

National Pollutant Discharge Elimination System (NPDES) Permit Program

FACT SHEET

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

Public Notice No.: 15-05-007
Public Notice Date: May 15, 2015
Comment Period Ends: June 15, 2015

Ohio EPA Permit No.: 1PC00003*HD
Application No.: OH0021059

Name and Address of Applicant:

**City of Lebanon
600 W Main Street
Lebanon, OH 45036**

Name and Address of Facility Where
Discharge Occurs:

**Lebanon WWTP
1525 Mason-Morrow-Millgrove Road
Lebanon, OH 45036
Warren County**

Receiving Water: Little Miami River

Subsequent Stream Network: 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.

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 monitoring requirements proposed for the following parameters are the same as in the previous permit, although some monitoring frequencies have changed: water temperature, dissolved oxygen, total suspended solids, oil and grease, ammonia, total Kjeldahl nitrogen, nitrate+nitrite, phosphorus, nickel, zinc, cadmium, lead, chromium, copper, *E. coli*, pH, and 5 Day-Carbonaceous Biochemical Oxygen Demand.

New monitoring is proposed for total filterable residue because this parameter was placed in group 4 of the Ohio EPA risk assessment (Table 13) and monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2). This monitoring will allow for a data set for total filterable residue and help determine what future permit decisions must be made for this parameter.

Limits are proposed to be removed for mercury because this parameter was placed in group 3 of the Ohio EPA risk assessment (Table 13). Monitoring is proposed to continue.

Annual chronic toxicity monitoring with the determination of acute endpoints is proposed for the life of the permit for *Pimephales promelas*. 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. In accordance with Ohio Administrative Code (OAC) 3745-33-07, it has been determined that the effluent from Lebanon WWTP shows chronic toxicity to *Ceriodaphnia dubia*. An increased monitoring frequency of semi-annual whole effluent toxicity (WET) monitoring is proposed.

Metal monitoring is being removed from, and nutrient monitoring is being added to, the downstream monitoring station 1PC00003901. Additional nutrient data at upstream and downstream stations will allow a more robust data set that may better determine whether the lower Little Miami River is in attainment for nutrients.

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; 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 Andy Bachman at (614)644-3075, andrew.bachman@epa.ohio.gov; or Ned Sarle at (937)285-6096, ned.sarle@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: 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 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 3745-1-35. 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

Lebanon WWTP discharges to the Little Miami River at River Mile (RM) 32.1. Figure 1 shows the approximate location of the facility.

This segment of the Little Miami River is described by Ohio EPA River Code: 11-001, County: Warren, Ecoregion: Eastern Corn Belt Plains. The Little Miami River is designated for the following uses under Ohio's WQS (OAC 3745-1-18): 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 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 AWS and IWS.

Facility Description

Lebanon WWTP was constructed in 1987 and last upgraded in 2000. The average design flow is 6.0 million gallons per day (MGD). Lebanon WWTP serves the City of Lebanon and Village of South Lebanon for a total of 24,100 customers. Lebanon WWTP has the following treatment processes:

- Mechanical Screen
- Grit and Grease Removal
- Aeration
- Activated Sludge
- Secondary Clarification
- Ultraviolet Disinfection

The City of Lebanon has 100% separated sewers in the collection system. The facility does not have an approved pretreatment program. The City has one categorical industrial user that discharges 0.031 MGD of flow, and has one non-categorical user that discharges 0.079 MGD of flow.

Lebanon WWTP utilizes the following sewage sludge treatment processes:

- Aerobic Digestion

- Polymer Addition
- Mechanical Dewatering – Belt Filter Press
- Landfill

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

Description of Existing Discharge

Lebanon WWTP estimates there is an infiltration/inflow (I/I) rate to the collection system of 0.5 MGD. The median annual effluent flow rate for Lebanon WWTP for the previous five years is presented on

Table 2. Lebanon WWTP performs the following activities to minimize I/I: regular sewer inspections and repairs.

Lebanon WWTP reports SSOs at station 300. The number of SSOs per year is presented on

Table 3.

Table 4 presents chemical specific data compiled from data collected by Ohio EPA.

Table 5 presents a summary of unaltered Discharge Monitoring Report (DMR) data for outfall 1PC00003001. Data are presented for the period from January 2009 to January 2014, and current permit limits are provided for comparison.

Table 6 summarizes the chemical specific data for outfall 1PC00003001 by presenting the average and maximum PEQ values.

Table 7 summarizes the results of acute and chronic WET tests of the final effluent.

Table 8 summarizes the screening results of Ohio EPA bioassay sampling of the final effluent.

The permittee does have a bypass of the treatment plant. High flows go to the flow equalization basin and, if necessary, through the overflow pipe to Turtle Creek. Bypass occurrences are rare and were previously reported under station 300. However, as this is a permanent bypass that may be used in the future, a new station was created to record bypasses. The permittee shall record bypass events, hours of discharge, and estimated volumes under station 602 in the NPDES permit.

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 annual pretreatment program reports and/or from effluent testing conducted by the Agency.

Assessment of Impact on Receiving Waters

The Little Miami River has been identified as a priority impaired water on Ohio's 303(d) list.

