May 3, 2019

Limited Environmental Review and Finding of No Significant Impact

City of Marion – Marion County
WPCC Enhancement Project (Phase 1 Long Term Control Plan [LTCP])
Loan number: CS390572-0032

The attached Limited Environmental Review (LER) is for a wastewater treatment improvements project in the vicinity of the City of Marion 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, as described in Ohio Administrative Code (OAC) 3745-150-05.

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 significant environmental impacts qualifies it for an LER rather than a more comprehensive Environmental Assessment, as described in OAC 3745-150-06. 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,

Jerry Rouch, Chief
Division of Environmental and Financial Assistance

JR/KH
Attachment
LIMITED ENVIRONMENTAL REVIEW (LER)

Project Identification

Name: City of Marion
WPCC Enhancement Project (Phase 1 LTCP)

Address: Mr. James F. Bischoff, P.E., Director of Public Works
City of Marion
233 West Center Street
Marion, Ohio 43302

Loan No.: CS390572-0032

Project Summary

The City of Marion originally nominated this estimated $25.3 million wastewater treatment plant (WWTP) project for Ohio EPA Water Pollution Control Loan Fund (WPCLF) financial assistance in December 2016. Subsequently, the city was awarded a $2.4 million design loan for this project in December 2017. Based on recently received bids, the construction costs are estimated at $26.1 million and the total estimated project cost is $30.8 million.

All of the proposed construction activities will take place at two locations: the city's WWTP, known locally as Marion's Water Pollution Control Center (WPCC), and at one of the city's two combined sewer overflow (CSO) control structures (known as diversions locally). The latter, the Holland-Silver CSO, discharges to the North Branch of Rock Swale Ditch and is located northeast of the Marion WPCC. Figure 1 on Page 2 shows a map of the city's collection system, including the WPCC and the Holland-Silver CSO locations.

This two-part project is the city's first step in a multi-phase effort to address Marion's requirements under its Integrated Long-Term Control Plan (LTCP). The benefits from the proposed project are expected to include (1) eliminating untreated internal bypasses at the WPCC, and increasing wet-weather treatment capacity; (2) reducing annual untreated CSO volume from the Holland-Silver diversion from 92 million gallons to approximately 14 million gallons in a typical year; and (3) serving as the predecessor project required to handle all collection system improvements to achieve the CSO, sanitary sewer overflow (SSO), and basement back-up mitigation goals for the Integrated LTCP.

To repay its debt on the proposed LTCP projects, Marion developed a rate increase implementation strategy that consists of two primary components: (1) On April 1, 2019, both residential and non-residential accounts increased by 5%. This pattern of 5% annual increases will continue through 2027. Prior to 2019, significant rate increases began in September 2017 with residential customers seeing a 33% increase, while other user classes did not. For 2018, non-residential customers saw an 8% increase and residential customers did not see a sanitary sewer charge rate increase. (2) After 2027, the city will implement annual estimated 2% rate increases equal to the consumer price index. The city's debt portion of the sanitary sewer charge rate has been revised by city council to allow for automatic increases to assure that annual debt service payments can be made. What this means is
that the city's average residential customer using 430 cubic feet of water per month can expect their monthly wastewater fee to reach $290.88 per year by 2021. This annual cost is equivalent to 0.82% of the city's latest (2017) median household income of $35,616. By 2027, this percentage will likely increase to 1.03%.

Existing Need

The City of Marion owns and operates a wastewater collection and treatment system consisting of three major parts: a sanitary sewer system with approximately 350 miles of sanitary sewers, 7 pump stations, and a major WWTP located west of the city's corporation boundary which discharges to the Little Scioto River. While the collection system was originally designed and installed to function as a separate sewer system, it has experienced problems arising from cross connections, infiltration and inflow (I/I)\(^1\) entering the dedicated sanitary sewers, and leakage from the sanitary line into storm

---

\(^1\)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.
sewers (common trench sewers). As a result of these factors, the age of the sanitary sewer system, and the proximity of the adjacent storm sewers, a significant part of the city’s wastewater collection system functions like a combined system during wet weather. Overall, the collection system consists of approximately 50% separate sanitary sewers and 50% combined storm and sanitary sewers. In the past decade, the city's focus has been on its three diversions located at the intersection of Holland Road and Silver Street, Columbia Street and Fies Avenue, and at Mount Vernon Avenue. The latter CSO was eliminated with construction of a storm sewer separation project completed in 2010. Figure 2 below shows the Holland-Silver CSO structure.

