



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

May 4, 2021

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

**Village of Greenwich – Huron County  
Greenwich CSO Reduction Project - Phase E1, E2, PS1, PS2, W1 (multiple phases)  
Loan Number: CS390416-0010, -0012, et seq**

The attached Environmental Assessment (EA) is for a sewer infrastructure improvement project in Greenwich 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 Greenwich can then proceed with its application for the WPCLF loan.

Sincerely,

*Jonathan Bernstein*

Jonathan Bernstein, Assistant Chief  
Division of Environmental & Financial Assistance

Attachment

## ENVIRONMENTAL ASSESSMENT

### **Project Identification**

Project: Greenwich CSO Reduction Project - Phase E1, E2, PS1, PS2, W1 (multiple phases)

Applicant: Village of Greenwich  
45 Main Street  
Greenwich, OH 44837

Loan Number: CS390416-0010, -0012, et seq

### **Project Summary**

The Village of Greenwich in Huron County requested financial assistance from the Ohio Water Pollution Control Loan Fund (WPCLF) to eliminate combined sewer overflows (CSO) by constructing a series of sanitary sewer and storm sewer improvements. The multiple-phase project will be completed over six years. Construction will be in and adjacent to roads, areas lacking important environmental features.

### **History & Existing Conditions**

Greenwich has combined sewers (pipes that in dry weather carry sanitary sewage only, and during wet weather carry sanitary flows combined with storm water) in much of the village. During dry weather all flows reach the wastewater treatment lagoons. The sewer system includes on-lot septic systems that discharge into small diameter sanitary sewers. These sewers then flow into a traditional collection system draining to three facultative lagoons for final treatment prior to discharge into the southwest branch of the Vermilion River. Lagoon discharge meets the permitted effluent concentrations.

When flows rise dramatically during and after rainfall, CSO structures divert untreated sanitary sewage mixed with storm water to area streams. Such discharges are threats to human health and the environment. The federal Clean Water Act of 1972 prohibited uncontrolled discharge of CSOs to the environment and the Ohio Environmental Protection Agency (Ohio EPA) has required Greenwich to control CSO discharge through the village's National Pollutant Discharge Elimination System (NPDES) permit and an enforceable Long-Term Control Plan (LTCP).

Greenwich submitted a LTCP in 2006 and revised the plan in 2007. Ohio EPA in 2008 approved the revised LTCP that proposed two phases of CSO elimination. Phase I separated some combined sewers (by constructing new sanitary or storm sewers and leaving the existing pipe to carry the other flows) and eliminated six of ten CSO locations between 2007 and 2013. Phase II proposed eliminating two more CSO locations, leaving two in the system, and decreasing systemwide CSO activity to an average of four events per year.

After completing Phase I, evaluation of the remaining CSOs allowed preparation of a revised plan to fulfill the LTCP requirements. The revised proposal Phase II LTCP report was submitted to Ohio EPA in 2013 and updated in 2019 based on Ohio EPA comments. The LTCP approved by Ohio EPA in 2020 describes alternatives, cost estimates, and funding plan, and set an implementation schedule to complete the project and achieve the required outcome of four or fewer CSO events per year by removing existing sources of extraneous water in the sanitary sewer system.

The Greenwich LTCP is based on the U.S. EPA “Presumption Approach” to control CSOs by meeting one of three criteria:

1. No more than an average of four overflow events per year;
2. Elimination or capture for treatment of no less than 85% by volume of the combined sewage collected in the combined sewer system;
3. Elimination or removal of no less than the mass of the pollutants identified as causing water quality impairment.

Greenwich determined to use Criterion 1 and eliminate all but two CSOs and achieve an average of four overflow events annually. CSO events still are more frequent than the goal allows.

### **Population and Flow Projections**

The population of Greenwich is approximately 1,550. The sewer system also serves small areas outside the village limits. Any population growth will be modest for the foreseeable future. The lagoon treatment system NPDES permit is predicated on an average design flow of 200,000 gallons per day, which is unlikely to significantly change.

### **Alternatives**

Overflows in combined sewer systems can be reduced or eliminated by three methods: source removal, transport-and-treatment, and storage. Source removal minimizes storm water entry into the sewer system. A transport-and-treat strategy upgrades or adds capacity to the existing pipes, pump stations, and/or treatment system. This approach is most useful for overflows caused by hydraulic limitations in the conveyance system or at the treatment facility. Storage temporarily detains combined sewage in tanks, basins, or tunnels until wet weather flows subside, at which time it is returned to the collection system and conveyed to the treatment plant. Large storage tanks require significant space; distributed storage may not be cost effective due to the need for multiple facilities. These strategies are typically combined to maximize the advantages of each in the particular situation.