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 9) 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.

A Total Daily Maximum Load (TMDL) report was approved for the Lower Little Miami River in March 2011. The March 24, 2015, Supreme Court of Ohio decision *Fairfield Cty. Bd. of Commrs. v. Nally, Slip Opinion No. 2015-Ohio-991* vacated all previously approved TMDLs. As of April 21, 2015, this TMDL is considered a technical guidance document pending final TMDL approval. The TMDL does not recommend any limits for Lebanon WWTP as the stream is in full attainment for over 24 miles downstream of the discharge. The full TMDL report can be found at this website:

http://www.epa.state.oh.us/portals/35/tmdl/Lower%20LMR_TMDL%20Report_FINAL_FINAL_Nov11.pdf

Development of Water-Quality-Based Effluent Limits

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

Parameter Selection

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

Self-Monitoring Data (DMR)

January 2009 through January 2014

Outliers

The effluent data were checked for outliers and the following values were removed: four values for Ammonia-Winter of 7.91, 10.3, 10.7, and 11.8 mg/L; one value for nickel of 119. µg/L, two values for zinc of 154 and 249 µg/L; and one value for copper of 120 µg/L.

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 6).

The PEQ values are used according to Ohio rules to compare to applicable WQS and allowable WLA values for each pollutant evaluated. Initially, PEQ values are compared to the applicable average and maximum WQS. If both PEQ values are less than 25 percent of the applicable WQS, the pollutant does not have the reasonable potential to cause or contribute to exceedances of WQS, and no WLA is done for that parameter. If either PEQ_{avg} or PEQ_{max} is greater than 25 percent of the applicable WQS, a WLA is conducted to determine whether the parameter exhibits reasonable potential and needs to have a limit or if monitoring is required. See Table 13 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 following dischargers in the Little Miami River were considered interactive (see Figure 2):

- Mason WWTP
- Warren County Lower Little Miami WWTP
- Clermont County O'Bannon Creek WWTP
- Hamilton County Polk Run WWTP
- Hamilton County Sycamore Creek WWTP
- Clermont County Wards Corner Regional WWTP

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

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

Aquatic life (WWH and EWH)		
Toxics (metals, organics, etc.)	Average	Annual 7Q10
	Maximum	Annual 1Q10
Ammonia	Average	Summer 30Q10

AWS
Human Health (nondrinking)

Winter 30Q10
Harmonic mean flow
Harmonic mean flow

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.

Ohio's WQS implementation rules [OAC 3745-2-05(A)(2)(d)(iv)] required a phase out of mixing zones for bioaccumulative chemicals of concern (BCCs) as of November 15, 2010. This rule applied statewide. Mercury is a BCC. The mixing zone phase-out means that as of November 15, 2010 all dischargers requiring mercury limits in their NPDES permit must meet WQS at the end-of-pipe, which for mercury are 12 ng/L (average) and 1700 ng/L (maximum) in the Ohio River basin.

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

Whole Effluent Toxicity WLA

Whole effluent toxicity (WET) is the total toxic effect of an effluent on aquatic life measured directly with a toxicity test. Acute WET measures short term effects of the effluent while chronic WET measures longer term and potentially more subtle effects of the effluent.

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 Lebanon WWTP, the WLA values are 1.0 TU_a and 7.34 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 (IC_{25}):

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

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

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

This equation applies outside the mixing zone for warmwater, modified warmwater, exceptional warmwater, coldwater, 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 12. The average PEL (PEL_{avg}) is compared to the average PEQ (PEQ_{avg}) from Table 6, and the PEL_{max} is compared to the PEQ_{max}. Based on the calculated percentage of the allocated value $[(PEQ_{avg} \div PEL_{avg}) \times 100, \text{ or } (PEQ_{max} \div PEL_{max}) \times 100]$, 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 Lebanon WWTP outfall 1PC00003001 and the basis for their recommendation. Unless otherwise indicated, the monitoring frequencies proposed in the permit are continued from the existing permit.

Water Temperature and Flow Rate

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

Dissolved Oxygen, Total Suspended Solids, Ammonia, and 5-Day Carbonaceous Biochemical Oxygen Demand

The limits proposed for dissolved oxygen, total suspended solids, ammonia and 5-day carbonaceous biochemical oxygen demand are all based on plant design criteria. These limits are protective of WQS.

Oil and Grease, pH, and Escherichia coli

Limits proposed for oil and grease, pH, and *Escherichia coli* are based on WQS (OAC 3745-1-07). Class A PCR *E. coli* standards apply to the Little Miami River.

Phosphorus, Total Kjeldahl Nitrogen, and Nitrate+Nitrite

The continued monitoring for phosphorus, total Kjeldahl nitrogen, and nitrate+nitrite is proposed based on best technical judgment. Monitoring for phosphorus and nitrate + nitrite at the upstream and downstream stations is also proposed. The purpose of the monitoring is to maintain a data set tracking nutrient levels in the Little Miami River.

Copper and Total Filterable Residue

The Ohio EPA risk assessment (Table 13) places copper and total filterable residue in group 4. This placement, as well as the data in Table 5 and Table 6, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring for Group 4 pollutants (where PEQ exceeds 50 percent of the WLA) is required by OAC 3745-33-07(A)(2).

