Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
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November 19, 2020

Limited Environmental Review and Finding of No Significant Impact

City of Lorain – Lorain County
Black River WWTP Primary Clarifier Rehabilitation Project
Loan number: CS390532-0031

The attached Limited Environmental Review (LER) is for a wastewater treatment project in Lorain 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 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 WPCLF 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,

Jonathan Bernstein

Jonathan Bernstein, Assistant Chief
Division of Environmental and Financial Assistance

Attachment

LIMITED ENVIRONMENTAL REVIEW

Project Identification

Project: City of Lorain
Black River WWTP Primary Clarifier Rehabilitation

Applicant: City of Lorain
200 West Erie Avenue
Lorain, Ohio 44052

Loan Number: CS390532-0031

Project Summary

The City of Lorain originally nominated this estimated $1.8 million wastewater project for Ohio EPA Water Pollution Control Loan Fund (WPCLF) financial assistance in August 2019. Subsequently, this project's costs were increased to $1.9 million in the city's August 2020 loan application and reflect the engineer's estimate. Based on the bids the city received on October 30, 2020, the construction costs are $1,586,000 and the total project cost is about $1,682,665. All of the proposed construction will be limited to refurbishing three wastewater primary clarifiers at the city's Black River wastewater treatment plant (WWTP).

While the city previously announced plans for future wastewater rate increases through 2026, the city has indicated that this individual project should not require them. Currently, the city charges an average residential wastewater customer using 685 cubic feet per month $52.70 based on a "sewer rental charge" rate of $6.38 per 100 cubic feet (750 gallons) and a Regulatory Capital Improvement Compliance Charge of $9.00 per month. These charges are expected to increase to $6.48 per 100 cubic feet and to $12 for the Regulatory Capital Improvement Compliance Charge in January 2021 which are equivalent to a fee of $56.39 per month. For residents on fixed incomes or with disabilities, the city currently offers them a reduced sewer rental charge rate of $4.27 per 100 cubic feet. The city has dedicated revenues collected through these wastewater fees as its loan repayment mechanism.

History & Existing Conditions

The City of Lorain owns and operates a wastewater collection and treatment system consisting of two major parts: a sanitary sewer system with approximately 273 miles of sanitary sewers and two major WWTPs, the Black River WWTP and the Philip Q. Maiorana (PQM) WWTP. These collection and treatment systems have historically experienced problems associated with wet weather and sanitary sewer overflows (SSOs) for more than 30 years. A major component of the wastewater flowing through the city's sanitary sewer system to its two WWTPs during wet weather has been infiltration/inflow (I/I).[1] These extraneous flows are largely responsible for the city's SSOs.

[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.

Currently, the City of Lorain is under an Administrative Consent Order issued by U.S. EPA for its wastewater systems to address unauthorized discharges from SSO sites in the collection system and unpermitted secondary bypasses at the Black River facility. Under this order and the capacity assurance plan (CAP) resulting from it, the city has taken steps to address problems at its Black River WWTP, including previously completed repairs to its primary treatment units. As early as October 2018, the city indicated that it was also having problems with its primary clarifiers and needing to rehabilitate them as soon as possible.

Prior to the most recent improvements, Lorain's Black River WWTP was constructed in 1955 and last upgraded in 1995. The facility has an average design flow of 15 million gallons per day (mgd) and a peak hydraulic capacity of 35 mgd to handle wet weather events. On average, this facility processes about 75% of the sanitary flows treated by Lorain's two WWTPs or about 12 mgd and serves a population of approximately 82,400 in the City of Lorain and adjacent cities and townships in its service area (see Figure 1). The collection system within the service area of the Black River WWTP is comprised of 100% separated sewers and 0% combined sewers.