Following six months of flow metering and modeling of the Greenwich sewer system in 2018, consultants developed and evaluated seven alternatives with estimated costs for achieving the goal of four or fewer annual CSO events using combinations of source removal, storage, and transport-and-treat improvements:

1. Source Removal with Pump Station Modifications	\$6,707,000
2. Source Removal with Pump Station Modifications and Storage	\$9,863,000
3. Storage with Pump Station Modifications	\$12,279,000
4. Storage with Different Pump Station Modifications	\$12,600,000
5. Transport-and-Treat with Pump Station Modifications	\$6,092,000
6. Source Removal and Storage Hybrid	\$10,231,000
7. Transport-and-Treat with New Pump Station	\$5,595,000

Based on cost estimates and advantages and disadvantages (economic impact, environmental impact, aesthetics, feasibility, and operations and maintenance) of each alternative, Alternatives 1, 5, and 7 were considered feasible and further evaluated for life cycle costs (capital and operations and maintenance costs, and salvage value)

1. Source Removal with Pump Station Modifications	capitol cost \$6,707,000 life cycle cost \$7,496,000
5. Transport-and-Treat with Pump Station Modifications	capitol cost \$6,092,000 life cycle cost \$9,130,000
7. Transport-and-Treat with New Pump Stations	capitol cost \$5,595,000 life cycle cost \$9,335,000

In Greenwich, no single solution would cost-effectively achieve the goal for CSO event reduction. Source water removal of storm water is effective because the majority of excess flow is storm water rather than ground water. Hydraulic modeling showed the primary constraints in the system are the two pump stations; the Townsend Street Pump Station capacity particularly is too small to convey wet weather flow produced by even a relatively minor storm event. While the gravity sewer system is sized appropriately to convey expected flows, pump station and force main upgrades would be required to fully implement a transport-and-treat solution. Upgrades to the wastewater treatment facility would also be necessary to treat all combined flows.

### **Selected Alternative**

Alternative 1, Source Removal with Pump Station Modifications throughout Greenwich (Figure 1), is the preferred alternative based on lowest life cycle cost and highest score on the evaluation matrix.

The concept relies largely on combined sewer separation by constructing either new sanitary sewer or new storm sewer, with the existing pipe remaining as the other; replacing aged and deteriorated storm and sanitary sewers; extending storm sewers; adding storm sewer inlets and outlets; eliminating direct connections of storm sewers to sanitary sewers; lining leaky sanitary sewers; constructing a diversion chamber at the lagoons to balance flows during high-flow periods; and upgrading the two pump stations.

Phases E1 (Figure 2) and E2 are the first of five anticipated phases from 2021 through 2026 that overall will upgrade the Main Pump Station capacity from 450 gallons per minute (gpm) to 1,600 gpm and upsize the force main from 6-inch diameter to 12-inch; upgrade the Townsend Street Pump Station from 50 gpm to 720 gpm and upsize the force main from 6-inch to 8-inch; and provide source removal for approximately 22,610 linear feet (lf) of sewer, which will include constructing or modifying storm sewers and outlets and/or constructing or rehabilitating sanitary sewers. The pump station proposals may be refined based on monitoring after source removal in upstream pipes.