Nickel, Zinc, Cadmium, Lead, Chromium, and Mercury

The Ohio EPA risk assessment (Table 13) places nickel, zinc, cadmium, lead, chromium, and mercury in groups 2 and 3. This placement, as well as the data in Table 5 and Table 6, support that these parameters do not have the reasonable potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. Monitoring at a continued frequency is proposed to document that these pollutants continue to remain at low levels. Limits for mercury are proposed to be removed but monitoring will continue at the same frequency.

Arsenic, Strontium, Free Cyanide, Molybdenum, Selenium, Dissolved Hexavalent Chromium, Silver, Iron, Barium, and Bis(2-ethylhexyl)phthalate

The Ohio EPA risk assessment (Table 13) places arsenic, strontium, free cyanide, molybdenum, selenium, dissolved hexavalent chromium, silver, iron, barium, and bis(2-ethylhexyl) phthalate in groups 2 and 3. This placement, as well as the data in Table 5 and 6, support that these parameters do not have the reasonable

potential to contribute to WQS exceedances, and limits are not necessary to protect water quality. No new monitoring is proposed.

Whole Effluent Toxicity Reasonable Potential

Based on evaluating the WET data presented in Table 7 and Table 8 and other pertinent data under the provisions of OAC 3745-33-07(B), the Lebanon WWTP is placed in Category 3 with respect to WET. No limits are proposed, but increased chronic testing is proposed for *Ceriodaphnia dubia*. On 9/29/2010, the toxicity test for *Ceriodaphnia dubia* yielded a result of 5.6 TU_c. All other tests were 1.5 TU_c or below. To obtain additional data on the frequency of occurrence and variability of toxicity results, biomonitoring for *Ceriodaphnia dubia* is proposed to increase from annual to semiannual. Additional testing will allow for more data to determine whether or not there is a toxicity issue at the facility.

Additional Monitoring Requirements

Monitoring for metals is proposed to be removed at the downstream monitoring station [1PC00003901]. Additional monitoring for phosphorus and total Kjeldahl nitrogen is proposed to take the place of metals to develop a nutrient profile of the Little Miami River basin.

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.

Other Requirements

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 adopted in December 2006 (OAC 3745-7-02). These rules require the Lebanon WWTP to have a Class IV wastewater treatment plant operator in charge of the sewage treatment plant operations discharging through outfall 001. These rules also require the permittee to designate one or more operator of record to oversee the technical operation of the treatment works.

Storm Water Compliance

Parts IV, V, and VI have been included with the draft permit to ensure that any storm water flows from the facility site are properly regulated and managed. As an alternative to complying with Parts IV, V, and VI, the Lebanon WWTP may seek permit coverage under the general permit for industrial storm water (permit # OHR000005) or submit a “No Exposure Certification.” Parts IV, V, and VI will be removed from the final permit if: 1) the Lebanon WWTP submits a Notice of Intent (NOI) for coverage under the general permit for industrial storm water or submits a No Exposure Certification, 2) Ohio EPA determines that the facility is eligible for coverage under the general permit or meets the requirements for a No Exposure Certification, and 3) the determination by Ohio EPA can be made prior to the issuance of the final permit.