The Black River WWTP shown in Figure 2 has the following treatment processes: communition, grit removal, pre-aeration, scum removal, primary sedimentation, ferrous chloride addition, activated sludge, secondary clarification, chlorination, and dechlorination. Lorain's Black River WWTP has one internal bypass. Flow bypasses after primary treatment go through the chlorination and dechlorination processes, and discharge to the Black River. In addition to the liquid process units, the city's Black River WWTP utilizes three sewage sludge treatment processes: gravity thickening, mechanical dewatering/filter press, and anaerobic digestion. Treated sludge is disposed of in a municipal landfill or land applied. Figure 3 below shows the Black River WWTP's wet stream processes. Solids from the city's PQM WWTP are hauled to the Black River WWTP for further processing and disposal by land application at agronomic rates.

Project Description

During the planning for this proposed project, the city considered three alternatives: no action, refurbishment of the primary clarifiers, and their complete replacement. The no-action option was quickly eliminated as it would not address the problems with the city's three primary clarifiers which range in age from 48 to 65 years. Complete replacement at an estimated cost of at least $4 million was determined not to be cost-effective in part on the basis of the relatively good condition of the existing concrete forming the walls of the three components. In comparison, refurbishment was estimated at roughly half the cost of total replacement or about $1.8 million.

Figure 2 below shows the location of the Black River WWTP which is near the confluence of the Black River (at River Mile 0.08) with Lake Erie. The Black River WWTP has been regulated as a river discharger since 2010.