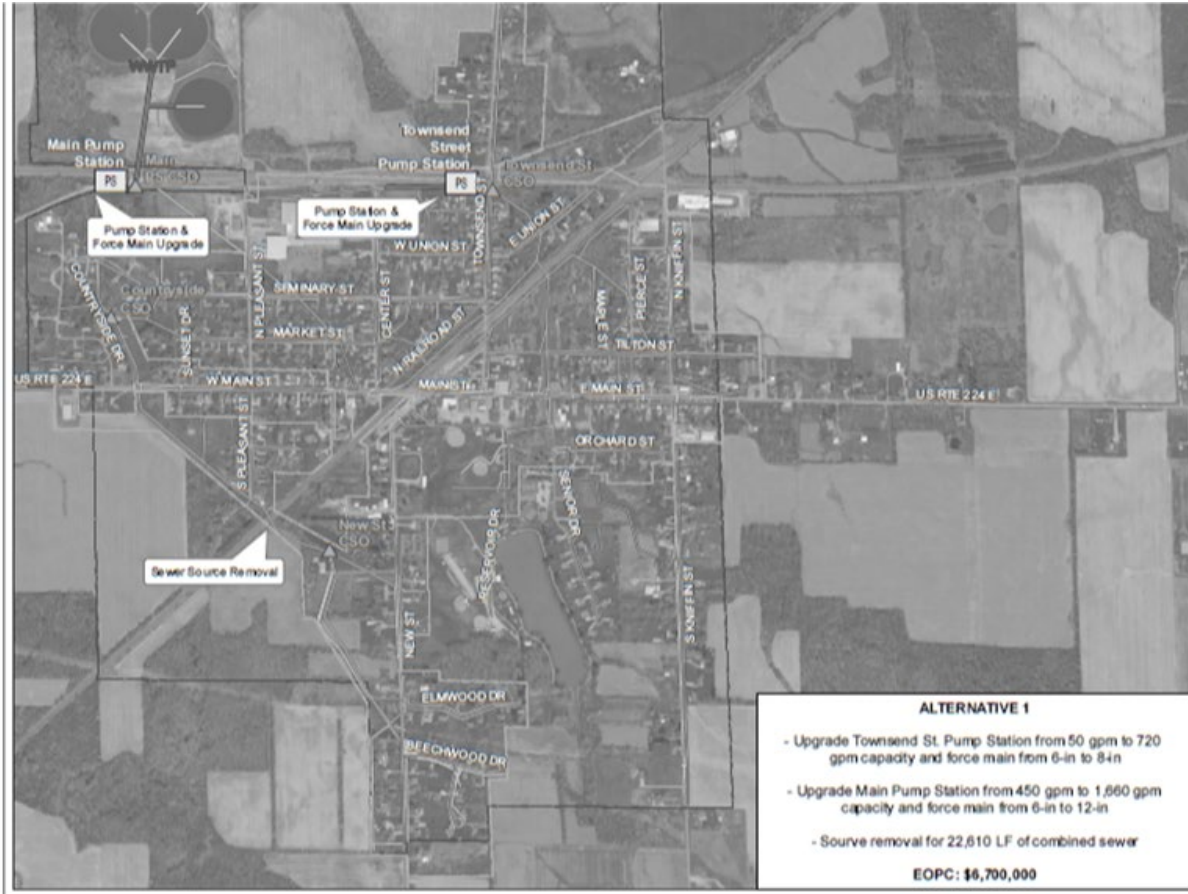


Figure 1. Project location – All phases constructed in the village limits

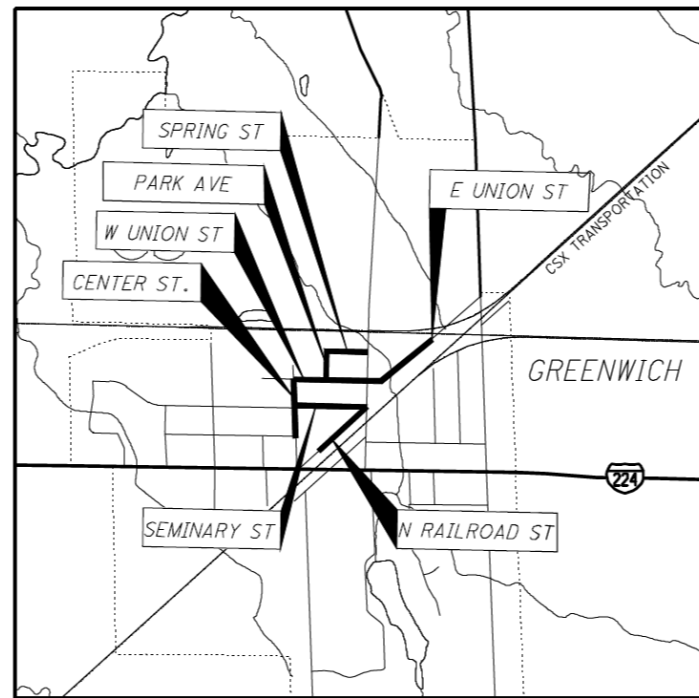


Figure 2. Phase E1 construction locations

## **Implementation**

For the Phase E1 construction, Greenwich will borrow from the WPCLF approximately \$1,375,000 at the 0% “hardship” rate for 45 years. Greenwich will also borrow \$260,000 from the WPCLF for design of the E2 phase, then in 2022 the village will borrow approximately \$2,236,000 for E2 construction. Subsequent years will see similar loans for design and construction of the remaining phases for a total estimated project cost of approximately \$7,000,000.

Greenwich is pursuing grants from other public financing programs and will base its WPCLF loans and amounts on actual need. If WPCLF financing is the sole source of funds for the approximately \$7,000,000 complete CSO Reduction Project (all phases), Greenwich would save approximately \$1,407,000 (currently 1.85%; the rate is calculated monthly and is likely to change over the 5-year project implementation period).

The typical annual residential sewer bill is \$427, which is 0.9% of local median household income (MHI), \$47,078. This compares favorably to the Ohio average of \$715 and 1.3% of MHI. Greenwich enacted 3.0% annual sewer rate increases for 2021 and 2022.