Outfall Signage

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

Figure 1. Location of Lebanon WWTP

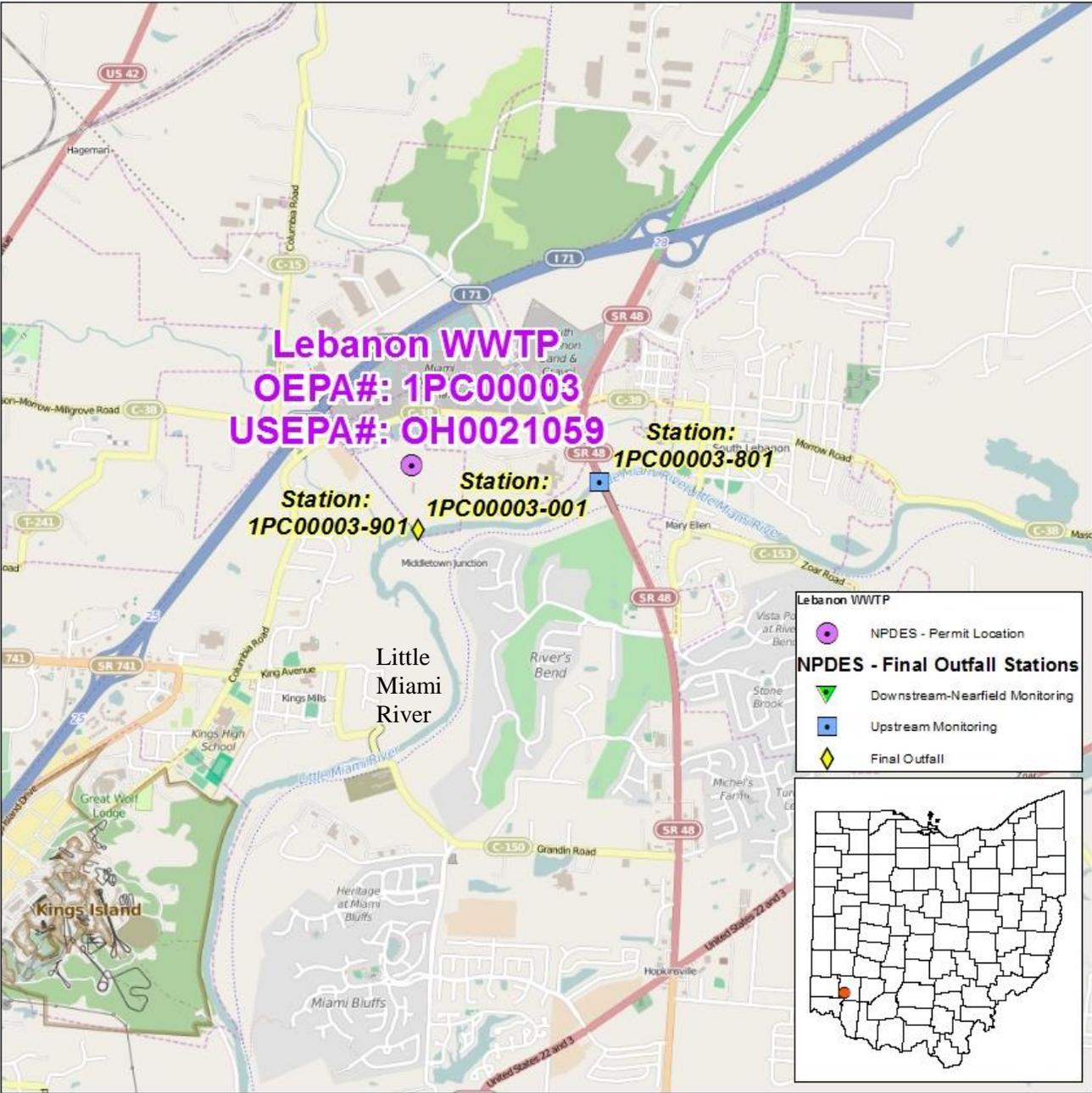


Figure 2. Lower Little Miami River Study Area

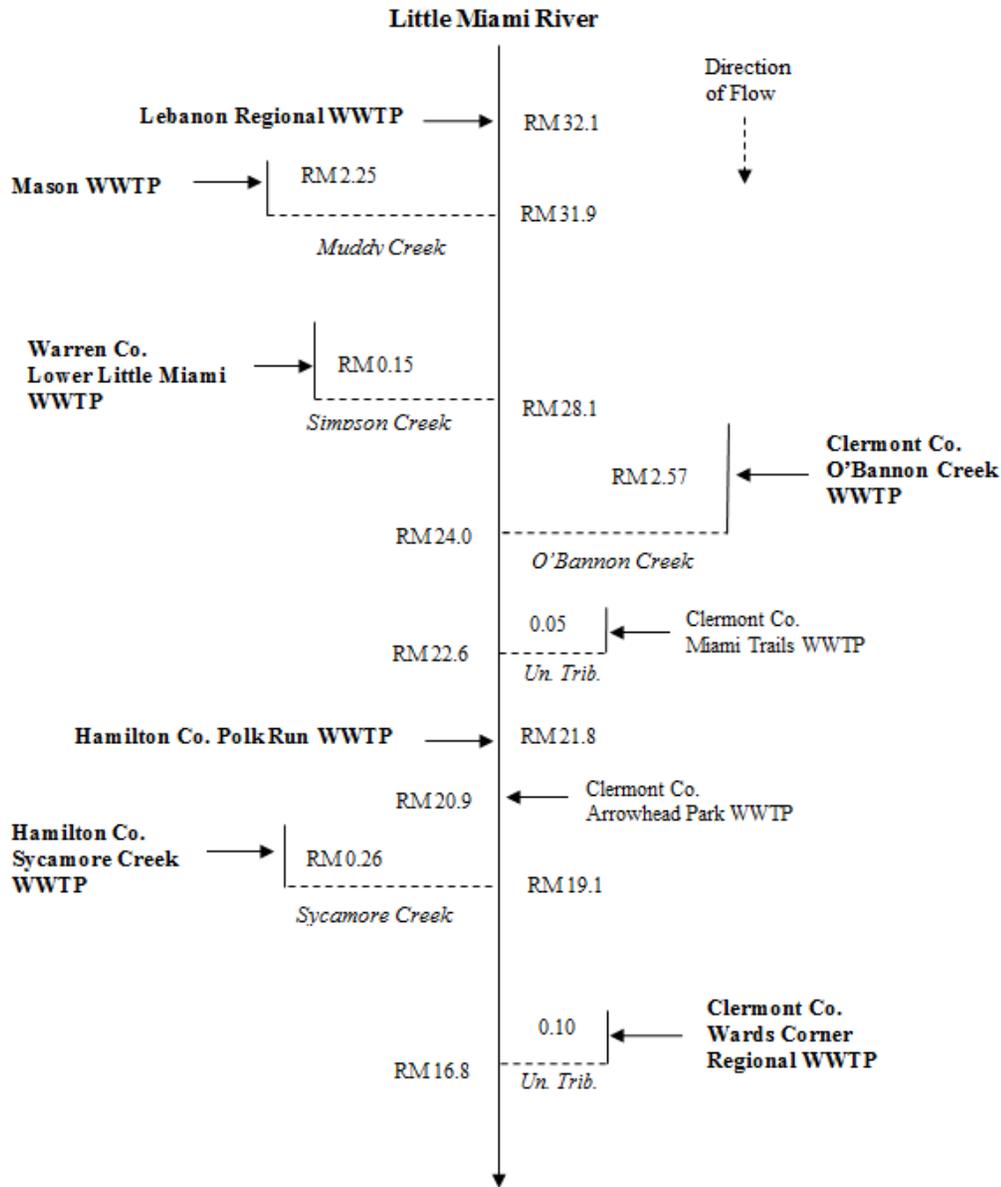


Table 1. Sewage Sludge Removal

Year	Dry Tons Removed
2011	414.04
2012	472.57
2013	348.31
2014	473.27

Table 2. Annual Effluent Flow Rates

Year	Annual Flow in MGD		
	50th Percentile	95th Percentile	Maximum
2010	2.417	4.1108	6.531
2011	2.743	7.3268	8.215
2012	2.3545	3.9315	7.214
2013	2.569	4.8796	7.666
2014	2.534	4.934	7.667

MGD = million gallons per day

Table 3. Sanitary Sewer Overflows Discharges

Year	Number
2010	6
2011	18
2012	3
2013	5
2014	7

Table 4. Effluent Characterization Using Ohio EPA data

PARAMETER	Ohio EPA	Ohio EPA
*units in µg/L unless otherwise noted	9/30/2013	12/11/2012
Barium	40	43
Copper	3.7	6
Iron	ND (50)	71
Magnesium (mg/L)	20	17
Manganese	ND (10)	29
Nickel	7.9	3.8
Strontium	338	323
Zinc	38	154
Sodium	132	212
Chloride	179	315
Potassium	13	19
Nitrate+Nitrite (mg/L)	15.9	4.96
Total Dissolved Solids (mg/L)	688	900
Phosphorus	2.16	3.11
TKN	ND (0.2)	2.01
Arsenic	ND (2)	3.4
Chromium	ND (2)	2.1

ND = not-detected (analytical method detection limit)

Table 5. Effluent Characterization Using Self-Monitoring Data

Parameter	Season	Units	Current Permit Limits		# Obs.	Percentiles		Data Range
			30 day	Daily		50 th	95 th	
Outfall 001								
Water Temperature	Annual	C°	-- -Monitor Only--	--	1854	20	26	9-29
Total Suspended Solids	Summer	mg/L	10	15 ^a	414	3	12	1-30
