



Mike DeWine, Governor
Jon Husted, Lt. Governor
Anne M. Vogel, Director

May 1, 2023

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

**Village of Piketon – Pike County
Piketon Water Treatment Plant
Loan Number: FS390753-0012**

The attached Environmental Assessment (EA) is for a drinking water project in Piketon 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, 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 the loan program.

Ohio EPA analyzes environmental effects of proposed projects as part of its WSLRA 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 Piketon can then proceed with its application for the WSRLA loan.

Sincerely,

Jonathan Bernstein

Jon Bernstein, Chief
Division of Environmental & Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

Project Identification

Projects: Piketon Water Treatment Plant

Applicant: Village of Piketon
411 West Street
Piketon, Ohio 45661

Loan Number: FS390753-0012



Figure 1. Pike County

Project Summary

The Village of Piketon, in Pike County (Figure 1), has requested \$7,989,433 from the Ohio Water Supply Revolving Loan Account (WSRLA) to finance the Piketon Water Treatment Plant project. This project primarily includes the construction of a new, upgraded water treatment plant (WTP) to serve the Village. Completion of this project is intended to resolve ongoing issues and concerns with Piketon’s aging water treatment plant and improve overall water quality.

History & Existing Conditions

The Piketon WTP, located at 224 West Second Street, was constructed in 1953 and received various upgrades in 1973 and electrical and control upgrades in 2007. Piketon WTP serves the area within the village limits and has an approved design capacity of 0.72 million gallons daily (mgd). The plant is supplied raw water from three ground water wells each with rated pumping capacities of 500 gallons per minute; although, recent testing shows that some of the pumps now operate below this rating. The WTP treatment process consists generally of aeration, detention, iron and manganese removal pressure filtration, and disinfection with gaseous chlorine prior to entering the distribution system. The existing plant does not provide softening of water, nor does it have a clearwell. Many residents utilize private household softening systems to reduce water hardness due to the lack of softening at the WTP.

Piketon’s distribution system includes two water storage tanks, a 300,000-gallon single-pedestal elevated tank (Lucas Street Water Tower) located on Lucas Street and a 400,000-gallon glass-lined bolted-steel standpipe (Pike Hill Water Storage Tank) located at the end of Skyline Drive. The Lucas Street Water Tower was constructed in 1986 and serves residents in downtown Piketon and near the fairgrounds. The Pike Hill Water Storage Tank was constructed in 2013 and serves residents to the east of US Highway 23.

Much of the existing WTP facility is original and either reaching or has exceeded its design life. The WTP has experienced several incidents in recent years such as a need for immediate service to two of the plant’s wells at the time leaving only one functioning, clogging of the plant’s pressure filters requiring emergency replacement, and an exceedance of secondary standards for manganese in 2020. Piketon intends to address concerns caused by the age and recent incidents with their water system through completion of this project.

See Figure 2 for locations of existing and planned Piketon drinking water and wastewater facilities and infrastructure.

Population and Flow Projections

The population of Piketon is an estimated 2,139 and has remained nearly the same over the previous decade, experiencing a minor decrease in recent years. Piketon expects minimal growth over the next 20 years when considering the recent decrease and taking into account the average growth rate for Pike County.

The average daily demand of the Piketon WTP in 2020 was 412,000 gallons with a maximum water production of 571,000 gallons. The plant's current treatment capacity of 720,000 gallons per day adequately covers the current demand; however, Piketon is interested in increasing treatment capacity to 1.0 mgd to better support time for filter backwash, regeneration, and maintenance, as well as providing additional capacity to meet potential future demand increases.

Alternatives

Other than Alternative 1, the No-Action alternative, all alternatives considered and described below include the addition of a softening system to remove water hardness and the construction of a clearwell for additional water storage.