## **Public Participation**

This project has been discussed in regular Village Council meetings for many years as multiple iterations of CSO corrections have been proposed and implemented. The lengthy history of Greenwich’s CSO endeavors is well known locally. Ohio EPA is unaware of opposition to or controversy about the project.

Ohio EPA will make a copy of this document available to the public on its web page (<https://epa.ohio.gov/defa/ofa#169638769-wpclf-documents-for-review-and-comment>) and will provide it on request to interested parties.

No review agency opposes the project.

## **Environmental Impacts**

The project will not impact coastal zones (because the project is distant from the Lake Erie coast), farmland (because all work is in the developed area of Greenwich), or wild and scenic rivers (because none are in the project area). The project has the potential to affect the following features, but the effects will be reduced or mitigated to acceptable levels as explained.

All work will be in developed areas of Greenwich, areas generally lacking important habitats. The consultant’s arborist evaluated all trees that could be affected and determined one presents features typical of potential Indiana bat summer maternity habitat. “Seasonal clearing” (tree removal from October 1 to March 31) as recommended by the U.S. Fish and Wildlife service will protect the federally listed endangered Indiana bat and threatened northern long-eared bat. No wetlands that may harbor the threatened eastern massassauga rattlesnake are in the project disturbance area, which is entirely in the developed village limits in and along existing roads. For these reasons, the project is unlikely to present significant impacts to important terrestrial habitat, endangered species or other fish and wildlife or important plants.

New stormwater outfalls are designed with riprap aprons above ordinary high water, and implementation of standard construction erosion and sediment controls and adherence to the

required storm water pollution prevention plan and permit will minimize potential adverse effects to aquatic habitat.

Archaeological and historical resources will be unaffected by this project that will construct sanitary and storm sewer improvements primarily beneath streets; spans of storm sewer pipe reaching to outlets at streams and ditches will be in undeveloped land lacking evidence of cultural resources.

Because of distance and the shallow excavation required for project construction, no impacts are expected to ground water resources. Greenwich's public water supply draws water from a well field west of the village boundary and distant from the project construction areas. Potential relocation or repair of existing water distribution pipes necessary to complete the project will occur according to current standards and regulations to ensure maintenance of safe drinking water. The availability of the public water supply makes unnecessary industrial or commercial uses of local surface water resources.

Limited areas of regulatory floodplain are mapped in Greenwich; none are affected for Phase E1. Potential impacts to the mapped floodplain from later phases of construction will be evaluated when specific information is available and would be insignificant because all work is underground or otherwise would create no change in land surface elevations that could affect flooding.

Greenwich participates in the National Flood Insurance Program and evaluates construction projects for floodplain impacts as required.

Minimal land use changes will be evident due to the addition of storm sewers and drainage ditch alterations with outlets. These will be on existing open space and involve no removal of buildings.

Most of the proposed construction will be in and adjacent to streets and unavoidably affect traffic. Contractors will implement standard construction traffic management measures (detours, signs, barricades, flaggers, etc.) to minimize traffic impacts and help ensure public safety. Public safety will be further ensured by contractors filling or plating trenches at the end of each workday. Construction will be limited to daylight hours to limit noise impacts and will involve only the sounds of typical motorized excavation and trucking equipment. Local aesthetics after project site restoration is complete will be unchanged; the perception of the absence of untreated sewage in area streams after a rainfall may be important to residents.

The proposed sanitary sewer and storm sewer improvements include no air pollution sources and will have no effect on regional or local air quality. Proposed expanded pump station capacity may result in higher incremental electrical demand when operating at full capacity, a nominal increase readily available from the regional and local energy grid.

This Environmental Assessment covering multiple phases over several years describes understanding of the project at the time of writing. Each subsequent phase will be reviewed to confirm the validity of conclusions presented here.

## **Conclusion**

Based on its review of this project's general plans and other information, Ohio EPA concludes that no significant short-term or long-term adverse direct environmental impacts will result from the project as related to the environmental features discussed in this Environmental Assessment. This

is because these features do not exist in the project area, the features exist but will not be adversely affected, or the impacts of construction will be temporary and mitigated.

This project equally benefits all of Greenwich and no part of the community will face additional adverse impacts or be deprived of environmental benefits.

For these reasons, this project, alone or in combination with other projects, is not expected to result in any significant indirect or cumulative short-term or long-term adverse environmental impacts. Ohio EPA expects the economic impact of the project on the average user to be insignificant because Greenwich has affordable sewer rates and has a favorable financing package that minimizes the project cost and impact on the local economy.

The project will help protect human health by eliminating the routine release of untreated sewage to area streams.

### **Contact Information**

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