Total Suspended Solids	Winter	mg/L	15	22.5 ^a	389	3	7	1-37
Oil and Grease	Annual	mg/L	--	10	69	0	0	0-3.26
Nitrogen, Ammonia	Summer	mg/L	0.67	1.0 ^a	421	0.17	1.05	0-8.32
Nitrogen, Ammonia	Winter	mg/L	1.4	2.1 ^a	392	0.09	1.3	0-11.8
Total Nitrogen Kjeldahl	Annual	mg/L	-- -Monitor Only--	--	115	1.2	5.99	0-18.6
Nitrite Plus Nitrate	Annual	mg/L	-- -Monitor Only--	--	66	10.8	21.9	0-27.8
Phosphorus	Annual	mg/L	-- -Monitor Only--	--	263	2.11	3.63	0.324-5.03
Nickel	Annual	µg/L	-- -Monitor Only--	--	20	0	5.95	0-119
Zinc	Annual	µg/L	-- -Monitor Only--	--	20	43.1	67.6	15.4-249
Cadmium	Annual	µg/L	-- -Monitor Only--	--	20	0	0	0-0
Lead	Annual	µg/L	-- -Monitor Only--	--	20	0	0	0-0
Chromium	Annual	µg/L	-- -Monitor Only--	--	20	0	0.85	0-17
Copper	Annual	µg/L	-- -Monitor Only--	--	34	0	42.8	0-120
E. coli	Annual	#/100 ml	126	284 ^a	259	17	383	0-1110
Flow Rate	Annual	MGD	-- -Monitor Only--	--	1857	2.47	4.79	0.998-8.22
Mercury	Annual	ng/L	12	1700	54	0.975	4.08	0-11
Acute Toxicity, Ceriodaphnia dubia	Annual	TU _a	-- -Monitor Only--	--	4	0	0	0-0
Chronic Toxicity, Ceriodaphnia dubia	Annual	TU _c	-- -Monitor Only--	--	4	0.75	4.99	0-5.6
Acute Toxicity, Pimephales promelas	Annual	TU _a	-- -Monitor Only--	--	4	0	0	0-0
Chronic Toxicity, Pimephales promelas	Annual	TU _c	-- -Monitor Only--	--	4	0	0	0-0
pH, Maximum	Annual	S.U.	No Greater than 9.0		1273	7.6	7.9	7-8.1
pH, Minimum	Annual	S.U.	No Less than 6.5		1270	7.4	7.8	6.9-8
CBOD ₅	Summer	mg/L	7.5	11.3 ^a	402	2.27	5	0-10.7
CBOD ₅	Winter	mg/L	12.5	18.8 ^a	386	2.56	4	0-9

