Human Health (nondrinking)		Harmonic mean flow

Allocations are developed using a percentage of stream design flow as specified in Table 8, and allocations cannot exceed the Inside Mixing Zone Maximum (IMZM) criteria.

The data used in the WLA are listed in Tables 6 and 7. The WLA results to maintain all applicable criteria are presented in Table 8. The current ammonia limits have been evaluated using the WLA procedures and are protective of WQS for ammonia toxicity.

Whole Effluent Toxicity WLA

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 7Q10 flow for the average and the acute toxicity unit (TU_a) and 1Q10 flow for the maximum. These values are the levels of effluent toxicity that should not cause instream toxicity during critical low-flow conditions. For Newcomerstown, the WLA values are 23.9 TU_a and 83.88 TU_c.

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

$$TU_c = 100/IC_{25}$$

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

$$TU_c = 100/\text{geometric mean of No Observed Effect Concentration and Lowest Observed Effect Concentration}$$

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

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

This equation applies outside the mixing zone for warmwater, modified warmwater, EWH, and seasonal salmonid use designations.

Reasonable Potential/ Effluent Limits/Hazard 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 8. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 3, and the PEL_{max} is compared to the PEQ_{max}. Based on the calculated percentage of the allocated value [(PEQ_{avg} ÷ PEL_{avg}) X 100, or (PEQ_{max} ÷ PEL_{max}) X 100], the parameters are assigned to group 3, 4, or 5. The groupings are listed in Table 9.

The final effluent limits are determined by evaluating the groupings in conjunction with other applicable rules and regulations. Table 10 presents the final effluent limits and monitoring requirements proposed for Newcomerstown WWTP outfall 001 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Mercury and Copper

Ohio EPA risk assessment (Table 10) places mercury and copper in group 4. This placement as well as the data in Tables 2 and 3 supports 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 Rule 3745-33-07(A)(2). Monthly monitoring is proposed to continue for mercury and copper.

In November 2010, the use of mixing zones to determine the waste load allocation for bioaccumulative chemicals of concern (BCCs) is no longer allowed. This means that limits for BCCs after November 2010 must meet WQS with no allowances for dilution. Since mercury is considered a BCC, discharges must comply with WQS at that time. In order to obtain mercury effluent data which can be compared to the WQS, the permittee must use a low level method for mercury sampling and analysis.

Total Filterable Residue

Based on BEJ, monitoring is proposed for total filterable residue (total dissolved solids). No effluent data is available for this parameter, which is an emerging water quality issue for municipal wastewater treatment plants. The purpose of the monitoring is to obtain data on the level and variability of total filterable residue in the Newcomerstown WWTP effluent.

Free cyanide, Cadmium, Chromium, Dissolved Hexavalent Chromium, Lead, Nickel, Silver and Zinc

Ohio EPA risk assessment (Table 10) places free cyanide, cadmium, chromium, dissolved hexavalent chromium, lead, nickel, silver and zinc in groups 2 and 3. This placement as well as the data in Tables 2 and 3 supports that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at the current frequency is proposed to document that these pollutants continue to remain at low levels.

Total Suspended Solids and CBOD₅

The limits proposed for total suspended solids and CBOD₅ are all based on plant design criteria. These limits are protective of WQS.

E. Coli and Fecal Coliform

Effluent limits are proposed for *E. coli*. WQS for *E. coli* became effective in March 2010 (OAC 3745-1-07), and a compliance schedule is proposed for meeting these new final effluent limits no later than 12 months after the permit is issued. The schedule provides time during the summer disinfection season for the plant to evaluate the ability of its existing disinfection system to achieve the new limits and to make operational changes or equipment upgrades if necessary. It is proposed that the plant monitor *E. coli* during the initial period (12 months). It is proposed that the plant comply with its current fecal coliform limits during the initial period.

