



August 7, 2024

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

**Village of Mount Orab – Brown County
Wastewater Treatment Plant Expansion
Loan Number: CS390636-0018**

The attached Environmental Assessment (EA) is for a wastewater treatment plant (WWTP) project in Mount Orab 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 Village of Mount Orab can then proceed with its application for the WPCLF loan.

Sincerely,

Steve Malone, for

Kathleen Courtright, Assistant Chief
Division of Environmental & Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

Project Identification

Project: Wastewater Treatment Plant Expansion

Applicant: Village of Mount Orab
211 South High Street
Mount Orab, Ohio 45154

Loan Number: CS390636-0018

Project Summary

The Village of Mount Orab has requested \$2.3 million in financial assistance from Ohio EPA's Water Pollution Control Loan Fund (WPCLF) to make improvements to its wastewater treatment plant (WWTP). This project is intended to provide a solution to the village's wastewater treatment needs, including those identified in the village's National Pollutant Discharge Elimination System (NPDES) permit. All of the proposed construction will occur within a village-owned parcel. This expansion will accommodate future flows from the Village of Mount Orab and the Village of Hamersville.

History & Existing Conditions

Mount Orab, a village in Brown County, has a population of 4,200. The village owns and operates a WWTP, 14 lift stations, and a wastewater collection system with pipes ranging in size from 8 inches in diameter to 18 inches in diameter and consisting of approximately 128,788 feet of gravity sewer and 46,630 feet of sewer force main. The WWTP also serves the Village of Hamersville and discharges to Snapping Turtle Run, a warmwater habitat quality stream, which is a tributary of Sterling Run.

Mount Orab's WWTP was designed for 0.7 million gallons per day (mgd) and currently processes over 1 mgd of wastewater. This flow exceeds the rated capacity of its WWTP and is responsible for the compliance schedule in the village's NPDES permit. This exceedance is thought to be due to the growth the village has undergone in the past few years, as well as higher infiltration and inflow (I/I)¹ due to recent consecutive years of above-average rainfall. As such, these extraneous flows are largely responsible for the hydraulic overloading at the village's WWTP

In 2016, the village completed Phase 1, an expansion of the WWTP. The village's review of secondary treatment capacity and flows and loads concluded that settling capacity and biological treatment volume available at the current WWTP are very limiting.

To address this concern, the addition of a 54-foot secondary clarifier will significantly reduce the stress on the treatment system and improve the capacity but only nominally, considering flows received in the last couple years. To achieve more significant increased capacity requires an expansion of the aeration tanks. On this basis, the village recommends that this be achieved utilizing existing infrastructure – namely, the equalization basin that can be repurposed to a conventional

¹ I/I is defined as extraneous, clear water that enters a sanitary sewer system through surface or subsurface locations. Infiltration usually occurs when clear water enters the system below ground through cracked or broken pipes and manholes, poorly sealed or misaligned pipe joints, damaged or poorly connected sewer laterals, etc. Inflow may include clear water entering the system through manhole covers, roof or foundation drains, direct storm sewer connections, etc.

activated sludge tank. Although the facility loses the capability to store excess flow, it gains a significant improvement in treatment capability such that projected flow rates – including wet weather flows – can be treated to permit levels by the system. This approach eliminates the operational complexity associated with managing the intermittent utilization of the equalization basin.

Additionally, the existing ultraviolet disinfection system needs to be replaced and expanded as it is nearing the end of its useful life and as increasing flows are realized.

The village has proposed a Phase 3 project should the need arise. At the current rate of growth, this expansion is not projected to be necessary before 2046. However, if the village attracts significant development, the timetable for this expansion could significantly accelerate.

The figures below illustrate the current corporate limits of the village, as well as the maximum extent of the project planning area, much of which is likely to be developed over the next twenty years.