All values are based on annual records unless otherwise indicated. * = 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 = Carbonaceous Biochemical Oxygen Demand (5 day)

Table 6. Projected Effluent Quality

Parameter	Units	# of Samples	# > MDL	Average PEQ	Maximum PEQ
<u>Self-Monitoring (DMR) Data</u>					
Ammonia-Summer	mg/L	292	203	1.014	2.028
Ammonia-Winter	mg/L	206	112	1.540	1.894
Nitrate+Nitrite ^A	mg/L	69	65	20.29	27.8
Phosphorus ^A	mg/L	269	269	2.57	3.521
Nickel ^A	µg/L	14	2	8.651	11.85
Zinc ^A	µg/L	20	20	61.17	87.47
Cadmium	µg/L	20	0	--	--
Lead	µg/L	20	0	--	--
Chromium ^A	µg/L	22	2	16.13	22.1
Copper ^A	µg/L	35	15	28.89	43.85
Bis(2-ethylhexyl)phthalate ^B	µg/L	4	1	14.8	20.28
Mercury	ng/L	55	34	3.755	5.945
<u>Ohio EPA Data</u>					
Barium	µg/L	2	2	119.3	163.4
Iron	µg/L	2	1	197.0	269.8
Magnesium	mg/L	2	2	55.48	76.0
Manganese	µg/L	2	1	80.45	110.2
Strontium	µg/L	2	2	937.6	1284.
Sodium	mg/L	2	2	588.1	805.6
Chloride	mg/L	2	2	873.8	1197.
Potassium	mg/L	2	2	52.71	72.2
Total Filterable Residue	mg/L	2	2	2497.	3420.
Arsenic	µg/L	2	1	9.432	12.92

^A DMR data combined with Ohio EPA data.

^B Carcinogen

* MDL = analytical method detection limit; PEQ = projected effluent quality

Table 7. Summary of Acute and Chronic Toxicity Results

Date	<i>Ceriodaphnia Dubia</i>		<i>Pimephales promelas</i>	
	TU _a	TU _c	TU _a	TU _c
9/27/2010	AA	5.6	AA	AA
9/4/2011	AA	1.5	AA	AA
9/9/2012	AA	AA	AA	AA
9/15/2013	AA	AA	AA	AA
9/7/2014	AA	AA	AA	AA

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

TU_a = acute toxicity unit

TU_c = chronic toxicity unit

Table 8. Ohio EPA Toxicity Screening Results for Outfall 001

Collection Date	<i>Ceriodaphnia dubia</i>								<i>Pimephales promelas</i>							
	24 Hours				48 Hours				24 Hours				48 Hours			
	UP	C	%M	TU _a	UP	C	%M	TU _a	UP	C	%M	TU _a	UP	C	%M	TU _a
12/4/2012	0	0	0	ND	0	0	0	ND	0	0	0	ND	0	0	0	ND
9/23/2013	0	0	0	ND	0	0	5	ND	0	0	0	ND	0	0	0	ND

C = laboratory control water

%M = percent mortality in 100% effluent

ND = not determined

TU_a = acute toxicity units

UP = percent mortality in upstream control water

Table 9. Use Attainment Table

Location	RM	AL Use Desig.	Attain. Status	Causes of Impairment	Sources of Impairment
LMR at US 48	32.9	EWH	FULL		
LMR at King's Mill Rd.	30.9	EWH	(FULL)		
LMR dst. Simpson Ck	27.9	EWH	FULL		
LMR upst. O'Bannon Ck	24.1	EWH	FULL		
LMR at Loveland-Kemper Rd	22.3	EWH	FULL		
LMR adj. Lake Isabella	20.6	EWH	FULL		
LMR at SR 126	17.7	EWH	FULL		
LMR at Newtown Rd.	8.1	EWH	FULL		
Muddy Creek upst. Mason WWTP	2.5	WWH	PARTIAL	Natural Conditions (Flow)	Natural
Muddy Creek dst. Mason WWTP	0.54	WWH	PARTIAL	Sedimentation/Siltation, Nutrient/Organic, Enrichment(Sewage) Biological Indicators	Municipal point source discharges
O'Bannon Creek at Gibson Rd.	4.37	WWH	PARTIAL	Natural Conditions (Flow)	Natural
O'Bannon Creek at SR 48.	0.26	WWH	FULL		
Sycamore Creek dst. N. Fk. Sycamore Ck.	0.50	WWH	FULL		
Sycamore Creek dst. Sycamore Ck. WWTP	0.10	WWH	FULL		

* LMR = Little Miami River, WWH = warmwater habitat, EWH = exceptional warmwater habitat, upst = upstream, dst = downstream, Ck = Creek, WWTP = wastewater treatment plant