1. *No-Action:* The No-Action alternative would allow conditions to remain as they are and do nothing to address the issues related to the age of existing WTP equipment, the lack of water softening, or the need for additional capacity to handle potential future increases in water demand and service area growth. Piketon has determined that addressing these issues is critical for ensuring the ability to continue to provide reliable and safe water treatment; thus, this alternative was removed from consideration.
2. *Rehabilitation of the Existing WTP:* This alternative would involve the repair, replacement, and upgrade of specific equipment, components, and piping at the existing facility. There would be no change to the existing treatment process currently used except for the addition of a clearwell for additional storage and softening for the removal of hardness. Items to be replaced or constructed under this alternative include the aeration and detention basin, high service pumps, pressure filters, booster pump station, new clearwell, and new softening system.
3. *Construction of a new WTP:* This alternative would provide greater flexibility in design and allow Piketon to explore various other filtration alternatives. Three filtration system alternatives were considered, all based on a design plant flow rate of 700 gallons per minute. A new WTP, regardless of the treatment system chosen, would include the installation of ion exchange softeners for removal of water hardness, valves, piping, and chemical feed equipment, two 200,000-gallon aboveground clearwells, three high service pumps, and a new booster pump station.

The advantage of pursuing a new WTP is that construction can proceed without interrupting the existing WTP and its operations. The existing WTP would be decommissioned following construction, start-up, and commissioning of the new WTP. The disadvantage of a new WTP is that the plant and wellfield would no longer be located adjacent to one another.

- 3.1. *Low-Profile Packaged Filtration:* This filtration system would meet the desired design plant flow rate and provide suitable water filtration; however, this type of filtration system has accessibility limitations, an issue that plant operators at the current WTP have identified as an issue with the existing pressure filters. Of the filtration systems considered, this alternative has the second lowest opinion of probable cost.
- 3.2. *Vertical Single-Cell Packaged Filtration:* This filtration system would meet the desired design plant flow rate and provide suitable water filtration, as well as having the ability to be installed either inside or outdoors; however, this type of filtration system has similar accessibility limitations as described in Alternative 3.1. Of the filtration systems considered, this alternative has the lowest opinion of probable cost.
- 3.3. *Gravity Filtration:* This filtration system would meet the desired design plant flow rate and provide suitable water filtration; however, gravity filters must be constructed indoors, potentially increasing the necessary building size and overall construction cost. Of the filtration systems considered, this alternative has the highest opinion of probable cost.
4. *Regionalization:* This alternative would involve Piketon abandoning their existing WTP and regionalizing with Pike Water, Inc. (Pike Water) for the purchase of drinking water. A connection between Piketon's system and Pike Water's system currently exists. This connection was constructed in 1972 and originally served as an interconnect for Pike Water to purchase water from Piketon. The interconnection currently functions as an emergency connection where Pike Water can provide water to Piketon if needed. The size of the existing interconnection and flow capacity of the booster station that supplies this area are incapable of meeting Piketon's water use needs; therefore, regionalization would require installation of a larger water main to feed the interconnection, upgrades to the Pike Water pump station, and various improvements throughout Piketon's system to support this alternative.

Regionalization has the advantage of removing the responsibility of managing a water treatment system but has been identified as disadvantageous in many other means. Piketon would no longer be in control of their water quality or water source reliability. Pike Water does not soften their water, so regionalizing would do nothing towards Piketon improving water hardness. Piketon residents would likely see higher water bills since Pike Water rates are currently greater than those of Piketon, including consideration of Piketon's intended rate increases. Lastly, although Pike Water presently has sufficient capacity available to serve Piketon, doing so would severely limit Pike Water's ability for growth. Serving Piketon would require expansion of Pike Water's WTP in order to provide reasonable allowance for growth, an option that Pike Water is not interested in considering at this time. For these reasons, this alternative was removed from consideration.

Selected Alternative

After considering monetary and nonmonetary factors, Piketon has determined it most cost effective to move forward with the construction of a new WTP using gravity filtration as described in Alternative 3.3. The advantages of gravity filters were determined to outweigh the additional cost compared to the other two filtration systems considered; the opinion of probable cost for all filtration systems were within roughly \$350,000 of one another. Similarly, Piketon has determined this alternative to be more cost effective than rehabilitating the existing WTP since it does not make financial sense to spend a comparable amount rehabilitating an old WTP.