After the initial period, proposed monthly and weekly geometric mean concentrations of 126 and 284 counts per 100 mL respectively, apply to Newcomerstown WWTP for *E. coli*. These limits have been recommended in the permit for final effluent tables. Class A Primary Contact Recreation *E. coli* standards apply to the Tuscarawas river.

Oil & Grease and pH

Limits proposed for oil and grease and pH are based on WQS (OAC 3745-1-07).

Water Temperature and Flow Rate

Monitoring for water temperature and flow rate are based on BEJ of Division of Surface Water NPDES Permit Guidance 1: Monitoring frequency requirements for Sanitary Discharges.

Phosphorus and Nitrate+Nitrite

Monthly monitoring for phosphorus and nitrate+nitrite will continue based on BEJ. The purpose of the monitoring is to maintain a nutrient data set for use in the future TMDL (total maximum daily loads) study.

Sludge

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

Additional Monitoring

New upstream monitoring added for nutrients, phosphorus and nitrate+nitrite, to station OPD00024801. 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.

Whole Effluent Toxicity Reasonable Potential

Annual acute toxicity monitoring is proposed for the life of the permit. Evaluating the toxicity data presented in Table 4 and other pertinent data under the provisions of OAC 3745-33-07(B) placed the Newcomerstown WWTP 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 3745-33-07(B)(11). The proposed monitoring will adequately characterize toxicity in the plant's effluent.

Other Requirements

E. coli Compliance Schedule

Final effluent limits are proposed for *Escherichia coli*. New WQS for *E. coli* became effective in March 2010. A compliance schedule is proposed for meeting these new final effluent limits. Based on BEJ, it is proposed that the plant monitor for *E. coli* during the initial period.

Operations & Maintenance Compliance Schedule

A compliance schedule is included for the permittee to submit a collection system operation and maintenance manual and the permittee must follow the manual once approved.

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

Operator certification requirements have been included in Part II, Item A of the permit in accordance with rules adopted in December 2006. These rules require the Newcomerstown WWTP to have a Class II WWTP operator in charge of the sewage treatment plant operations discharging through outfall 001.

Operator of Record

In December 2006, OAC rule revisions became effective which affect the requirements for certified operators for sewage collection systems and POTWs regulated under NPDES permits. Part II, Item A. of this NPDES permit represents language necessary to implement rule 3745-7-02 of the OAC, and requires the permittee to designate one or more operator of record to oversee the technical operation of the POTWs.

Low-Level Free Cyanide Testing

Currently there are two approved methods for free cyanide listed in 40 CFR 136.3 that have quantification levels lower than any WQBELs:

- ASTM D7237-10 and OIA-1677-09 - Flow injection followed by gas diffusion amperometry

These methods will allow Ohio EPA make more reliable water quality-related decisions regarding free cyanide. Because the quantification levels are lower than any WQBELs, it will also be possible to directly evaluate compliance with free cyanide limits.

New NPDES permits no longer authorize the use of method 4500 CN-I from Standard Methods for free cyanide testing. The new permits require permittees to begin using one of these approved methods as soon as possible. If a permittee must use method 4500 CN-I during the transition to an approved method, they are instructed to report the results on their DMR and enter “Method 4500 CN-I” in the remarks section.

Storm Water Compliance

In order to comply with industrial storm water regulations, the permittee submitted a form for "No Exposure Certification" which was signed on December 16, 2014 (3GRN00806*EG). Compliance with the industrial storm water regulations must be re-affirmed every five years. No later than December 16, 2019, the permittee must submit a new form for "No Exposure Certification" or make other provisions to comply with the industrial storm water regulations.

Outfall Signage

Part II of the permit includes requirements for the permittee to maintain a sign at outfall 001 to the Tuscarawas River providing information about the discharge. Signage at outfall 001 is required pursuant to OAC 3745-33-08(A).



Figure 1. Approximate location of the Newcomerstown wastewater treatment plant.

