



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

April 25, 2022

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

**City of Wadsworth – Medina County
Water Treatment Plant Improvements - Phase 1
Loan Number: FS390948-0007**

The attached Environmental Assessment (EA) is for a drinking water treatment improvement project in Wadsworth which the Ohio Environmental Protection Agency intends to finance through its Water Supply Revolving Loan Account (WSRLA) 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 WSRLA 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 Wadsworth can then proceed with its application for the WSRLA loan.

Sincerely,

Kathleen Courtright

Kathleen Courtright, Assistant Chief
Division of Environmental & Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

Project Identification

Project: Water Treatment Plant Improvements - Phase 1

Applicant: City of Wadsworth
120 Maple Street
Wadsworth, OH 44281

Loan Number: FS390948-0007, et seq.

Project Summary

The City of Wadsworth, in Medina County, has requested financial assistance from the Ohio Water Supply Revolving Loan Account (WSRLA) to upgrade its water treatment plant (WTP) by replacing the lime feeders and constructing a new carbonic acid recarbonation system. This is the first of several anticipated WTP improvements described in the 2020 “General Plan for the City of Wadsworth Water System” that was formally approved by Ohio EPA in 2021.

This initial phase will occur in or adjacent to existing WTP structures, an area lacking important environmental features.

This Environmental Assessment covers the immediate lime slaker project (“Phase 1”) and the anticipated subsequent projects on the WTP site (but not the proposed additional well or other projects outside the existing WTP site) described in the general plan.

History & Existing Conditions

Wadsworth’s 12 wells provide groundwater to the 3.0 million-gallon-per-day (mgd) rated capacity WTP. Treatment includes aeration to oxidize and remove iron and manganese, quicklime addition in a rapid mix followed by flocculation, sedimentation, filtration through sand filters, lime softening, disinfection, fluoridation, and the addition of a corrosion inhibitor before distribution to nearly 24,000 residents and commercial and industrial users through nearly 9,900 metered service connections.

Average daily production is 1.9 million gallons. The wellfield capacity is 4.25 mgd.

While the 1974 WTP has been well-maintained and consistently produces water meeting Safe Drinking Water Act requirements, replacement of aging equipment and treatment expansion are necessary for continued effective operation. Ohio EPA recommended Wadsworth produce a general plan for necessary upgrades and formally approved the plan in 2021.

Population and Demand Projections

Records of water production and population projections suggest the average water demand will increase to 2.3 mgd by 2035, with peak daily demand of 4.3 mgd and peak hourly demand of 3.18 mgd, both beyond the WTP current rated capacity. The projections show the need for a treatment capacity expansion and one additional well.

Wadsworth pumps from the 12 wells in various combinations to keep the withdrawals and pump wear balanced. The rated capacity of the 12 wells is dictated by the withdrawal capacity from all wells with the largest pump out of service. Engineering calculations of the pumping capacities show the need for one additional well to increase the rated wellfield capacity to the 4.5 mgd needed for the anticipated demand.

Alternatives

The general plan describes identified needs to prepare the aging WTP for effective operation into the indefinite future:

- Replacement of the lime slaker, flocculator, chain and flight solids collector, filter valve and actuator, and high- and low-service pumps;
- Modifications to the chemical storage and feed system, raw water well pumps, and waste backwash system;
- Addition of a residuals handling system, sedimentation basin covers, a new bulk water hauling loading system with air gap, and a new low-service and high-service connection valve vault; and
- Other miscellaneous plant improvements.

Wadsworth evaluated three alternatives to achieve the overall WTP upgrades and 4.5 mgd treatment capacity for projected needs and a regionalization alternative (connecting to and purchasing all water from a nearby system and eliminating the local treatment plant). The regionalization alternatives would connect to another water system to either the north (sourced from the City of Cleveland), south (sourced from the City of Rittman that has no surplus capacity), or east (sourced from the City of Barberton); for varying reasons, none are feasible for Wadsworth's long-term needs.