Piketon intends to construct a new WTP that utilizes gravity filters on village-owned property on Piketon Road, southwest of the existing WTP site. Piketon's new WTP and future WWTP will be constructed on the same site, beneficially localizing services and allowing more convenient transmittance of WTP byproduct created during the treatment process to the future WWTP for treatment and discharge. The WTP will have a treatment capacity of 1.0 mgd. The moderate increase in treatment capacity will allow for some growth in the service area and provide better support time for filter backwash, regeneration, and maintenance. Raw and finished water mains will be installed to connect the new WTP to the existing raw water infrastructure and water distribution system, and a new booster station will be constructed near the intersection of Market Street and Second Street.

Implementation

Piketon proposes to borrow \$7,989,433 from the Ohio WSRLA at the disadvantaged rate of zero percent to cover the cost associated with the drinking water portion of this project. Piketon is also eligible to receive up to an estimated \$3,994,717 in disadvantaged community principal forgiveness towards this project. Assuming a 30-year loan term and a full award of the mentioned principal forgiveness funding, borrowing this amount in WSRLA monies could save Piketon roughly \$9,930,000 over the life of the loan compared to the current market rate of 4.08 percent.

Piketon has reduced their debt service for this necessary project by pursuing a below-market interest rate loan through the Ohio WSRLA and have further reduced debt by qualifying for half of the total project cost in principal forgiveness. It has been reported that some residents spend upwards of \$40 monthly for private household water softening. Piketon's new WTP will incorporate a softening system which should reduce or eliminate the need and subsequent cost of private water softening. Through thoughtful design and funding, Piketon has greatly reduced the cost to residents for this critical project. The debt associated with this construction project will be recovered from monthly drinking water charges. Water and sewer rates were last increased in 2020 and set to increase annually by 3 percent. Piketon water and sewer bills also include a maintenance fee that helps cover the cost of drinking water and wastewater projects, maintenance, and repairs. Piketon anticipates increasing the monthly maintenance fee by \$15 to cover the debt repayment for this project. Piketon reports that the average monthly residential water usage is 5,000 gallons. Based on this usage, the annual residential water bill including the maintenance fee for customers served by Piketon will be \$646 upon project completion. This represents 1.68 percent of the median household income for Piketon (MHI; \$38,512) and is below the Ohio average annual water bill of \$697.

Construction is expected to begin following loan award and be completed July 2025.

Public Participation

Piketon holds public village council meetings every first and third Monday (Tuesday if Monday is a holiday) of each month and provides information on the time, location, and agenda for the meetings on the village website, as well as records of meeting minutes. Piketon has discussed the project and associated items at these meetings over the past several years and will continue to do so as they progress. Also provided on Piketon's website is a list of all village ongoing and planned projects. Local news articles have covered the project as well. Piketon will communicate to residents the change to maintenance fee once an amount is finalized.

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/divisions-and-offices/environmental-financial-assistance/announcements>.

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

Short-term increases in exhaust from construction equipment will be temporary and limited to the duration of construction. Exhaust from construction equipment will be an insignificant source of local air pollution and is expected to have no significant short-term or long-term impact on local air quality.

Archaeological and Historical Resources

The *Phase I Archaeology Survey of Approximately 7 Acres (2.6 ha) for the Proposed Piketon Water and Wastewater Treatment Plant in Pike County, Ohio* conducted for the proposed WTP site resulted in the discovery of a single previously unidentified archaeological site. This site represents the remnants of demolished agricultural outbuildings dating to the first half of the twentieth century. Several concrete foundations and scattered debris are all that remains of these outbuildings, and there are otherwise no other known archaeological sites or structures present. The site was considered ineligible for listing in the National Register of Historic Places (NRHP) due to the lack of research potential and physical integrity of the site, and no further investigations are recommended.

Construction associated with the projects occurring elsewhere of the WTP site either include ancillary items such as equipment removal and replacement or work in locations such as paved roads and developed lots where extensive ground disturbances have previously taken place.

For these reasons, Ohio EPA has determined that this project is unlikely to impact important historical or archaeological resources.