Given these concerns, Ohio EPA in 2013 issued a National Pollutant Discharge Elimination System (NPDES) permit to Marion that included a project-specific compliance schedule. Subsequently, Marion appealed this permit’s issuance to the Environmental Review Appeals Commission (ERAC) in 2013. More information and specific documents on the city’s appeal of its Permit to the Environmental Review Appeals Commission (ERAC) in October 2013 and the eventual settlement between May 2016 and February 2017 can be found on-line using ERAC’s Case Search application at https://erac.ohio.gov/ (see Case Number 13-6793). The subsequent resolution of this case in the form of Ohio EPA’s Final Findings and Orders can be found on-line at:

https://epa.ohio.gov/Portals/35/enforcement/Marion.pdf

As noted in the city's 2007 LTCP and updates to that report in the interim, Marion's collection and treatment systems have experienced problems associated with wet weather and sanitary sewer overflows for several decades. An important component of the wastewater flowing through the city's sanitary sewer system to the WPCC during wet weather has been I/I. These extraneous flows are largely responsible for the CSOs and SSOs in Marion's wastewater service area. More information on the city’s LTCP can be found on the city’s web site at:

The Marion WPCC is an advanced wastewater treatment facility with an average design flow of 10.5 million gallons per day (mgd). It was originally built in 1924 and then expanded in 1953 and 1972. Modifications were made in 1978, 1992, 1994, and 2003. Wet stream processes include screening, primary settling, activated sludge aeration, secondary clarification, chemical addition, tertiary clarification, disinfection by chlorination, and dechlorination. Before the 2003 upgrade, the WWTP was designed to treat peak flows up to 21 mgd. Flows in excess of 17 mgd bypassed secondary and tertiary treatment and recombined with fully treated effluent prior to disinfection and discharge. After the 2003 upgrade the average design flow did not change, but the WWTP’s ability to provide secondary treatment to flows of 21 mgd was restored. Solid stream processes include thickening, sludge holding, dewatering using belt filter presses, lime stabilization, sludge storage, and land application. The city’s wastewater treatment facility occupies 73.43 acres of land.

Service Area: The Marion WPCC located at 1810 Marion-Agosta Road serves the city of Marion, the village of Green Camp, Royal Oaks, Eagle Wood/Eagle Creek, and the River Valley Trailer Park for a total service population of 37,994 in 2013. Current population figures for Marion itself indicate a population of 36,400 in 2019. Figures 3-4 on Page 5-6 show this area.
Figure 3. City of Marion Sanitary Service Area including Satellite Communities

Alternatives Analysis and Project Description

Marion first developed a LTCP in December 2000 and submitted a revised LTCP to Ohio EPA on August 25, 2004. This was followed by Ohio EPA’s approval of the original LTCP in 2007 and an update to the original LTCP in 2016. The basis of design report for this proposed Phase 1 project as defined below was written to build on the ideas of the 2016 LTCP Update.

As noted in the update, the only affordable option for the City of Marion is to implement the expanded, integrated LTCP’s projects over a timeframe and in a priority order acceptable to Ohio EPA and the city. More specifically, this approach includes three steps where the city constructs a series of agreed upon projects followed by post-construction monitoring to determine the relative success of the projects and their potential effects on the next phase of improvements schedule for construction. Subsequent phases would then be scheduled to be constructed as part of a phased, adaptive management approach.
Figure 4. City of Marion LTCP Update Projects

At the time the LTCP Update was issued in August 2016, the proposed WWTP improvements were estimated to cost $12.5 million and a nearby equalization basin was estimated at $14.68 million for a total capital cost of $27.18 million. With the further studies summarized in the May 2018 Basis of Design Report, the construction costs were estimated at $21.6 million with a margin of plus or minus 30 to 50%. Of this amount, the equalization basin was estimated at about $4 million, which represents a major cost reduction from prior figures as a result of a lower cost design, materials, and sizing.