Table 1. Effluent Characterization and Decision Criteria

Parameter	Units	Ohio EPA	DECISION CRITERIA	
		10/15/2012	PEQ _{avg}	PEQ _{max}
Ammonia (Summer)	mg/L	0.066	5.4972	6.1018
Ammonia (Winter)	mg/L	--	1.271	2.1788
Arsenic	µg/L	2.4	--	--
Barium	µg/L	71	--	--
Cadmium	µg/L	AA (0.2)	0.949	1.3
CBOD ₅ (Summer)	mg/L	AA (2.0)	6.3536	11.175
CBOD ₅ (Winter)	mg/L	--	4.6428	7.3672
Chloride	mg/L	236	--	--
Chromium	µg/L	AA (2.0)	--	--
Dissolved Hexavalent Chromium	µg/L	AA (10)	--	--
Copper	µg/L	15.4	22.204	33.678
Cyanide, Free	µg/L	AA (5.0)	0.0219	0.03
Dissolved Oxygen (Summer)	mg/L	8.46	8.3793	9.2514
Dissolved Oxygen (Winter)	mg/L	--	10.946	12.389
Total Filterable Residue	mg/L	878	--	--
Lead	µg/L	AA (2.0)	2.847	3.9
Mercury	µg/L	AA (0.2)	8.8528	14.126
Nickel	µg/L	4.6	30.207	49.701
Nitrate+Nitrite	µg/L	18.5	33.59	46.02
Phosphorus	mg/L	4.49	6.622	10.202
Selenium	µg/L	AA (2.0)	--	--
Silver	µg/L	AA (0.2)	1.168	1.6
Strontium	µg/L	149	--	--
Kjeldahl Nitrogen, Total	mg/L	0.51	--	--
Total Suspended Solids	mg/L	8	6.4161	12.085
Zinc	µg/L	21	46.438	69.35

AA = below detection limit (method detection limit)

PEQ = Projected Effluent Quality

Table 2. Effluent Characterization Using Self-Monitoring Data

Summary of current permit limits and unaltered discharge monitoring report for Newcomerstown outfall OPD00024001 (September 2009 - August 2014). All values are based on annual records unless otherwise indicated.

Parameter	Season	Units	Current Permit Limits		Percentiles			Data Range
			30 day	Daily	# Obs.	50 th	95 th	
Water Temperature	Annual	°C	--	Monitor	1255	18	26	3.8-243
Total Precipitation	Annual	Inches	--	Monitor	852	0.035	1	0-3.88
Dissolved Oxygen	Summer	mg/L	--	Monitor	641	8.41	9.37	4.45-10.4
Dissolved Oxygen	Winter	mg/L	--	Monitor	614	10.2	11.8	1.46-15
Total Suspended Solids	Annual	mg/L	30	45 ^a	719	3.5	11	0-276
Total Suspended Solids	Annual	kg/day	142	213 ^a	719	3.5	11	0-276
Oil and Grease	Annual	mg/L	--	10	256	0	0	0-41
Ammonia	Summer	mg/L	--	Monitor	359	0.09	11.5	0.007-19.9
Ammonia	Winter	mg/L	--	Monitor	360	0.1	2.2	0.001-29
Nitrate+Nitrite	Annual	mg/L	Monitor	--	60	19	35.3	0-46
Phosphorus	Annual	mg/L	Monitor	--	60	3.32	5.18	0.249-6.58
Cyanide, Free	Annual	mg/L	Monitor	--	20	0	0.001	0-0.02
Nickel	Annual	µg/L	Monitor	--	20	0	31.5	0-40
Silver	Annual	µg/L	Monitor	--	20	0	0.05	0-1
Zinc	Annual	µg/L	Monitor	--	20	27	54.3	0-59
Cadmium	Annual	µg/L	Monitor	--	20	0	0.05	0-1
Lead	Annual	µg/L	Monitor	--	20	0	3	0-3

Table 2. (Continued)

