



Mike DeWine, Governor  
Jon Husted, Lt. Governor  
Laurie A. Stevenson, Director

**August 31, 2022**

**Preliminary Finding of No Significant Impact  
To All Interested Citizens, Organizations, and Government Agencies**

**City of Troy – Miami County  
WWTP Improvements  
Loan Number: CS390922-0002**

The attached Environmental Assessment (EA) is for a wastewater treatment plant improvement project in Troy which the Ohio Environmental Protection Agency intends to finance through its Water Pollution Control Loan Fund (WPCLF) below-market interest rate revolving loan program. The EA describes the project, its costs, and expected environmental benefits. We would appreciate receiving any comments you may have on the project. Making available this EA and seeking your comments fulfills Ohio EPA's environmental review and public notice requirements for this loan program.

Ohio EPA analyzes environmental effects of proposed projects as part of its WPCLF program review and approval process. We have concluded that the proposed project should not result in significant adverse environmental impacts. More information can be obtained by contacting the person named at the end of the attached EA.

Any comments on our preliminary determination should be sent to the email address of the contact named at the end of the EA. We will not act on this project for 30 calendar days from the date of this notice. In the absence of substantive comments during this period, our preliminary decision will become final. After that, the City of Troy can then proceed with its application for the WPCLF loan.

Sincerely,

A handwritten signature in black ink that reads "Kathleen Courtright". The signature is written in a cursive, flowing style.

Kathleen Courtright, Assistant Chief  
Division of Environmental & Financial Assistance

Attachment

## ENVIRONMENTAL ASSESSMENT

### **Project Identification**

Project: WWTP Improvements

Applicant: City of Troy  
100 South Market Street  
Troy, Ohio 45373

Loan Number: CS390922-0002



**Figure 1. Miami County**

### **Project Summary**

The City of Troy, in Miami County (Figure 1), has requested \$12 million from the Ohio Water Pollution Control Loan Fund (WPCLF) to fund the WWTP Improvements project. Completion of this project is intended to improve the operating efficiency and increase the treatment capacity of Troy's wastewater treatment plant (WWTP).

### **History & Existing Conditions**

Troy owns and operates the Troy WWTP (Figure 2) which provides primary and secondary treatment of wastewater prior to disinfection and discharge to the Great Miami River. Other wastewater infrastructure operated by Troy includes nine sanitary sewer pump stations, a network of sanitary sewers and storm sewers, and a bypass station. The WWTP was originally constructed in 1972 and was last upgraded in 1999.

Much of the WWTP's components are 50 years old and well beyond their expected useful life. In addition to general issues regarding the efficiency and operating capability of the aeration tanks and blowers, the diffuser configuration in the aeration tanks is poor, control valves are inoperable, and the clarifiers do not operate as effectively as desired. Between 2016 and 2021, Troy received seven effluent violations for factors such as nitrogen and potential of hydrogen (pH).

The WWTP is not well-positioned to handle potential future regulatory requirement changes or increased wastewater flows. In 2020, Troy initiated an aeration and secondary treatment evaluation to determine what upgrades are necessary to accommodate potential increased loadings and nutrient limit requirements. In 2022, Troy received a basis of design report outlining proposed improvements.

### **Population and Flow Projections**

The Troy WWTP treats an average of 5.5 million gallon per day (mgd) and has an average design capacity of 7.0 mgd. Average annual flows for the past three years have been close to or in excess of Troy's 7.0 mgd permitted capacity. Troy WWTP provides wastewater treatment service to approximately 26,000 individuals across Troy and portions of Miami County.

The primary purpose of this project is to replace and improve the aging treatment system components and system reliability and expand the plant capacity to better position the WWTP to meet future regulatory requirements and handle present wastewater flows that are at the plant's current capacity. Expansion of the WWTP's capacity will also allow Troy to accommodate potential future development in the area.

The Miami Valley Regional Planning Commission serves as the designated water quality planning agency for five counties, including Miami County. This project does not involve modification to the existing areawide planning 208 plan.

Following completion of the proposed improvements described later, the WWTP's design capacity will be 9.0 mgd.