During the planning for this proposed Phase 1 project, the city considered several options including alternatives for disinfection, solids treatment and handling, secondary clarification, wet-weather capacity expansion, and HVAC equipment in addition to the core project component listed below (see Figures 1, 5, and 6):

1. Replace the 10-inch diameter pipe upstream of the Holland-Silver Diversion Structure with a 24-inch pipe to mitigate this hydraulic restriction and increase flow capacity to the WPCC. This modification will also reduce the number of activations at one of the city's two remaining diversions (outfalls) in its collection system.
2. Installation of a new 5.0 million gallons (mg) influent flow equalization (EQ) basin and pump station located at the WPCC.
3. Chemical addition to the primary and final (secondary and tertiary) clarifiers to enhance clarifier performance at elevated flows.
4. Modifications to the tertiary clarifiers for conversion to parallel operation during wet weather (influent flows over 21 mgd) with existing secondary clarifiers, including hydraulic and sludge pumping improvements.
5. Addition of an effluent pump station and other improvements to permit WPCC discharge and maintain hydraulic capacity during periods when the Little Scioto River is elevated.
6. Modification of existing Chlorine Contact Tank to increase peak capacity to 51 mgd with 15 minutes of hydraulic detention time.

Project Description. This Phase 1 project is the cornerstone of the Marion Integrated LTCP and is required to achieve full benefits of all CSO and SS0 control measures. The WPCC improvements needed to increase peak secondary treatment capacity from 21 mgd to 42 mgd will consist of several components, including an influent flow EQ basin and pump station to be built adjacent to the WPCC site capable of pumping an additional peak capacity of 15 mgd. Treatment and hydraulic improvements will also be made to the primary clarifiers for the implementation of Chemical Enhanced Primary Treatment (CEPT) capabilities (with a dedicated CEPT building) to treat up to 51 mgd. Secondary clarifier improvements include hydraulic improvements to allow for parallel operation with the final clarifiers during wet weather (influent over 21 mgd), while chemical addition at the secondary clarifiers will increase the full secondary treatment capacity of the WPCC to 42 mgd. Flows above 42 mgd after receiving primary treatment will be directed to the chlorine contact tank for disinfection and combined with secondary effluent. An effluent pump station will be incorporated into the chlorine contact tank which will allow WPCC effluent to be pumped during periods of high river elevations which impede the discharge by gravity.

These improvements will also include all ancillary sanitary and storm sewers, yard piping, equipment, and instrumentation (e.g., SCADA) needed to operate the new facilities located within the city’s WPCC property. As part of the project, a 30-year old electrical substation will be upgraded with city funds, along with adding a new standby generator system, to ensure proper reliability and sustainability of the performance of the WPCC under dry and wet weather conditions. Solids handling structures are also proposed to improve flow handling under both dry and wet weather. Finally, the proposed project will involve the demolition of existing wet-stream and solids handling equipment to allow for installation of new equipment, piping, and appurtenances throughout the WPCC site. A new effluent disinfection facility will process the final effluent before discharge to the Little Scioto River.