Parameter	Season	Units	Current Permit Limits		Percentiles			Data Range
			30 day	Daily	# Obs.	50 th	95 th	
Chromium	Annual	µg/L	Monitor	--	20	0	0	0-0
Copper	Annual	µg/L	Monitor	--	60	10.5	23.1	0-29
Dissolved Hexavalent Chromium	Annual	µg/L	Monitor	--	20	0	0	0-0
Fecal Coliform	Annual	#/100 mL	1000	2000 ^a	352	47	679	0-5500
Flow Rate	Summer	MGD	--	Monitor	920	0.303	1.01	0.094-2.13
Flow Rate	Winter	MGD	--	Monitor	906	0.397	1.65	0.049-3.23
Flow Rate	Annual	MGD	--	Monitor	1826	0.34	1.34	0.049-3.23
Mercury	Annual	ng/L	Monitor	--	56	2.63	9.43	0-32.5
pH, Maximum	Annual	S.U.	--	9.0	1255	7.82	8.15	7.14-8.87
pH, Minimum	Annual	S.U.	--	6.5	1255	7.74	8.01	6.26-8.77
CBOD ₅	Summer	mg/L	25	40 ^a	359	4	11	0-19
CBOD ₅	Winter	mg/L	25	40 ^a	359	3	6	1-13
CBOD ₅	Summer	kg/day	118	189 ^a	359	4	11	0-19
CBOD ₅	Winter	kg/day	118	189 ^a	359	3	6	1-13

* = 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

CBOD₅ = 5-day carbonaceous biochemical oxygen demand

MGD = Million gallons per day

Table 3. Projected Effluent Quality for Newcomerstown Wastewater Treatment Plant

Parameter	Units	Number of Samples	Number > MDL	PEQ Average	PEQ Maximum
Ammonia (Summer)	mg/L	239	239	5.4972	6.1018
Ammonia (Winter)	mg/L	180	180	1.271	2.1788
Arsenic	µg/L	1	1	10.8624	14.88
Barium	µg/L	1	1	321.346	440.2
Cadmium	µg/L	21	1	0.949	1.3
Chloride	mg/L	1	1	1068.136	1463.2
Chromium	µg/L	21	0	--	--
Dissolved Hexavalent Chromium	µg/L	21	0	--	--
Copper	µg/L	61	32	22.204	33.678
Cyanide, Free	mg/L	16	1	0.0219	0.03
Dissolved Oxygen (Summer)	mg/L	425	425	8.3793	9.2514
Dissolved Oxygen (Winter)	mg/L	308	308	10.946	12.389
Iron	µg/L	1	1	687.952	942.4
Lead	µg/L	21	3	2.847	3.9
Mercury	ng/L	56	53	8.8528	14.126
Nickel	µg/L	20	6	30.207	49.701
Nitrate+Nitrite	mg/L	61	60	33.5946	46.02
Phosphorus	mg/L	61	61	6.622	10.202
Silver	µg/L	12	1	1.168	1.6
Strontium	µg/L	1	1	674.374	923.8
Total Filterable Residue	mg/L	1	1	3973.828	5443.6
Total Kjeldahl Nitrogen	mg/L	1	1	2.30826	3.162
Zinc	µg/L	21	20	46.438	69.35

PEQ = Projected Effluent Quality

MDL = Method Detection Limit

Table 4. Summary of Acute Toxicity Test Results

Discharge Monitoring Report Data from Station OPD00024001		
	<i>Ceriodaphnia Dubia</i>	<i>Pimephales promelas</i>
Date	Acute Toxicity (TU _a)	Acute Toxicity (TU _a)
8/25/2010	AA	AA
9/13/2011	AA	AA
9/25/2012	AA	AA
9/8/2013	AA	AA

TU_a = acute toxicity units

AA = below detection limit (0.2 TU_a)

Table 5. Biological Survey Results and Biocriteria

Aquatic life use attainment status for stations sampled in the Tuscarawas River basin based on data collected in the summers of 2003 and 2004. The Index of Biotic Integrity (IBI), Modified Index of well being (MIwb), and Invertebrate Community Index (ICI) are scores based on the performance of the biotic community. The Qualitative Habitat Evaluation Index (QHEI) is a measure of the ability of the physical habitat to support a biotic community.