**Figure 2. Troy WWTP location**

## **Alternatives**

Due to uncertainty about what, if any, changes of regulatory requirements and growth Troy will experience, several models were used to evaluate potential aeration and secondary treatment improvements.

Based on the aeration and secondary treatment evaluation and subsequent basis of design report, Troy considered alternatives to correct existing system deficiencies and improve and increase treatment capacity. Primary consideration was not based on whether to implement system improvements; rather, consideration focused on determining the most cost-effective aeration and

secondary treatment improvements that can meet Troy's desired performance and increased capacity.

- *Do nothing:* This alternative will do nothing towards correcting the existing deficiencies and degraded treatment components of the Troy WWTP, nor will it improve Troy's ability to handle potential changes of regulatory requirements or service area growth. For these reasons, this alternative has been dismissed from further consideration.
- *Replace degraded treatment components:* This alternative would correct existing WWTP deficiencies due to degraded and inoperable components; however, it will not improve Troy's ability to handle potential changes of regulatory requirements or service area growth.
- *Replace degraded treatment components and implement aeration and secondary treatment alternatives:* This alternative would correct existing WWTP deficiencies due to degraded and inoperable components and position Troy to better handle potential changes of regulatory requirements and service area growth. Several considerations were evaluated for improving aeration and secondary treatment.
  - *Secondary treatment:* Improvements considered include adding a fourth and fifth pass onto the existing two aeration trains or adding a new three pass tank.
  - *Selector:* The addition of an unaerated selector was considered.
  - *Diffusers:* The replacement of the existing diffusers with new tube diffusers was considered.
  - *Aeration piping:* The reconfiguration of the aeration piping on the aeration trains was considered.

### **Selected Alternative**

Troy will replace the degraded treatment components (influent screw pumps, final settling tank drives, primary settling tank effluent channel gates, mixed liquor suspended solids flow splitting channel gates, and return activated sludge flow splitting box gates) and conduct other miscellaneous replacements and improvements. Troy will install new equipment including a third aeration tank, five high speed blowers, and new tube diffusers. The aeration piping on the aeration trains will be reconfigured, and an unaerated selector will be implemented in the first 75 percent of each existing aeration train. Completion of these improvements will increase the WWTP's design treatment capacity by 2 mgd.

### **Implementation**

Troy proposes to borrow \$12 million from the Ohio WPCLF at the standard rate of 2.46 percent (interest rates are set monthly and may change for the requested October loan award) to cover the cost of this construction project. Assuming a 30-year loan, borrowing WPCLF funds at this rate could save Troy approximately \$3.08 million over the life of the loan compared to the current market rate of 3.76 percent.

The debt associated with this construction project will be recovered from user charges. The average annual sewer bill for residents served by Troy is roughly \$258. This is 0.48 percent of the median household income for Troy (MHI; \$54,161) and compares favorably to the Ohio average annual sewer bill of \$749.

There are no planned rate increases due to this project. Troy typically conducts a water and sewer rate study every three to five years and adjusts rates as determined necessary. The current rates end this year. A rate study will be conducted in 2023, the results of which will determine if future rate

increases are needed based on analysis of Troy’s anticipated fund balances and operation and construction expenses across the next five years.

Construction is expected to begin following loan award and be completed by January 2024.

### **Public Participation**

This project has been discussed at city council meetings, including the passing of two resolutions pertaining to this project. Resolutions were passed authorizing the Director of Public Service and Safety of the City of Troy to enter and execute agreements for the design and construction of this project. These resolutions and the minutes for Troy’s city council meetings are public record and available for viewing on Troy’s website.

Ohio EPA is unaware of controversy about or opposition to this project. Ohio EPA will make a copy of this document available to the public on the following webpage and will provide it upon request: <https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/environmental-financial-assistance/announcements>.

### **Environmental Impacts**

The project has the potential to affect the following features. The effects will be minimal and reduced or mitigated to acceptable levels that will not significantly impact environmental resources as explained below.

#### **Air Quality**

The proposed WWTP improvements and modifications will not change the general wastewater treatment process used at the plant, nor will any new nexus for air pollution be created; therefore, there will be no impact on air quality. Temporary exhaust increases in the area due to construction equipment will be short-term and limited to the duration of construction.