Project Results: This Phase 1 project will eliminate untreated bypasses at the WPCC, and increase wet-weather treatment capacity; reduce annual untreated CSO volume from the Holland-Silver diversion structure from 92 mg to approximately 14 mg in a typical year; serve as the predecessor project required to handle all collection system improvements to achieve the CSO, SS0, and basement back-up mitigation goals for the Integrated LTCP; eliminate an SS0 upstream of the WPCC; and result in better reliability at the city’s WPCC and the nearby Holland-Silver CSO structure. Overall, these improvements will be completed within the existing WWTP site shown below in Figure 6 and outside of the floodplain of the tributaries to the Little Scioto River shown in Figure 7. The proposed project will have no major effect on the rated average daily design capacity of the city’s WWTP. The proposed construction project will require about 4.95 acres of prior-disturbed land.
Figure 5. Marion WPCC Site Improvements Location

Figure 6. Marion WPCC Improvements Project Components (New or Updated Units in Gray)
The total as-bid cost of the city’s proposed project is $30.8 million, of which approximately $3.4 million is for prior-incurred planning and design costs, $26.1 is for construction, and $1.3 million is for contingencies. Ohio EPA expects that an extended term loan of 30 years with a CSO program discount of 0% funding and a special payment formula will be used to finance the project component improvements discussed above, assuming loan award in May 2019.

**Limited Environmental Review (LER) and Finding of No Significant Impact (FNSI) Criteria**

Because the proposed project meets certain minimum conditions, and will not individually, cumulatively over time, or in conjunction with other federal, state, or private actions have a significant adverse effect on the quality of the human environment, an LER and FNSI are warranted. More specifically, these conditions cover actions in sewered communities that are for minor upgrading and/or minor expansion of existing wastewater treatment works. As all the proposed improvements will be limited to previously-disturbed locations as shown in Figures 5-7, the proposed 24-month long construction period for this project in Marion is expected to result in no short- or long-term adverse environmental impacts.

The proposed project meets the following, specific criteria for an LER:

1. **The proposed project has no potential for associated significant adverse environmental impacts and will have no effect on high value environmental resources.** Given the proposed project’s limited scope, placement within a previously-disturbed location within a prior-disturbed area, and the absence of any notable above-ground natural features within the immediate project areas shown in Figures 1-7, 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. The known features of the project areas and the city's approach to addressing them are discussed in more detail below.

![Figure 7. Marion WPCC Enhancement Project Locations and Floodplain Resources (in Blue)](image-url)
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 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 Little Scioto River and its tributaries, and none of the proposed improvements or construction activities, including disposal of excavated material, will encroach onto these streams’ floodways (see Figure 7). In addition, significant wooded areas or other sites with native vegetation are absent from the locations chosen for the proposed improvements. The only remaining vegetation in the construction areas appears to be grass and scrubby vegetation. Accordingly, the city’s environmental impact mitigation in the project’s contract documents covering spoil disposal should address these concerns.

2. The proposed project 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 proposed improvements will be made within previously-disturbed areas (as shown in Figures 5-7). In that regard, relatively minor earth-moving activity is associated with these improvements, so that only routine environmental impact mitigation in the form of standard soil erosion and sedimentation controls, spill control, dust control, vehicle emission and truck traffic controls, and adherence to prohibited construction activities is necessary.

3. The proposed project is cost-effective and not the subject of significant public interest. In comparison to the no-action and the other alternatives considered during project planning that were not chosen, the selected improvements are 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. For additional information, please see the Project Implementation part of this document following this section. Information on the city’s public participation activities is presented below.

4. The proposed project will not create a new, or relocate an existing, discharge to surface or ground waters, or cause pollution of surface or ground waters. It will also not create a new source of water withdrawals from either surface or ground waters, or significantly increase the amount of water withdrawn from an existing water source. 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 which currently are being released to the environment without treatment or bypassed during wet weather are properly handled. Part of the reason for this finding is that the proposed project will improve the reliability of the overall collection and treatment systems in Marion and so allow the city to better comply with its permit to discharge treated wastewater to the Little Scioto River. Significantly, no changes in the city’s existing National Pollutant Discharge Elimination System (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.

Similarly, the fact that this project involves making improvements designed to meet current wastewater engineering standards and the city’s 20-year wastewater treatment needs also supports our conclusion that this project does not involve creation of a new, or support expansion of an existing, source of water withdrawn from either surface or ground waters.
5. **The proposed 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.** Because the city does not expect its population to increase over the length of its loan repayment schedule, the proposed improvements to Marion’s overall wastewater system 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 Marion’s WPCC and its collection system, or permitted to be discharged under the city's NPDES permit. Rather, flows which currently are bypassed or overflow through CSOs and SSOs will be more properly handled and discharged once the proposed project is constructed.