River Mile Fish/Invertebrate	IBI	MIwb	ICI	QHEI	Attainment Status	Comments
Tuscarawas River 2003						
30.9/30.9	50	10.34	44 ^{ns}	87.5	FULL	at Port Washington
17.6/17.6	48	9.37 ^{ns}	54	85	FULL	downstream of Blue Ridge run
13.0/12.6	50	10.06	40*	82.5	PARTIAL	upstream of West Lafayette
Tuscarawas River 2004						
30.9/--	52	9.74	--	87.5	FULL	at Port Washington
17.6/--	46 ^{ns}	9.4 ^{ns}	--	85	FULL	downstream of Blue Ridge run
13.0/--	42*	9.73	--	82.5	PARTIAL	upstream of West Lafayette

Ecoregion Biocriteria for Western Allegheny Plateau

Site Type	IBI		MIwb		ICI	
	WWH	EWH	WWH	EWH	WWH	EWH
Boat	40	48	8.6	9.6	36	46

ns = Nonsignificant departure from biocriteria (<4 IBI or ICI units, or <0.5 MIwb units).

* = Indicates significant departure from applicable biocriteria (>4 IBI or ICI units, or >0.5 MIwb units).

EWH = Exceptional Warmwater
Habitat

WWH = Warmwater Habitat

Table 6. 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	--	--	0.8	--	--
Ammonia (Winter)	mg/L	--	--	4	--	--
Arsenic	µg/L	--	100	150	340	680
Barium	µg/L	--	--	220	2000	4000
Cadmium	µg/L	--	50	4.7	11	23
Chloride	mg/L	--	--	--	--	--
Chromium	µg/L	--	100	170	3500	7100
Dissolved Hexavalent Chromium	µg/L	--	--	11	16	31
Copper	µg/L	1300	500	19	30	61
Cyanide, Free	mg/L	220	--	0.012	0.046	0.092
Dissolved Oxygen (Summer)	mg/L	--	--	--	--	--
Dissolved Oxygen (Winter)	mg/L	--	--	--	--	--
Iron	µg/L	--	5000	--	--	--
Lead	µg/L	--	100	18	350	700
Mercury	ng/L	12	10000	910	1700	3400
Nickel	µg/L	4600	200	100	940	1900
Nitrate+Nitrite	mg/L	--	100	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Silver	µg/L	--	--	1.3	6.6	13
Strontium	µg/L	--	--	21000	40000	81000
Total Filterable Residue	mg/L	--	--	1500	--	--
Total Kjeldahl Nitrogen	mg/L	--	--	--	--	--
Zinc	µg/L	69000	25000	240	240	480