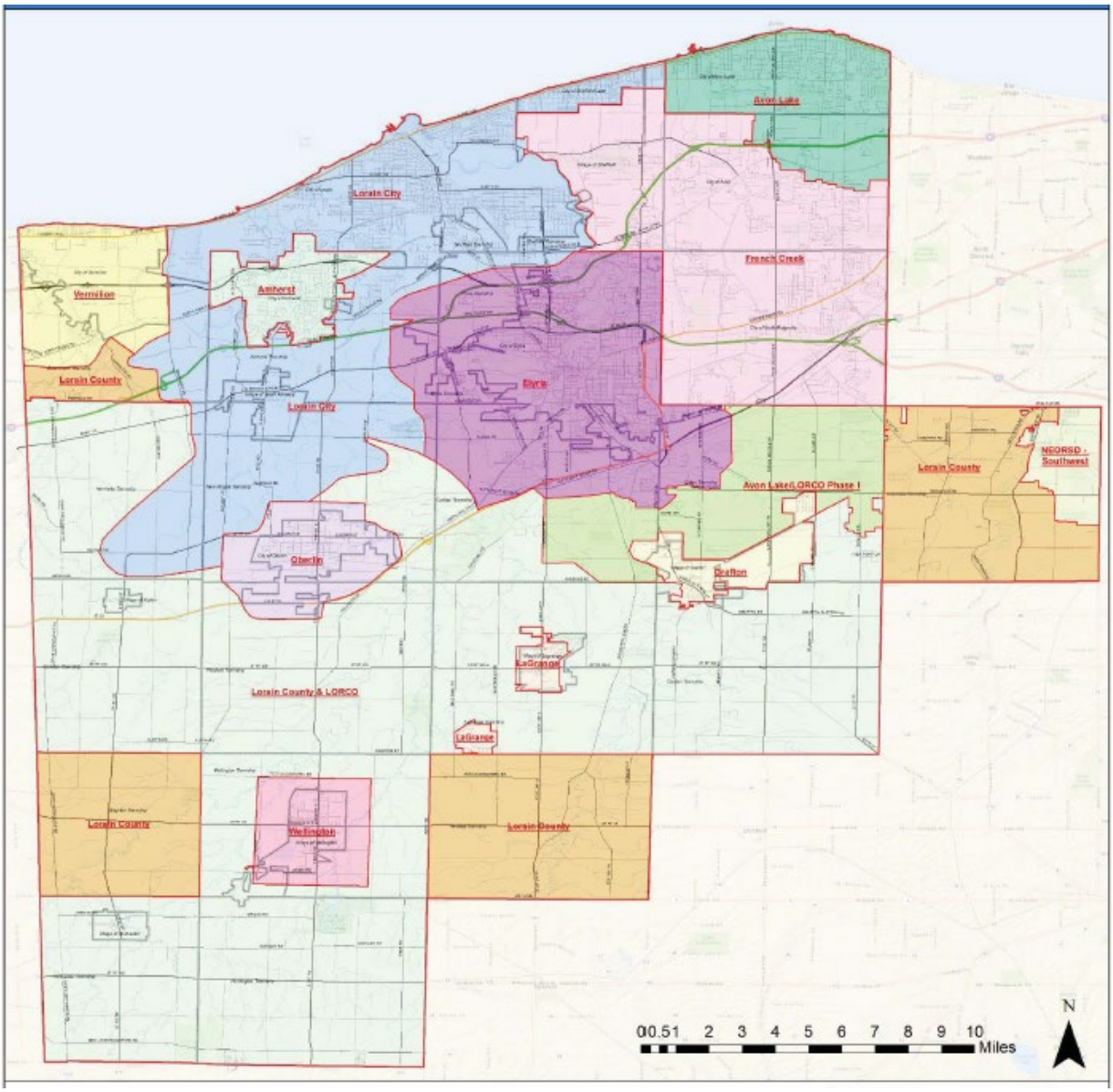

Figure 1. City of Lorain's WWTPs facilities planning area map (from NOACA)

Figure 2. Lorain's Black River WWTP components and vicinity

Figure 3 below shows the Black River WWTP including the areas expected to be used by the city's contractors during construction of the proposed project. Overall, these improvements will be completed within the existing WWTP site as shown in Figures 2-3 and outside of the Black River floodway (red or crosshatched area) shown in Figure 4. As noted earlier, these proposed improvements are limited to refurbishing the three wastewater primary clarifiers at the city's Black River WWTP. More specifically, the work includes (1) replacing the mechanism, drive, center column, inlet baffle, walkway, and ancillary components of each primary clarifier, and (2) making yard lighting, handrail, and walkway improvements for the safety of city employees. As shown in Figures 3, all of the proposed work will occur within the prior-disturbed confines of the Black River WWTP located outside of the 100-year floodplain shown in Figure 4. Significantly, the proposed project will have no major effect on the rated design capacity of the city's Black River WWTP or on any native vegetation since only concrete and grass comprise the project area.