Review of the projects was coordinated with the Ohio State Historic Preservation Office (SHPO) for consideration of potential effects to archaeological and historical resources. The Ohio SHPO concurred that these projects will have no effect on properties listed or eligible for listing in the NRHP.

In the event that archaeological discoveries are made during construction, contractors and subcontractors are required under Ohio Revised Code Section 149.53 to notify the Ohio SHPO of any archaeological discoveries in the project area and to cooperate in archaeological and historic survey and salvage work when appropriate.

Farmland Protection

The WTP site contains an estimated 4.6 acres of Elkinsville silt loam and Fox loam, soil types considered prime and unique farmland, that will be converted because of these projects. This represents 0.006 percent of the farmland in Pike County. Based on careful consideration of available farmland within Pike County and Ohio, Ohio EPA has determined that the conversion of farmland associated with these projects will have a negligible impact due to the wealth of available farmland across Ohio.

Terrestrial Habitat, Endangered Species and Fish and Wildlife

The WTP will be constructed on a vacant, Piketon-owned lot on Piketon Road, southwest of the existing WTP and northeast of the existing WWTP. This roughly seven-acre lot was previously home to several agricultural outbuildings and the land used for various agricultural activities. The land was

cleared in the past and now contains varying levels of vegetative regrowth. It is unlikely that any state or federally listed threatened or endangered plant species is present on the property due to previous clearing and land-use practices. Furthermore, the site contains no critical or significant terrestrial habitat.

The entire state of Ohio is within the range of several state and federally listed endangered and threatened bat species (Indiana bat, northern long-eared bat, little brown bat, and tricolored bat). During summer months these species roost in trees with loose and exfoliating bark, crevices and cavities, and within leaf clusters. Piketon will restrict tree clearing to between October 1 and March 31, as recommended by the Ohio Department of Natural Resources and U.S. Fish and Wildlife Service, to avoid potential impacts to these species.

For these reasons, Ohio EPA has determined that these projects are unlikely to adversely impact significant terrestrial habitat and state and federally listed threatened and endangered species, either because significant terrestrial habitat and suitable habitat for threatened and endangered species is not present within the project area or because adequate protection measures will be implemented during construction.

Floodplains

A portion of the proposed WTP site falls within the designated zone of the 100-year floodplain. Piketon has coordinated review of these projects with the local floodplain administrator to ensure compliance with all local floodplain regulations. There are no short-term or long-term significant adverse impacts to the floodplain anticipated as a result of the proposed projects.

Ground Water Resources

Installation of new raw water mains and finished water mains fall within the source water assessment and protection (SWAP) area for the Piketon public water system. Due to the limited nature and the relative shallow depth of excavation necessary for the construction activities falling within the SWAP area, no special measures beyond standard construction best management practices are anticipated necessary for the protection of area ground water resources. For these reasons, Ohio EPA has determined that this project will not impact Piketon's source of drinking water.

Noise, Traffic, Safety, and Aesthetics

It will be the contractor's responsibility to implement all applicable best management practices (e.g., erosion and sediment control, traffic maintenance, safety protocols, noise and dust minimization, etc.) during construction to minimize potential nuisances and disturbances. Restoration work is included and will succeed construction.

Safe Drinking Water

The existing Piketon WTP will remain in service until after the new WTP is constructed and tested to ensure proper functionality. Only once the new WTP is confirmed to be functioning as intended and supplying water treatment as expected will the existing WTP be decommissioned. Water service should not be affected during construction.

Unaffected Resources

The following resources are not present and therefore will not be impacted by these projects: Coastal Zones, Wild and Scenic Rivers, Sole Source Aquifers, Surface Water Resources, Wetlands, and Aquatic Habitat. Additionally, there will be no impact on Land Use as it pertains to public space.

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 projects as relates to the environmental features discussed previously. This is because these features do not exist in the project areas, the features exist but will not be adversely affected, or the impacts will be temporary and mitigated. Completion of this projects will have long-term benefits associated with the provision of safe and adequate water treatment and supply to support the needs of residential customers and businesses throughout the service area, regarding both the present demand and considering potential growth.