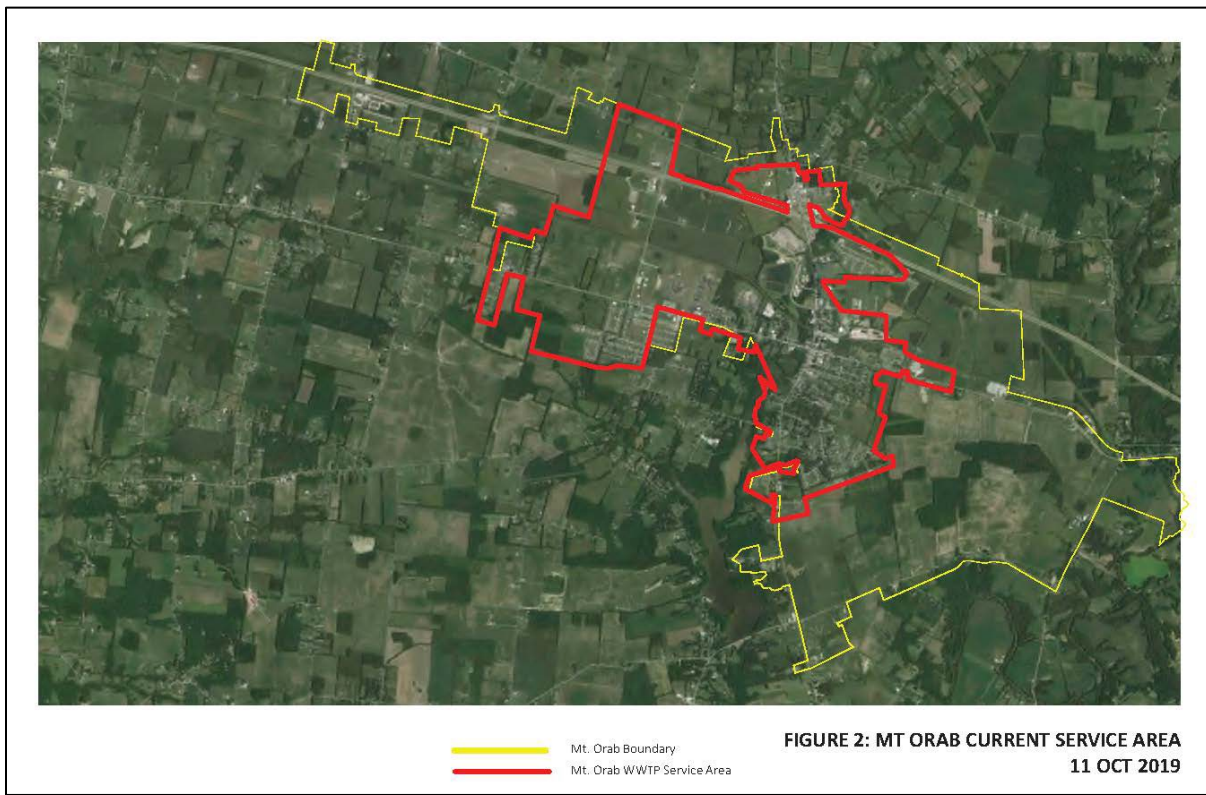


Figure 1. Current Mount Orab service area map

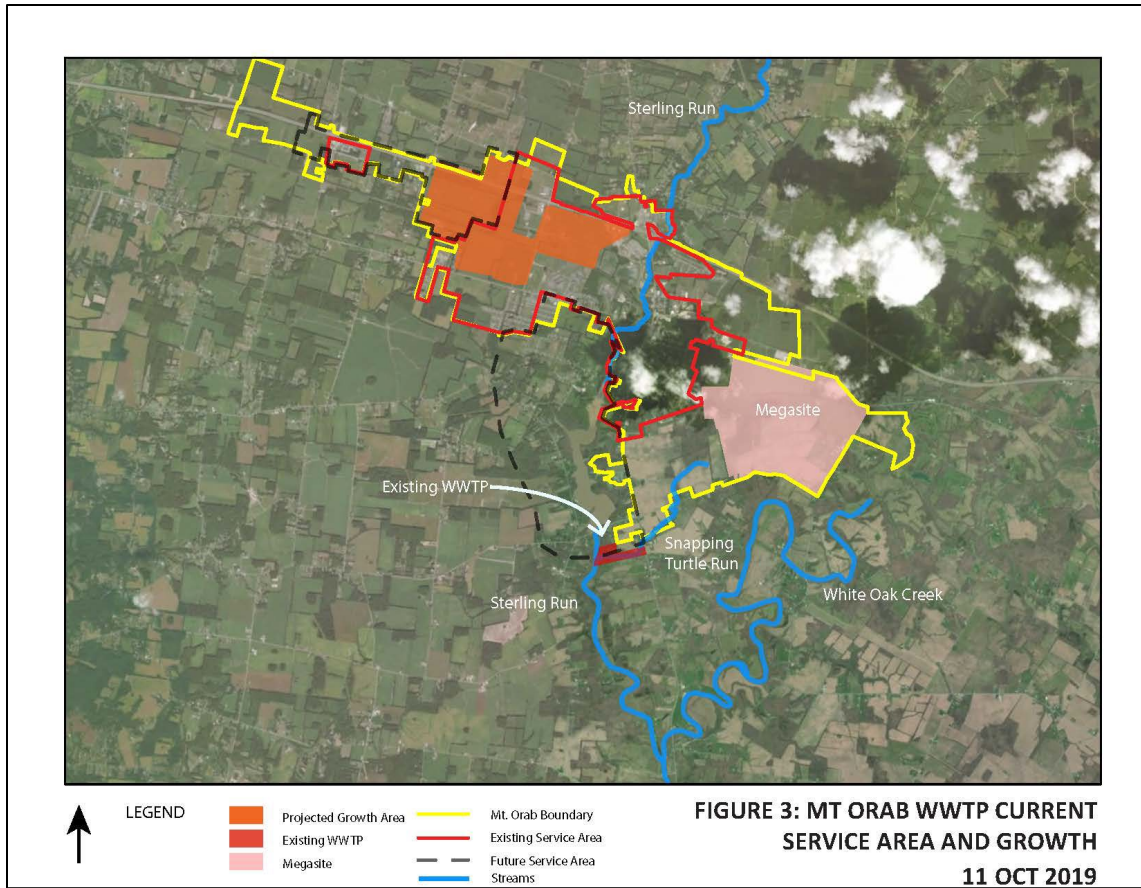


Figure 2. Map of expected growth areas

Population and Flow Projections

The village has seen significant growth in recent years. According to the US Census, Mount Orab’s population increased by nearly 59% between the years 2000 and 2010. Although estimates indicate that growth has not continued at a similar pace, the village continues to actively seek development and anticipates continued growth. As shown in Figure 2 above, two areas specifically are identified for growth: a corridor along State Route 32 and west of US Route 68 at the north end of the village and the Megasite area east of the village, an area targeted for large single industry acquisition and development. Additionally, associated with the SR 32 corridor and a plan to significantly expand the Boyd Road lift station, the area primarily north and west of Lake Grant (portions of which are developed and on septic systems) could be incorporated into the sewer service area.

Providing WWTP capacity that outpaces the growth anticipated in the region contributes to the establishment of the village as an attractive location for industrial and commercial development. This is viewed to be a key element for the continued economic development of the region. The village has proactively worked to provide the necessary wastewater treatment infrastructure to provide sufficient capacity for future growth and maintain the level of treatment required by the village’s NPDES permit.

The proposed WWTP expansion will allow the WWTP to handle an average daily flow of 1.18 mgd and a maximum daily flow of 2.75 mgd.