The three alternatives (A, B, and C) to increase process capacity and treatment plant capacity overall, with a goal of achieving a treatment plant capacity of 4.5 mgd to accommodate future demands, are here described:

Alternative A includes construction of a third rapid mix, flocculation, and settling treatment train parallel to the two existing trains; two additional filters, a clearwell addition, a gaseous carbon dioxide recarbonation system, and associated building expansion. Estimated construction cost for planning comparisons is \$5.6 million. If the existing filters could demonstrate effective operation at a significantly higher flow and eliminate the need for two additional filters, the cost would be reduced to \$4.0 million.

Alternative B includes demonstrating effective operation at significantly higher flows of the existing rapid mix, flocculation, sedimentation, and filtration processes, and expansion of the clearwell to provide an increase in capacity to 3.8 mgd. This alternative would not require additional tankage, would address short-term demand increases, but would not yield the 4.5 mgd capacity needed for future demands. A gaseous carbon dioxide feed system would be added as part of this alternative. Estimated construction cost for planning comparisons is \$1.2 million.

Alternative C includes converting the existing recarbonation and post-settling basin into a third settling basin with accompanying sludge pumping and recarbonation modifications. This requires an expansion of the clearwell, yard piping rerouting, and demonstrating effective operation of the existing rapid mix, flocculation basins, and filters at significantly higher flows to achieve the 4.5 mgd desired treatment capacity. Estimated construction cost for planning comparisons is \$2.6 million.

Selected Alternative

Wadsworth selected Alternative C to achieve the desired long-term increase in treatment capacity to 4.5 mgd in four consecutive phases:

Phase 1 includes lime slaker replacement and recarbonation system modifications. This upgrade will allow for recarbonation and increased softening of the finished water (Figure 1). Following completion of the Phase 1 upgrades, the city may conduct a high-rate demonstration study of the existing rapid mix, flocculation, sedimentation, and filtration processes that could increase capacity to 3.9 mgd and help guide decisions on whether to proceed with subsequent phases as proposed. Estimated Phase 1 construction cost is \$1.0 million; approximate schedule, July 2022 – June 2023.

Phase 2 includes physically separating the hydroflousilicic (HFS) acid feed system and zinc orthophosphate feed system; resurfacing the sedimentation basins; constructing a new bulk water loading station with an acceptable air gap; replacing flocculators in the existing basins, filter valves, actuators, and one high-service zone and one low-service zone finished water pump; and adding a chlorine scrubber for to meet staff safety requirements. Estimated Phase 2 construction cost is \$1.9 million; approximate schedule, January 2024 – December 2025.

Phase 3 includes replacing chain and flight collectors in the sedimentation basins; upgrading the backwash waste system pumping to increase the rate of backwash recycle as the plant capacity increases; and constructing a new vault and interconnection of the high-pressure and low-pressure service zones with flow meter, motor-actuated valve, and combination pressure reducing/pressure sustaining valve. This facility will provide additional flexibility for pressure regulation and minimize water age without the addition of new elevated storage tanks. Estimated Phase 3 construction cost is \$3.9 million; approximate schedule, January 25 – December 2027. Following completion of the Phase 3 upgrades, Wadsworth may conduct a high-rate demonstration study of the processes to determine whether capacity of 4.3 mgd is feasible without additional construction.

Phase 4 includes a new well (No. 20; well numbers are sequential and do not reflect the number of production wells in use) to provide necessary redundancy for existing well No. 19 in the Chippewa wellfield and installation of a new mechanical solids processing system to include a gravity thickener and solids dewatering building with batching tank, polymer feed system, feed pumps, mechanical dewatering equipment and truck load bay/piled storage area for land application of the lime sludge on crop land. Estimated Phase 4 construction cost is \$5.6 million; approximate schedule, January 2027 – June 2029.

The proposed recarbonation system, increased softening, and new well, all factors affecting finished water chemistry, trigger a corrosion control evaluation that is proposed for the final design and ensure proper pH and desired softening.

The estimated construction cost to complete all four phases is \$12.4 million.