Contact Information

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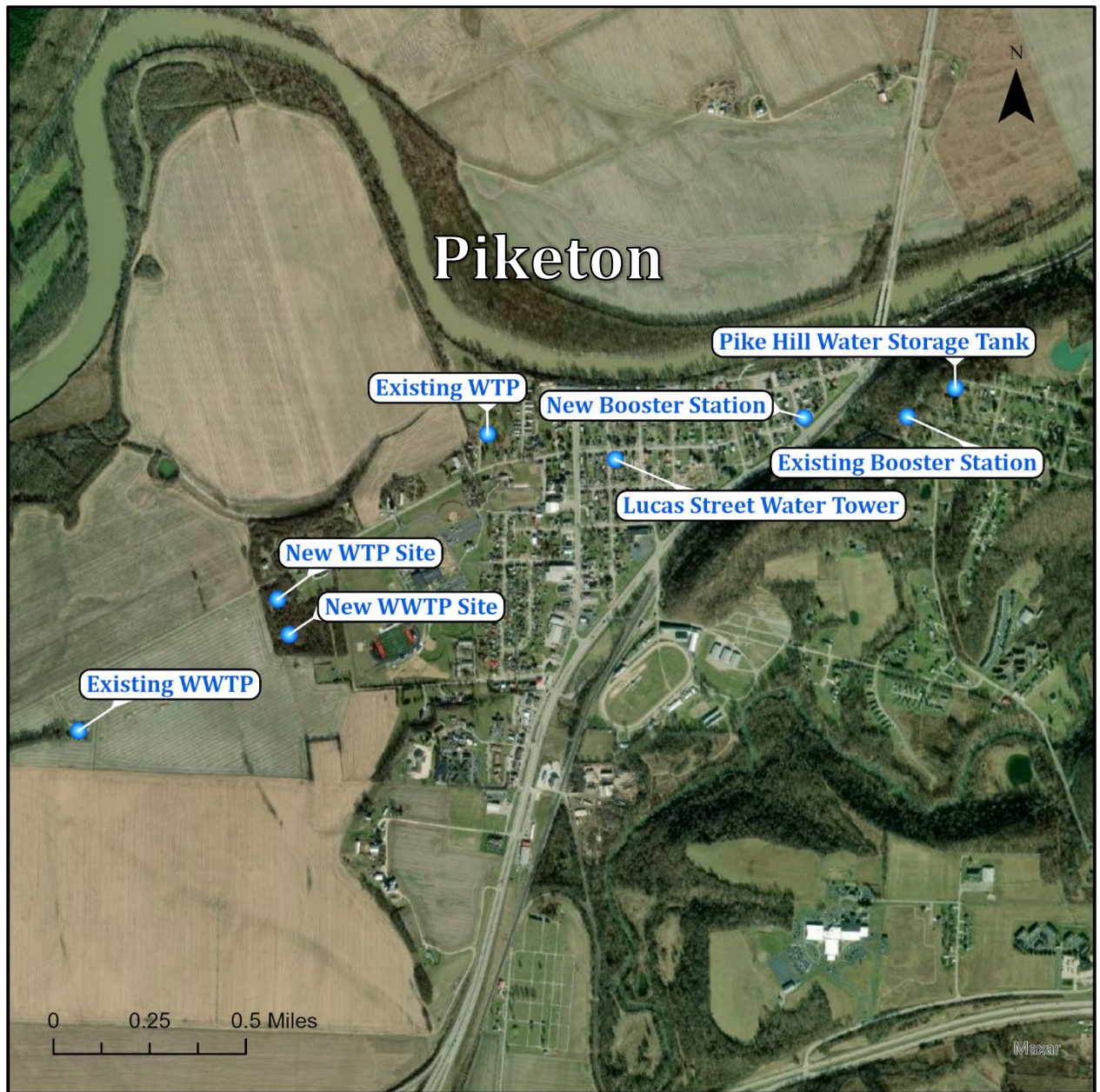


Figure 2. Existing and planned Piketon drinking water and wastewater facilities and infrastructure