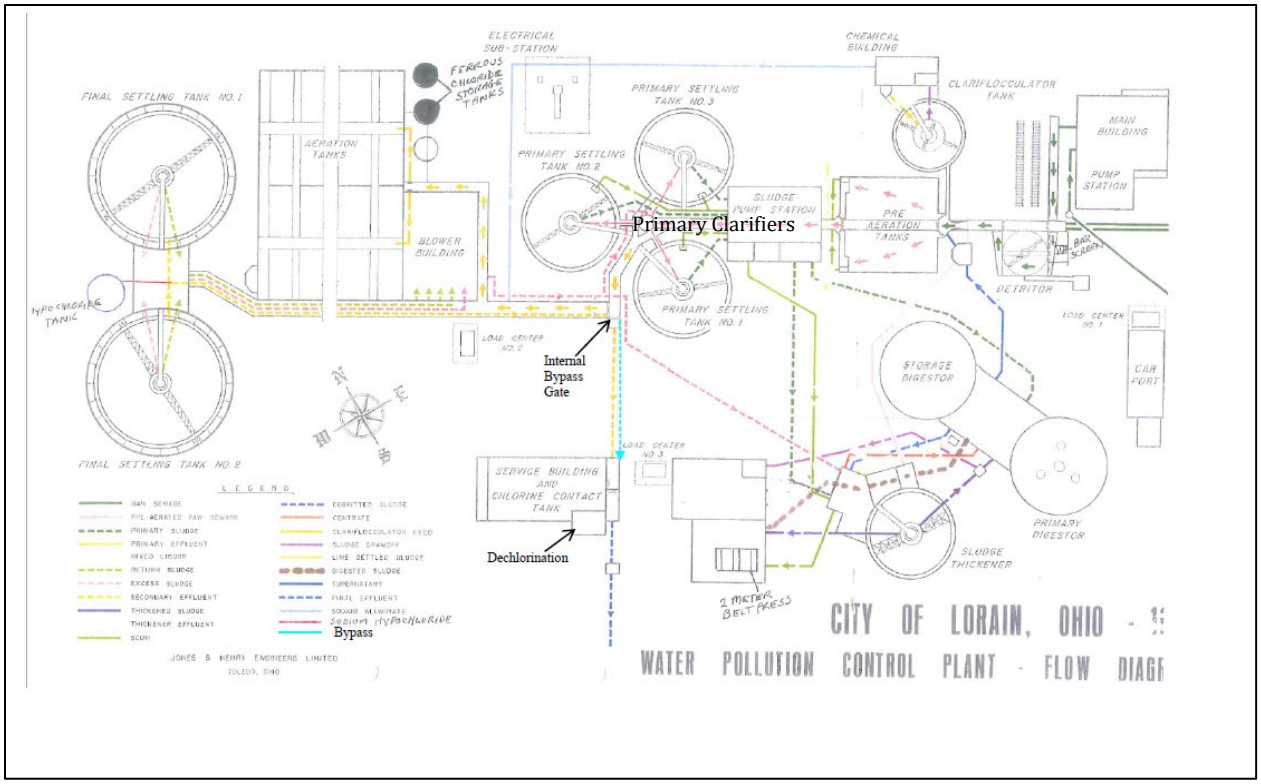

Figure 3. Black River WWTP wet stream components

Implementation

To implement the proposed project described above, the City of Lorain intends to finance the improvements to its Black River WWTP through a 20-year low-interest loan from Ohio EPA's WPCLF. Currently, the WPCLF standard interest rate is 0.70%. This fixed interest rate is adjusted monthly to reflect changing market conditions.

Under the previously established wastewater rates expected to be in effect in January 2021, a typical, in-city residential customer using on average 685 cubic feet per month can expect to pay a fee of $56.39 per month, or about $677 a year. When expressed as a percentage of the service area's latest median household income (MHI) figure of $37,014, this annual fee is about 1.83% of the area's MHI and is considered generally affordable for an average residential wastewater customer of Lorain's Black River WWTP. Assuming the project funding presented above, Ohio EPA expects that the city will save about $234,000 when compared to a market-rate loan of 1.95% on the project's estimated total project cost of $1.7 million. By proposing to fund their project in this way, Ohio EPA anticipates that the City of Lorain should be able to generate enough revenue under its current and proposed rate structure to continue to own, operate, and maintain its wastewater collection and treatment systems well into the future.

Under the city's proposed project schedule, WPCLF funds are expected to be awarded in December 2020 or January 2021, so that construction can commence soon thereafter. The city estimates that construction on this project can be completed in about one year. By completing the proposed project, including site restoration, Lorain expects to be able to maintain compliance with its National Pollutant Discharge Elimination System (NPDES) permit.