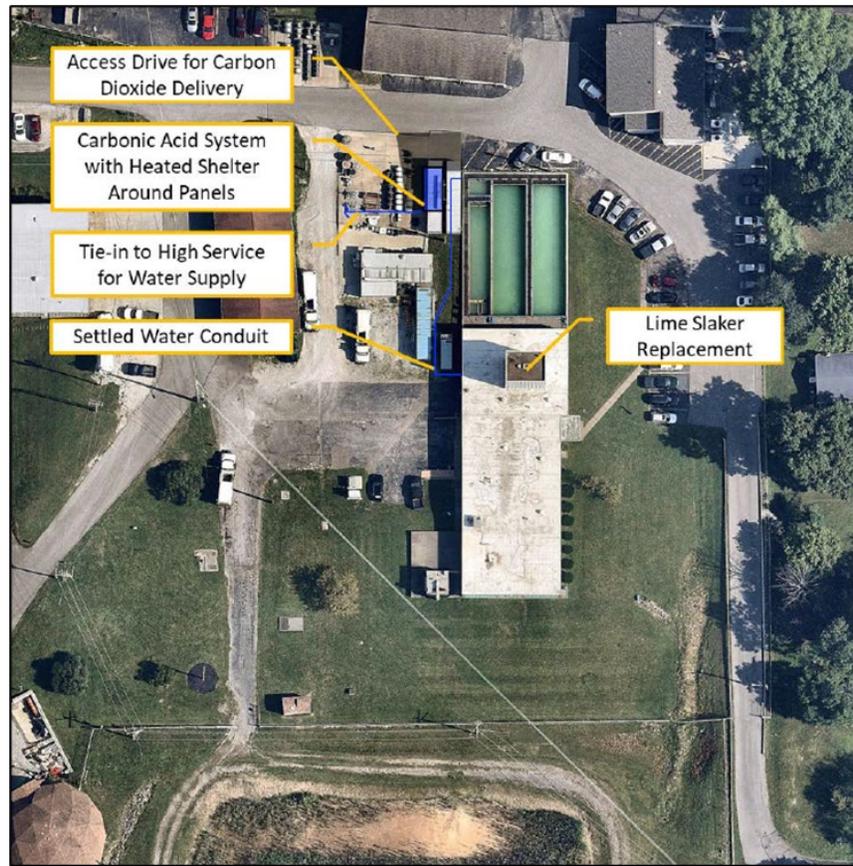


Figure 1 – Phase 1 Improvements

Implementation

Wadsworth will borrow approximately \$980,000 from the WSRLA at the standard interest rate, currently 1.56% for a 20-year loan, for this Phase 1 project. The interest rate is set monthly and may change for a later loan award. Wadsworth will save approximately \$143,000 by using WSRLA financing at this rate, compared to the current market rate of 2.81%.

Using WSRLA below-market rate financing for any subsequent phases will yield similar savings.

Phase 1 construction will start in mid-2022 and be complete in mid-2023.

Public Participation

This project has been developed over several years with periodic updates for City Council in regular meetings that are open to the public and for which the official minutes are available.

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/divisions-and-offices/environmental-financial-assistance/announcements>) and will provide it on request to interested parties.

Environmental Impacts

The project has the potential to affect the human environment. This Phase 1 project and the anticipated subsequent projects on the WTP site, which is heavily altered by previous construction and lacks important environmental resources, will have no adverse effect on *Archaeological and Historical Resources, Aquatic Habitat, Coastal Zones, Endangered Species, Land Use, Farmland, Fish and Wildlife, Floodplains, Ground Water Resources, Surface Water Resources, Terrestrial Habitat, Wetlands, or Wild and Scenic Rivers*.

The project adds no sources of air pollution that could affect local *Air Quality* and no significant addition of equipment that would adversely affect local or regional *Energy* supplies. Because all work will occur on the fenced WTP site and generally inaccessible to the public and distant from residences, the project is unlikely to create adverse *Noise, Traffic, Aesthetics, or Safety* impacts.

All work is solely for the purpose of ensuring *Safe Drinking Water* and will not adversely affect the city's treatment or distribution of water meeting Safe Drinking Water Act requirements.

Wadsworth expects no water rate increase for this project and no adverse effect to the *Local Economy*. The average annual residential water bill is \$293. This is approximately 0.4% of the local median household income (MHI; \$71,478) and compares favorably to the Ohio average \$697 and 1.2% of state MHI.

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.

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 anticipated project debt requires no rate increase.

The project will help ensure continued distribution of water meeting Safe Drinking Water Act requirements.

Contact Information

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