Table 10. Water Quality Criteria in the Study Area

Parameter	Units	Outside Mixing Zone Criteria			Maximum Aquatic Life	Inside Mixing Zone Maximum
		Average				
		Human Health	Agri-culture	Aquatic Life		
<u>All Streams</u>						
Arsenic	µg/L	--	100.	150.	340.	680.
Barium	µg/L	--	--	220.	2000.	4000.
Benzo(b)fluoranthene ^B	µg/L	0.49	--	--	--	--
Bis(2-ethylhexyl)phthalate ^B	µg/L	59.	--	8.4	1100.	2100.
Bromomethane	µg/L	4000.	--	16.	38.	75.
Total Residual Chlorine	µg/L	--	--	11.	19.	38.
Chloroform ^B	µg/L	4700.	--	140.	1300.	2600.
Dissolved Hexavalent Chromium	µg/L	--	--	11.	16.	31.
Free Cyanide	µg/L	220000.	--	12.	46.	92.
Dibenzo(a,h)anthracene ^B	µg/L	0.49	--	--	--	--
Ideno(1,2,3-c,d)pyrene ^B	µg/L	0.49	--	--	--	--
Iron	µg/L	--	5000.	--	--	--
Mercury ^A	ng/L	12.	10000.	910.	1700.	3400.
Molybdenum	µg/L	--	--	20000.	190000.	370000.
Nitrate+Nitrite	mg/L	--	100.	--	--	--
Selenium	µg/L	11000.	50.	5.0	--	--
Strontium	µg/L	--	--	21000.	40000.	81000.
Thallium	µg/L	6.3	--	17.	79.	160.
Toluene	µg/L	200000.	--	62.	560.	1100.
Total Filterable Residue	mg/L	--	--	1500.	--	--
<u>Little Miami River & Simpson Creek; Hardness = 298. mg/L</u>						
Cadmium	µg/L	--	50.	5.8	15.	31.
Chromium	µg/L	--	100.	210.	4400.	8800.
Copper	µg/L	1300.	500.	24.	39.	78.
Lead	µg/L	--	100.	26.	490.	980.
Nickel	µg/L	4600.	200.	130.	1200.	2400.
Silver	µg/L	--	--	1.3	10.	21.
Zinc	µg/L	69000.	25000.	300.	300.	600.

^A Bioaccumulative Chemical of Concern (BCC)

^B Carcinogen

Table 11. Instream Conditions and Discharger Flow

Parameter	Units	Value				
		Little Miami	Muddy Creek	Simpson Creek	O'Bannon Creek	Sycamore Creek
7Q ₁₀ annual	cfs	58.8 ^A	0.0 ^B	0.0 ^B	0.0 ^B	0.0 ^B
1Q ₁₀ annual	cfs	46.9 ^A	0.0 ^B	0.0 ^B	0.0 ^B	0.0 ^B
30Q ₁₀ summer	cfs	78.9 ^A	0.0 ^B	0.0 ^B	0.02 ^B	0.01 ^B
winter	cfs	224. ^A	0.62 ^B	0.06 ^B	2.61 ^B	1.46 ^B
Q _{HM} annual	cfs	377. ^A	0.12 ^B	0.0 ^B	0.49 ^B	0.27 ^B
Mixing Assumption	% average	100	100	100	100	100
	% maximum	100	100	100	100	100
Instream Hardness	mg/L	298. ^{C D}	250. ^{C D}	298. ^{C D}	220. ^{C D}	286. ^{C D}
Background Water Quality	µg/L					
Arsenic		1.0 ^C	3.1 ^C	2.6 ^C	1.2 ^C	1.0 ^C
Barium		84. ^C	64.7 ^C	40. ^C	47.8 ^C	40. ^C
Benzo(b)fluoranthene		0.0 ^E				
Bis(2-ethylhexyl)phthalate		0.0 ^E				
Cadmium		0.0 ^E				
Total Residual Chlorine		0.0 ^E				
Dissolved Hexavalent Chromium		0.0 ^E				
Chromium		15. ^C	0.0 ^F	0.0 ^F	0.0 ^F	0.0 ^F
Copper		5.0 ^C	0.0 ^F	4.5 ^C	6.2 ^C	5.0 ^C
Free Cyanide		0.0 ^E				
Dibenzo(a,h)anthracene		0.0 ^E				
Ideno(1,2,3-c,d)pyrene		0.0 ^E				
Iron		453. ^C	198. ^C	258. ^C	330. ^C	248. ^C
Lead		1.0 ^C	0.0 ^F	0.0 ^F	1.7 ^C	1.0 ^C
Molybdenum		0.0 ^E				
Nickel		20. ^C	0.0 ^F	0.0 ^F	0.0 ^F	0.0 ^F
Nitrate+Nitrite (mg/L)		2.63 ^C	0.07 ^C	0.65 ^C	0.28 ^C	0.1 ^C
Selenium		0.0 ^F				
Silver		0.0 ^E				
Thallium		0.0 ^E				
Total Filterable Residue (mg/L)		414. ^C	630. ^C	450. ^C	297. ^C	360. ^C
Zinc		5.0 ^C	0.0 ^F	8.7 ^C	7.0 ^C	5.0 ^C