Alternatives

To complete Phase 2 of the improvements to the WWTP, the village conducted an alternatives analysis of several options focused on its wet stream and solids handling needs. The options reviewed included no action and the alternative listed below.

Selected Alternative

The village's selected alternative for Phase 2 consists of the following:

- Repurposing the existing EQ tank into a conventional activated sludge (CAS) tank;
- Upgrading the aerator at the west oxidation ditch to 30-HP motor and variable-frequency drive;
- Adding dissolved oxygen sensors in the two existing oxidation ditches;
- Replacing the aluminum slide gate assembly at the oxidation ditches that discharges effluent to the clarifier splitter box with a stainless-steel weir gate;
- Constructing an additional clarifier with an internal diameter of 54 feet and one additional return activated sludge (RAS) pump and associated piping;
- Modifying the clarifier splitter box to accommodate uneven flow split to the three smaller and one new larger clarifier, as well as incorporate the effluent from the repurposed EQ tank;
- Replacing and expanding the existing UV disinfection system;
- Adding one additional RAS pump with a capacity of 320 gpm retrofitted in the east return activated sludge/waste activated sludge (WAS) pump stations;
- Adding three 40-HP positive-displacement blowers to supply air to the re-purposed EQ basin;
- Providing new effluent flow meter in a precast vault on the outfall line to replace the Parshall flume being removed as a part of the UV disinfection system expansion; and
- Adding generators for backup power.

Phase 2 results in treatment capacity of 1.18 mgd.