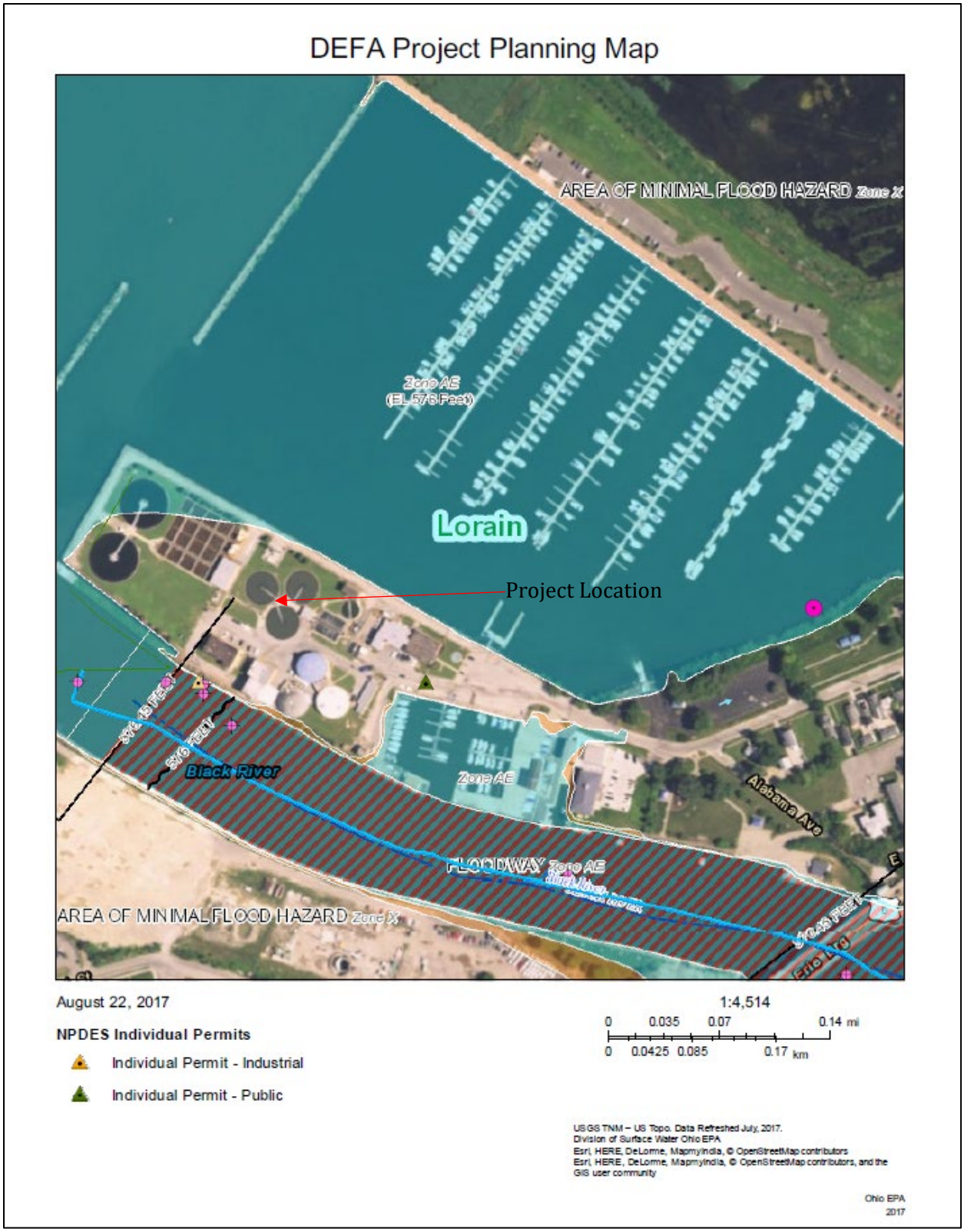

Figure 4. Lorain Black River WWTP and Black River/Lake Erie floodplain and floodway areas

Public Participation

The public had multiple opportunities at City Council meetings to learn about this project. The first opportunity was on February 4, 2019 when city officials went to City Council for an ordinance to enter into an engineering contract with the highest ranked engineering firm for the design of the project. The second opportunity was on June 15, 2020 when city officials went to City Council for approval to enter into a WPCLF loan for the project. The third opportunity was on November 16, 2020 when the city seeks approval to enter into a construction contract for the project. Prior to these events, the city hosted open houses at the Black River WWTP on October 17, 2016, November 5, 2016, and June 15, 2017. On this basis, and the limited scope of the project covered by this document, 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.

Interagency Coordination

The proposed project has been reviewed by the following agencies for technical input, or for conformance with legislation under their jurisdiction by Ohio EPA; these findings support a LER:

Ohio Department of Natural Resources	Ohio EPA
State Historic Preservation Office	United States (U.S.) Fish and Wildlife Service

Conclusion

The proposed project meets the project type criteria for a Limited Environmental Review (LER); namely, it is an action within an existing public wastewater treatment system, which involves the functional replacement of and improvements to existing mechanical equipment. Furthermore, the project meets the other qualifying criteria for an LER; specifically, the proposed project:

Will have no significant environmental effect and will have no effect on high value environmental resources. Given the proposed project's limited scope, placement within a previously disturbed location within an urbanized area, and the absence of any notable above-ground natural features within the immediate project areas shown in Figures 2-4, the proposed project will not result in any adverse environmental impacts. This conclusion is validated by the reviews completed by Ohio EPA and federal, state, and other governmental agencies of the known features of the Black River WWTP site.