A. Based on USGS gage #03245500, LMR at Milford data (10/1/1975 - 9/30/2013)

B. Based on USGS gage #03246500, East Fork LMR at Williamsburg data (1949-53; 1960-74)

C. STORET data (1997-2008)

D. DMR 901 data (2009-2014)

E. No representative data available.

F. All site specific data is less than detection.

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

Parameter	Units	Average		Maximum Aquatic Life	Inside Aquatic Life	Mixing Zone Maximum
		Human Health	Agri Supply			
Arsenic ^B	µg/L	--	1826. ^A	559.	1084. ^A	680.
Barium	µg/L	--	--	665.	6835. ^A	4000.
Bis(2-ethylhexyl)phthalate	µg/L	2456. ^A	--	62.	6659. ^A	2100.
Cadmium ^B	µg/L	--	922. ^A	22.	48. ^A	31.
Chromium ^B	µg/L	--	1582.	763.	14460. ^A	8800.
Dissolved Hexavalent Chromium ^B	µg/L	--	--	38. ^A	47. ^A	31.
Copper	µg/L	20380. ^A	7792. ^A	71.	105. ^A	78.
Free Cyanide ^B	µg/L	4.06e6 ^A	--	45.	147. ^A	92.
Lead ^B	µg/L	--	1826. ^A	97.	1620. ^A	980.
Mercury ^C	ng/L	12.	10000. ^A	910.	1700.	3400.
Molybdenum ^B	µg/L	--	--	74870.	606800. ^A	370000.
Nickel ^B	µg/L	84450. ^A	3339. ^A	443.	3980. ^A	2400.
Selenium ^B	µg/L	202800.	922.	19.	--	--
Silver ^B	µg/L	--	--	4.9	33. ^A	21.
Total Filterable Residue	mg/L	--	--	3995.	--	--
Zinc	µg/L	1112000. ^A	403000. ^A	1028. ^A	887. ^A	600.

^A Allocation must not exceed the Inside Mixing Zone Maximum.

^B This parameter would not require a WLA based on reasonable potential procedures, but allocation requested by for use in pretreatment program.

^C 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 3745-2-08(L).

Table 13. Parameter Assessment

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

Chloride	Magnesium	Manganese
Phosphorus	Potassium	Sodium

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

Arsenic	Cadmium	Strontium
Chromium	Free Cyanide	Iron
Lead	Molybdenum	Nickel
Nitrate+Nitrite	Selenium	Silver
Dissolved Hexavalent Chromium		

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

Ammonia-Summer and Winter	Barium	Bis(2-ethylhexyl)phthalate
Mercury	Zinc	

Group 4: PEQ_{max} ≥ 50% but <100% of the maximum PEL or PEQ_{avg} ≥ 50% but < 100% of the average PEL. Monitoring is appropriate.

Copper	Total Filterable Residue
--------	--------------------------

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

No parameters meet the criteria of this group.

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
		30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	
Water Temperature	°C	----- Monitor -----				M ^c
Flow Rate	MGD	----- Monitor -----				M ^c
pH	SU	6.5 - 9.0		--	--	WQS
Dissolved Oxygen	mg/L	----- Not less than 5.0 -----				EP
Total Suspended Solids						
Summer	mg/L	10	15 ^d	227	341 ^d	PD/EP
Winter	mg/L	15	22.5 ^d	341	511 ^d	PD/EP
Oil & Grease	mg/L	--	10	--	--	WQS
Ammonia						
Summer	mg/L	0.67	1.0 ^d	15	23 ^d	PD/EP
Winter	mg/L	1.4	2.1 ^d	32	49 ^d	PD/EP
Total Kjeldahl Nitrogen	mg/L	----- Monitor -----				BTJ
Nitrate+Nitrite	mg/L	----- Monitor -----				M/EP
Phosphorus	mg/L	----- Monitor -----				M/EP
Total Filterable Residue	mg/L	----- Monitor -----				M/EP
Nickel	µg/L	----- Monitor -----				M/EP
Zinc	µg/L	----- Monitor -----				M/EP
Cadmium	µg/L	----- Monitor -----				M/EP
Lead	µg/L	----- Monitor -----				M/EP
Chromium	µg/L	----- Monitor -----				M/EP
Copper	µg/L	----- Monitor -----				M/EP
Mercury	ng/L	----- Monitor -----				M/EP
<i>E. coli</i>	#/100 mL	126	284 ^d	--	--	WQS
Carbonaceous Biochemical Oxygen Demand (5 day)						
Summer	mg/L	7.5	11.3 ^d	170	256 ^d	PD/EP
Winter	mg/L	12.5	18.8 ^d	284	426 ^d	PD/EP
Acute Toxicity						
<i>Ceriodaphnia dubia</i>	TU _a	----- Monitor -----				WET
<i>Pimephales promelas</i>	TU _a	----- Monitor -----				WET
Chronic Toxicity						
<i>Ceriodaphnia dubia</i>	TU _c	----- Monitor -----				WET
<i>Pimephales promelas</i>	TU _c	----- Monitor -----				WET

^a Effluent loadings based on average design discharge flow of 6.0 MGD.

^b Definitions: **BTJ** = Best Technical Judgment

EP = Existing Permit

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

PD = Plant Design

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

WET = Whole Effluent Toxicity (OAC 3745-33-07(B))

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.