Table 7. Instream Conditions and Discharger Flow

Parameter	Units	Season	Value	Basis
1Q10	cfs	annual	250	USGS Station 03129000 1921-2003
7Q10	cfs	annual	263	USGS Station 03129000 1921-2003
30Q10	cfs	summer	301	USGS Station 03129000 1921-2003
30Q10	cfs	winter	533	USGS Station 03129000 1921-2003
90Q10	cfs	annual	--	
Harmonic Mean	cfs	annual	1060	USGS Station 03129000 1921-2003
Mixing Assumption	%	average	60.9	
Mixing Assumption	%	maximum	60.9	
Hardness	mg/L	annual	228	RM 17.6/19.4 median, 2003-2004, n=10 STORET RM 17.6, 2003,
pH	S.U.	summer	8.1	n=4
pH	S.U.	winter	7.9	901 station 1994-1995 STORET RM 17.6, 2003,
Temperature	°C	summer	23	n=4
Temperature	°C	winter	4	901 station 1994-1995
Newcomerstown WWTP flow	cfs	annual	1.934	Design Flow
Ammonia (Summer)	mg/L		0.025	STORET; 1999-2007; n=29; 20<MDL; Median Value from Station 611790
Ammonia (Winter)	mg/L		0.128	STORET; 1999-2007; n=12; 2<MDL; Median Value from Station 611790
Arsenic	µg/L		1	STORET; 1999-2007; n=39; 21<MDL; Median Value from Station 611790
Barium	µg/L		52	STORET; 1999-2007; n=39; 0<MDL; Median Value from Station 611790
Cadmium	µg/L		0.1	STORET; 1999-2007; n=39; 36<MDL; Median Value from Station 611790
Chloride	mg/L		62.7	STORET; 1999-2007; n=39; 0<MDL; Median Value from Station 611790
Chromium	µg/L		0	STORET; 1999-2007; n=39; 39<MDL; All <DL from Station 611790
Dissolved Hexavalent Chromium	µg/L		--	No representative data available.
Copper	µg/L		0	STORET; 1999-2007; n=39; 39<MDL; All <DL from Station 611790

Table 7. (Continued)

Parameter	Units	Season	Value	Basis
Cyanide, Free	mg/L		--	No representative data available.
Dissolved Oxygen (Summer)	mg/L		--	No representative data available.
Dissolved Oxygen (Winter)	mg/L		--	No representative data available.
Iron	µg/L		0.58	2012; n=3; 0<MDL; Station B01P03
Lead	µg/L		0	2012; n=3; 3<MDL; Station B01P03
Mercury	ng/L		--	No representative data available.
Nickel	µg/L		0	STORET; 1999-2007; n=39; 39<MDL; All <DL from Station 611790
Nitrate+Nitrite	mg/L		1.48	STORET; 1999-2007; n=41; 0<MDL; Median Value from Station 611790
Phosphorus	mg/L		0.127	STORET; 1999-2007; n=41; 1<MDL; Median Value from Station 611790
Silver	µg/L		--	No representative data available.
Strontium	µg/L		271	STORET; 1999-2007; n=39; 0<MDL; Median Value from Station 611790
Total Filterable Residue	mg/L		466	STORET; 1999-2007; n=39; 0<MDL; Median Value from Station 611790
Total Kjeldahl Nitrogen	mg/L		0.5	STORET; 1999-2007; n=41; 1<MDL; Median Value from Station 611790
Zinc	µg/L		17	STORET; 1999-2007; n=39; 7<MDL; Median Value from Station 611790

WWTP = Wastewater Treatment Plant

eDMR = Electronic Discharge Monitoring Report

USGS = United States Geological Survey

n = Number of samples

MDL = Method Detection Limit

STORET = United States Environmental Protection Agency STOrage and RETrieval Data Warehouse

Table 8. 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	--	--	--	--	--
Ammonia (Winter)	mg/L	--	--	--	--	--
Arsenic	µg/L	--	33168	12499	27046	680
Barium	µg/L	--	--	14143	155463	4000
Cadmium	µg/L	--	16718	386	870	23
Chloride	mg/L	--	--	--	--	--
Chromium	µg/L	--	33503	14259	279228	7100
Dissolved Hexavalent Chromium	µg/L	--	--	923	1276	31
Copper	µg/L	435533	167513	1594	2393	61
Cyanide, Free	mg/L	73706	--	1	3.7	0.092
Dissolved Oxygen (Summer)	mg/L	--	--	--	--	--
Dissolved Oxygen (Winter)	mg/L	--	--	--	--	--
Iron	µg/L	--	1204151	--	--	--
Lead	µg/L	--	33168	1427	27844	700
Mercury	ng/L	12	10000	910	1700	3400
Nickel	µg/L	1541116	67005	8388	74993	1900
Nitrate+Nitrite	mg/L	--	33008	--	--	--
Phosphorus	mg/L	--	--	--	--	--
Silver	µg/L	--	--	109	527	13
Strontium	µg/L	--	--	1738938	3169832	81000
Total Filterable Residue	mg/L	--	--	87194	--	--
Total Kjeldahl Nitrogen	mg/L	--	--	--	--	--
Zinc	µg/L	23111062	8369952	18721	17808	480