Implementation

Mount Orab will need approximately \$7 million for improvements to its WWTP. The village received \$5 million from the American Rescue Plan Act (ARPA), with the remaining balance as a 20-year low-interest loan from Ohio EPA's WPCLF. Currently, the WPCLF small-community interest rate is 2.22%. This fixed interest rate is adjusted monthly to reflect changing market conditions and may change for a later loan award. Compared to the market rate of 3.97%, utilizing WPCLF funding will save the village approximately \$493,000.

Currently, a typical residential wastewater customer's annual fee in Mount Orab is about \$660. When expressed as a percentage of the service area's most recent median household income (MHI) figure of \$68,125, this annual fee is about 0.97% of the village's MHI.

Under the village's proposed project schedule, WPCLF funds are expected to be awarded in September 2024, so that construction can commence soon thereafter. The village estimates that construction on this project can be completed in about eighteen months.

Public Participation

The Village of Mount Orab provided the public with opportunities to learn more about this wastewater improvements project, the village's wastewater rates, and the village's wastewater needs. According to the village, these opportunities included activities such as information on the village website, discussions at Village Council and Board of Public Affairs meetings. On this basis, Ohio EPA has determined that no additional public review and comment on the proposed project is necessary. All potentially interested parties appear to have been given adequate opportunity to review and comment on this project and its costs.

Ohio EPA will make a copy of this document available to the public on its web page:

<https://epa.ohio.gov/divisions-and-offices/environmental-financial-assistance/announcements>

for review and comment and will provide it upon request. A copy may also be posted at the village's offices, and on its web site.

Environmental Impacts

The project has the potential to affect the following features, but the effects will be reduced or mitigated to acceptable levels as explained below.

Air Quality, Noise, Traffic, Aesthetics

Temporary construction impacts on noise, dust, traffic, and air emissions will be minimized. In particular, the detail plans and specifications indicate that noise will be reduced for example by limiting construction activities to daytime hours and providing construction equipment with proper intake silencers and mufflers. Further, air emissions will be limited by making sure that all construction equipment has proper emission control devices and that they are properly maintained. Any unpaved areas will be wet down (as necessary) during construction to minimize dust generation. Finally, traffic control will be accomplished by requiring that one lane of traffic must be maintained, that emergency vehicles have access to the construction site, and that other traffic control practices in the detail plans are followed.

Aquatic Habitat and Surface Water

As noted earlier, Mount Orab's WWTP lies within the Sterling Run watershed and its treated effluent, as well as surface runoff, flows into a tributary of Sterling Run. Based on the limited scope of the village's WWTP expansion proposal, Ohio EPA has concluded that the project's potential impacts on surface water will be minimal as a result of the impact mitigation discussed below.

Overall, the long-term effect of the project is not expected to result in significant, adverse environmental impacts on these surface water features. More specifically, any impacts will be through an increase in the volume of treated wastewater discharged to Snapping Turtle Run. On this basis, the expected improvements in the WWTP's performance in accordance with its NPDES permit are a major benefit of this project and are expected to result in better surface water quality conditions. Other than this long-term effect, the other activities associated with this project are expected to be relatively short-term (about two years in length) and limited to construction-related erosion and sheet flow runoff from the relatively flat conditions found at the WWTP site.

The village will require the contractor to use appropriate erosion and sedimentation controls, such as silt fences, and will monitor their installation and maintenance during the construction period. Adherence to prohibited construction activities and a storm water pollution prevention plan will also

ensure that impacts on surface water resources from site runoff are kept to minimal, acceptable levels.

In a similar way, expected commercial development over the next 20 years will likely result in additional hardening of the Sterling Run watershed and increasing amounts of surface water runoff. However, Ohio EPA expects that appropriate storm water controls will be included in new developments that should limit the amount of runoff entering area streams, while concurrently helping retain sediment and other pollutants. As with our conclusions on the direct impacts of this proposed project, the indirect and cumulative effects of related suburbanization should be controlled and kept to acceptable levels through current regulatory approaches available under the Clean Water Act and related state and local laws.

Unaffected resources: Archaeological and Historical Resources, Coastal Zones, Endangered Species, Energy, Prime Farmland, Fish and Wildlife, Floodplains, Wetlands, Wild and Scenic Rivers, Recreational Land, and Sole Source Aquifers. These resources are not present in the project area.

Conclusion

Based upon 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.

Overall, the village's proposed project is expected to result in improved water quality in Snapping Turtle Run and Sterling Run and enable the village to meet the terms and compliance schedule in its NPDES permit.

Contact information

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