#### **Archaeological and Historical Resources**

A previous literature search and archaeological survey of the area included survey of four points on the existing Troy WWTP property. Findings recorded at these sites are insignificant and described as “random trash scatters”. Furthermore, the areas where construction will take place during this project have previously undergone ground disturbances during original construction of the WWTP, and the WWTP and its structures are not historically significant or eligible for listing in the National Register of Historic Places. For these reasons, this project is not likely to impact important historical or archaeological resources.

#### **Aquatic Habitat and Surface Water Resources**

The contractor will be responsible for implementing sediment and erosion control and related best management practices during construction to prevent offsite impacts to nearby resources such as the Greater Miami River.

#### **Sole Source Aquifers, Ground Water Resources, and Safe Drinking Water**

The WWTP property overlays the source water protection area (five-year time-of-travel zone) for the Troy public water system and the Greater Miami Buried Aquifer, designated as a sole source aquifer. Source water protection areas and sole source aquifers are important sources of drinking water and are identified as having an increased vulnerability to contamination. Troy and their

contractor will implement best management practices throughout construction to prevent contamination of the underlying aquifer.

#### Endangered Species and Terrestrial Habitat

Construction will be limited to the Troy WWTP property and largely be limited to maintained areas that only contain lawn and lack suitable habitat for state and federally listed endangered and threatened species.

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species predominantly roost in trees behind loose, exfoliating bark, in crevices and cavities, and in clusters of leaves. These species are also dependent on the forest structure surrounding roost trees. It is recommended that tree removal occur during the regular clearing season (October 1 through March 31) and that trees exhibiting typical roosting characteristics and trees with diameters of 20 inches or more be conserved to protect these bat species.

A small area containing approximately 12 to 15 trees, all of which are less than 20 inches in diameter and most of which have diameters of 6 inches or less, will be cleared to accommodate the new aeration tank. None of these trees exhibit typical bat roosting characteristics. Due to the construction schedule and order of activities for construction, it was determined necessary that these trees be removed outside of the regular clearing season. The planned tree removal was coordinated with the Ohio Department of Natural Resources, Division of Wildlife (DOW). Per the DOW's evaluation of the proposed tree clearing and recommended protection measures and protocol, an emergence survey will be performed the night prior to tree removal. If no bats are documented during the survey, then the trees may be removed the following day. If bats are documented, then the trees will not be able to be removed until the regular clearing season or after further consultation with the DOW. Concurrence has been received from the U.S. Fish and Wildlife Service (USFWS) regarding the DOW's evaluation and proposed emergence survey. By following recommendations provided by the DOW, Troy will provide protection for these state and federally listed endangered and threatened bat species.

Additionally, concurrence has been received from the DOW and the USFWS that construction activities for this project are not likely to adversely impact other state and federally listed endangered and threatened species.

#### Energy

This project involves the construction of an additional third aeration tank which will require energy to operate. The additional energy is minimal compared to the WWTP's overall energy consumption and will have little effect on local and regional energy supplies.

#### Noise, Traffic, Aesthetics, and Safety

Construction will take place on Troy WWTP property. The order of activities for construction has been planned so that there will be no impact to ordinary wastewater treatment operation during construction. There are no specific safety concerns anticipated, nor are special safety practices beyond standard construction best management practices expected to be necessary.

### Unaffected Resources

The following resources are not present and therefore will not be impacted by this project: Wild and Scenic Rivers, Wetlands, Prime Farmland, Coastal Zones, and Floodplains. Additionally, there will be no modification to current Land Use.

### Conclusion

Based on Ohio EPA's review of the planning information and the materials presented in this Environmental Assessment, we have concluded that there will be no significant adverse impacts from the proposed project as it relates to the environmental features discussed previously. This is because these features do not exist in the project area, the features exist but will not be adversely affected, or the impacts will be temporary and mitigated. Rather, completion of this project will improve the operating efficiency and increase the treatment capacity of Troy's WWTP while better positioning Troy to handle potential future flow increases and changes in regulatory requirements.

### Contact information

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