Table 9. Parameter Assessment

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

Kjeldahl Nitrogen, Total	Phosphorus	Chlorides
-----------------------------	------------	-----------

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

Cadmium	Arsenic	Lead
Chromium	Dissolved Hexavalent Chromium	Iron
Strontium		

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

Nitrate+Nitrite Total Filterable Residue	Silver	Nickel	Cyanide, Free
	Barium	Zinc	

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.

Copper	Mercury
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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.

No Parameters meet these criteria

PEQ = Projected Effluent Quality

PEL = Projected Effluent Limit

Table 10. Final Effluent Limits and Monitoring Requirements

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Acute Toxicity						
<i>Ceriodaphnia dubia</i>	TU _a	----- Monitor -----				WET
<i>Pimephales promelas</i>	TU _a	----- Monitor -----				WET
Ammonia	mg/L	----- Monitor -----				EP, M
Cadmium	µg/L	----- Monitor -----				EP, M
CBOD ₅	mg/L	25	40 ^c	118	189 ^c	EP, PD
Chromium	µg/L	----- Monitor -----				EP, M
Copper	µg/L	----- Monitor -----				EP, M
Cyanide, Free	mg/L	----- Monitor -----				EP, M
Dissolved Oxygen	mg/L	----- Monitor -----				EP, M
<i>E. coli</i> (Initial) Summer Only	#/100 mL	----- Monitor -----				WQS, BEJ
<i>E. coli</i> (Final) Summer Only	#/100 mL	126	284 ^c	--	--	WQS, BEJ
<i>Fecal Coliform</i> (Initial Only)	#/100 mL	1000	2000 ^c	--	--	EP, M
Flow Rate	MGD	----- Monitor -----				EP, M
Dissolved Hexavalent Chromium	µg/L	----- Monitor -----				EP, M
Lead	µg/L	----- Monitor -----				EP, M
Mercury	ng/L	----- Monitor -----				EP, M
Nickel	µg/L	----- Monitor -----				EP, M
Nitrate+Nitrite	mg/L	----- Monitor -----				EP, M
Oil & Grease	mg/L	--	10	--	--	WQS, EP

Table 10. (Continued)

Parameter	Units	Concentration		Loading (kg/day) ^a		Basis ^b
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
pH	SU	6.5 - 9.0		--	--	WQS, EP
Phosphorus	mg/L	----- Monitor -----				EP, M
Silver	µg/L	----- Monitor -----				EP, M
Total Precipitation	Inches	----- Monitor -----				EP, M
Total Filterable Residue	mg/L	----- Monitor -----				BEJ
Total Suspended Solids	mg/L	30	45 ^c	142	213 ^c	EP, PD
Water Temperature	°C	----- Monitor -----				EP, M
Zinc	µg/L	----- Monitor -----				EP, M

a = Effluent loadings based on average design discharge flow of 1.25 MGD.

b = Definitions

BEJ = Best Engineering Judgment

EP = Existing Permit

M = BEJ of Division of Surface Water NPDES Permit Guidance 1: Monitoring frequency requirements for Sanitary Discharges

RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in NPDES permits (3745-33-07(A))

WET = Whole Effluent Toxicity (CFR 40 part 132, Great Lakes Initiative procedure 6 and OAC 3745-33-07(B))

WLA = Wasteload Allocation procedures (OAC 3745-2)

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

c = Weekly average limit

CBOD₅ = 5-day carbonaceous biochemical oxygen demand

PD = Plant Design

MGD = Million gallons per day

S.U. = Standard Units

TU_a = acute toxicity units