Ohio EPA consulted with Ohio Department of Natural Resources (ODNR) during the project review and determined that the proposed project will have no effect on important natural resources, such as the coastal management area of Lake Erie, floodplains, or other natural features. This conclusion was reached primarily because the city's existing WWTP is located outside of the 100-year floodplain of the Black River and Lake Erie, and none of the proposed improvements or construction activities will encroach onto the Black River's floodway (see Figure 4 above). In addition, significant wooded areas or other areas of native vegetation are absent from the project areas. The only remaining vegetation in the construction areas appears to be grass. Accordingly, the city's environmental impact mitigation in the project's contract documents should address these concerns.

Will not require extensive impact mitigation unique to the assistance proposal. The proposed work to complete this project is straight-forward and does not require any extensive mitigation of environmental impacts, as all the WWTP improvements will be made within previously disturbed

areas as shown in Figure 2-4. In that regard, only about 300 square feet of land will be affected by earth-moving activity, so that only routine environmental impact mitigation in the form of standard soil erosion and sedimentation controls, spill control, dust control, vehicle emission and traffic controls, and adherence to prohibited construction activities should be necessary during the estimated one-year construction timeframe.

Is cost-effective and not the subject of significant public interest. In comparison to the two other options considered during project planning, the chosen improvements were selected by Lorain as more cost-effective on the basis of costs and non-monetary factors. Moreover, the proposed improvements constituting this project are non-controversial because they will not adversely impact the environment, or the residential rates paid for wastewater.

Will not create a new, or relocate an existing, discharge to surface or ground waters, or cause pollution of surface or ground waters. The proposed project will not result in either new, relocated, or additional discharges of wastewater to either surface or ground water on a permanent basis. Rather, the purpose of this project is to help ensure that wastewater flows and solids are properly handled. Part of the reason for this finding is that the proposed project will improve the operation of the primary settling tanks within the city's Black River WWTP and enable the WWTP overall to better comply with its permit to discharge treated wastewater to the Black River. Significantly, no changes in the city's existing NPDES permit covering its WWTP, to its WWTP's effluent outfall location, or a discharge of additional pollutants to local surface water resources through population growth are expected in response to this project.

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. As noted above, the proposed improvements to Lorain's Black River WWTP are not designed to facilitate future growth in or around the city, but rather to address the city's regulatory responsibilities under the Clean Water Act. On this basis, the proposed project will not result in any net increase in the volume of discharge or the loading of pollutants from the Black River WWTP and its collection system or permitted to be discharged under the city's NPDES permit. Rather, flows which currently are bypassed or overflow through SSOs will be properly handled and discharged once the proposed project is constructed.

Will not provide capacity to serve a population substantially greater than the existing population. Based on information provided by the city during planning, Lorain and vicinity have experienced declining populations. The flows currently being processed at Lorain's WWTP during dry weather are indicative of this pattern, when compared to the original design capacity. In addition, the purpose of this project is to replace the primary clarifier mechanisms which have come to the end of their useful life and to address peak, wet weather flow conditions, not future growth. On this basis, the proposed project and the population it is expected to support should have no effect on environmental attributes that are typically affected by growing populations. For example, it will not adversely affect the current non-attainment status of Lorain County for ozone, one of the six priority air pollutants regulated under the Clean Air Act.

To conclude, the proposed project is sufficiently limited in scope and meet all applicable criteria to warrant an LER. The planning activities for the proposed project identified no potentially significant, direct, indirect, or cumulative adverse impacts. The proposed project is expected to have no short- or long-term adverse impacts on the quality of the human environment or on sensitive resources such as air quality, floodplains, wetlands, prime or unique agricultural lands, aquifer recharge zones, archaeologically or historically significant sites, or threatened or endangered species. The City of Lorain's proposed WWTP improvements project will enable the city to address its regulatory

responsibilities under the Clean Water Act -- especially those related to SSOs and excessive I/I conditions that prompted the city to initiate the proposed project. Public health risks associated with potential exposure to untreated sewage in the project area will also be reduced.

Contact information

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