6. **The proposed project will not provide capacity to serve a population substantially greater than the existing population.** Based on information provided by the city during planning, Marion and vicinity have experienced declining populations. The flows currently being processed at Marion’s WPCC 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 treatment components 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 full-attainment status of Marion County for the six priority air pollutants.

**Project Implementation**

To implement the proposed project described above, the City of Marion intends to finance the improvements to its WPCC and Holland-Silver CSO Outfall/Diversion through a structured payments arrangement with Ohio EPA’s WPCLF, including a CSO discounted loan rate of 0% for $16 million, a 30-year repayment schedule, and $50,000 in principal forgiveness. Currently, the WPCLF standard interest rate is 2.09% and will cover the remainder of the project’s cost. Combined the blended rate on the entire loan will be 0.96%. Should the city’s loan not proceed in May, the WPCLF’s fixed interest rates are adjusted monthly to reflect changing market conditions.

By using structured payments, the city will experience some relief during the first five years (10 semi-annual payments) of loan repayment. More specifically, the structured payments allow the principal portion of the first ten semi-annual payments to be lowered to assist the city with cash flow. In particular, Marion will have other large debt paid for during the first five years of its WPCLF loan repayment schedule. This structured payments approach allows for the larger debt to fall off before the WPCLF loan payments start to increase substantially in the second five years. During the first five years, the total amount of the principal paid should be no less than 0.25% of the original loan amount. The key component for the structured payments is that “the minimum amount of principal payment will be 0.25% of the original loan principal.” With this being the main component of the loan, the principal portion of the payment would be the part that would be “structured” and effectively lowered, while the interest portion would remain the same as if the payment was a normal payment.

Under the wastewater rates effective in April 2019, a typical, in-city residential customer using on average 430 cubic feet per month currently pays a fee of $22.52 per month, or about $270.24 a year. When expressed as a percentage of the service area’s latest median household income (MHI) figure
of $35,616, this annual fee is about 0.76% of the area’s MHI, and is considered affordable for an average residential wastewater customer of Marion’s service area on the basis of public acceptance. By 2021, this percentage will reach 0.82%; by 2027, 1.03%, and still is considered affordable.

Assuming the project funding presented above, Ohio EPA expects that the city will save about $13.2 million when compared to a market-rate loan of 3.29% on the project’s total project costs of $30.8 million. By proposing to fund their project in this way, Ohio EPA anticipates that the City of Marion should be able to generate enough revenue under its current and proposed water 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 May 2019, so that construction can commence soon thereafter. The city estimates that construction on this project can be completed in about two years.

Public Notice and Participation

According to the city, the public was provided with an opportunity to learn more about this WPCC Treatment Enhancement project, the city’s wastewater rates, and the overall condition of the city’s wastewater collection and treatment systems. This opportunity included an open-house style public meeting publicly noticed on the city’s web site starting on February 26, 2019, and advertised in the Marion Star on March 1 and 8, 2019. At the meeting held on March 11, 2019, five people were able to pick up a project fact sheet, raise questions, and receive answers about the project from the city and its engineering firm. 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.

Additional information that supports this decision to issue an LER is available for public inspection upon request at the City of Marion main office located at 233 West Center Street, Marion, Ohio 43302. Mr. James Bischoff, Director of Public Works, is the city’s contact, and can be reached either by phone at 740.387.2240, or by email at jbischoff@marionohio.org to answer questions related to this important project for the city.

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 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 Marion’s proposed WPCC 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.

For further information, please contact:

Kevin Hinkle
Ohio EPA, Division of Environmental and Financial Assistance
Office of Financial Assistance, Technical Review Section, Environmental Planning Unit
P.O. Box 1049
Columbus, Ohio 43216-1049
By phone: (614) 644-3712
e-mail: kevin.hinkle@epa.ohio.gov