Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
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January 10, 2023

Limited Environmental Review and Finding of No Significant Impact

City of Columbus – Franklin County
HCWP Hypochlorite Disinfection Improvements
Loan number: FS390274-0342

The attached Limited Environmental Review (LER) is for a water treatment plant improvements project in Columbus 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 LER describes the project, its costs, and expected environmental benefits. Making available this LER 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. This project's relatively narrow scope and lack of environmental impacts qualifies it for the LER rather than a more comprehensive Environmental Assessment. More information can be obtained by calling or writing the person named at the end of the attached LER.

Upon issuance of this Finding of No Significant Impact (FNSI) determination, award of funds may proceed without further environmental review or public comment unless new information shows that environmental conditions of the proposed project have changed significantly.

Sincerely,

Kathleen Courtright

Kathleen Courtright, Assistant Chief
Division of Environmental and Financial Assistance

Attachment

LIMITED ENVIRONMENTAL REVIEW

Project Identification

Project: Hap Cremean Water Plant Hypochlorite Disinfection Improvements

Applicant: City of Columbus
910 Dublin Road
Columbus, Ohio 43215

Loan Number: FS390274-0342

Project Summary

The City of Columbus in Franklin County has requested $17,604,495 from the Ohio Water Supply Revolving Loan Account (WSRLA) for conversion of the chlorine-gas based disinfection process at Hap Cremean Water Plant (HCWP) to a liquid sodium hypochlorite-based system to increase safety for plant personnel and the public. All improvements will be made within City of Columbus-owned property and is not expected to have any adverse environmental impacts. This project is part of the city's ongoing program to upgrade its treatment facilities to provide safe, efficient, reliable, and cost-effective operations to its approximately 1.2 million customers.

History & Existing Conditions

Columbus operates three large interconnected municipal water plants: Hap Cremean Water Plant (HCWP), Dublin Road Water Plant (DRWP), and Parsons Avenue Water Plant (PAWP). These plants collectively supply potable water to Columbus and the central Ohio metropolitan areas. HCWP is the largest of the three plants. It is a surface water treatment plant that draws raw water from Big Walnut Creek downstream of the Hoover Reservoir. It has a capacity of 125 million gallons per day (MGD) and an annual average daily flow of approximately 70 MGD.

The HCWP provides water to approximately 500,000 customers across a service area generally consisting of the northern half of Franklin County and a portion of southern Delaware County. Data shows there was a steady increase in water demand during the 1980s, 1990s, and early 2000s, but demand has been flat to slightly decreasing over the past eight years. However, population projections from Mid-Ohio Regional Planning Commission (MORPC) indicate that the central Ohio area is expected to see significant population growth over the next 50 years; thus, water demands are anticipated to increase.

The HCWP was originally constructed in 1954 and was expanded in 1967 to double its size. Recent improvements including ozone-biologically active filtration have improved the plant's ability to handle taste and odor concerns and increase organics removal.

The HCWP currently uses chlorine gas to disinfect the treated water prior to distribution. This system has provided reliable and cost-effective disinfection at the plant for more than sixty years. However, new technology is available that will reduce the risks associated with handling chlorine gas to ensure greater safety to water treatment plant employees and the public.

Project Description

To eliminate potential hazards associated with handling chlorine gas, Columbus plans to convert the disinfection process at the HCWP from a chlorine gas-based process to a liquid sodium hypochlorite-based process. While the chlorine gas system continues to be a safe and reliable means of disinfection, this project will construct a new disinfection facility to eliminate potential hazards associated with handling chlorine gas and improve safety for both city staff and the public. Alternatives were evaluated including bulk delivery and on-site generation to determine the most cost-effective, safe, and reliable alternative. It was determined that with proper building safety measures including air conditioning and a sprinkler system, bulk sodium hypochlorite storage will provide the facility with a low-maintenance, low-cost, and non-complex system to continue the city's water treatment process.

The construction footprint for this project will remain within the confines of the existing water treatment plant, thereby minimizing effects on environmental resources. The contractor is responsible for best management practices to control erosion and sedimentation and minimize the creation of dust.

Maps of the project location are provided in the exhibits below.

Implementation

Project Costs
Columbus plans to borrow $17,604,495 from the WSRLA. During the 20-year loan period, Columbus will save approximately $2,761,281 by using WSRLA dollars at the standard rate of 2.93%, compared to the market rate of 4.18%. WSRLA interest rates are set monthly and may change for a later loan award.

Local Economy
The current Columbus residential water bill is approximately $534/year. Projected residential water bills with the implementation of this and other associated water projects are expected to increase to approximately $608/year, or 1.1% of median household income (MHI) of Columbus, which is $54,902.

By using WSRLA financing for this project, Columbus has minimized the economic impact on customers.

Project Schedule
The anticipated loan award will occur in January 2023. Construction is expected to commence shortly after the funds have been awarded. Completion of the project is expected by July 2024.

Public Participation

A public notice was posted on the City of Columbus' Public Utilities webpage detailing the proposed improvements to the Hap Cremean Water Plant and contact information is provided for any public questions or concerns. Public participation is limited since construction will occur entirely within the secure area of the HCWP and will not impact the general public.

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 upon request to interested parties. Information supporting this Limited Environmental Review (LER) is available from the project contact named below.

Conclusion

The proposed project meets the criteria for an LER; namely, it involves rehabilitation of existing treatment works. Furthermore, the project meets the other qualifying criteria for an LER; specifically, the proposed project:

Has no significant environmental effect, no effect on high-value environmental resources, and does not require extensive specific impact mitigation.
Construction for the project is limited to the previously disturbed footprint of the existing water treatment plant, which lacks important environmental features. Standard construction best management practices will be required to control dust, sediment runoff, noise, and maintain safety.

Is cost effective and not controversial.
The proposed project involves seeking improvements to existing infrastructure that will improve the safety of the water treatment plant staff and the public. Ohio EPA is unaware of any specific opposition to or controversy about this project that will maintain a treatment facility to ensure a continuous supply of potable drinking water to customers.

Does not create a new, or relocate an existing, discharge to surface or ground waters; will not create a new source of water withdrawals from either surface or ground waters; will not significantly increase the amount of water withdrawn from an existing water source; will not result in substantial increases in the volume of discharge or the loading of pollutants from an existing source or from new facilities to receiving waters; and will not provide capacity to serve a population substantially greater than the existing population.
This project involves the replacement of structural components within the footprint of the existing treatment plant. The project will not increase water withdrawals, nor serve a greater population.

Based upon the available planning information for this project and the materials presented within this LER, Ohio EPA concludes that the proposed project will not result in any significant adverse impacts to any environmental features. The project is expected to have no significant short-term or long-term adverse impacts on the quality of the human environment or on sensitive resources such as surface waters, coastal zones, riparian areas, floodplains, wetlands, state-designated scenic or recreational rivers, prime or unique agricultural lands, aquifer recharge zones, archaeologically or historically significant sites, or threatened or endangered species.

This project will improve the water treatment plant's ability to meet water supply needs and ensure a continuous supply of potable water to customers.

Contact information

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Exhibit 1: Project location map

Exhibit 2: Project location map