



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

AUGUST 4, 2015

FINDING OF NO SIGNIFICANT IMPACT
TO ALL INTERESTED CITIZENS, ORGANIZATIONS,
AND GOVERNMENT AGENCIES

CITY OF PAINESVILLE, NEW RAW WATER INTAKE,
HAZARDOUS ALGAL BLOOM (HAB) PROJECT, WSRLA LOAN # FS390733-0006

The purpose of this notice is to seek public input and comments on Ohio EPA's preliminary decision that a Supplemental Environmental Study is not required to implement the recommendations discussed in the attached Environmental Assessment of a general plan submitted by the entity mentioned above.

How were environmental issues considered?

The Drinking Water Assistance Fund program requires the inclusion of environmental factors in the decision-making process. Ohio EPA has done this by incorporating a detailed analysis of the environmental effects of the proposed alternatives in its review and approval process. Environmental information was developed as part of the general plan, as well as through the general plan review process and during site inspections. The Agency's preliminary Environmental Assessment found that the project does not require the preparation of a Supplemental Environmental Study.

Why is a Supplemental Environmental Study not required?

Our environmental review concluded that significant environmental impacts will not result from the action. Any adverse impacts have either been eliminated by changes in the general plan or have been reduced by the implementation of the mitigative measures discussed in the attached Assessment.

How do I get more information?

A map depicting the location of the project is included as part of the Environmental Assessment. The Environmental Assessment presents additional information on the project, alternatives that were considered, impacts of the action and the basis for our decision. Further information can be obtained by calling or writing the contact person listed in the back of the Environmental Assessment.

How do I submit comments?

Any comments supporting or disagreeing with this preliminary decision should be submitted to me at the letterhead address. We will not take any action on this general plan for 30 calendar days from the date of this notice in order to receive and consider any comments.

What happens next?

In the absence of substantive comments during this period, our preliminary decision will become final. The entity will then be eligible to receive loan assistance from this agency.

Please bring any information that you feel should be considered to our attention. We appreciate your interest in the environmental review process.

Sincerely,



Jerry Rouch, Assistant Chief
Division of Environmental and Financial Assistance

Attachment

ENVIRONMENTAL ASSESSMENT

A. Project Identification

Name: City of Painesville
New Raw Water Intake
Hazardous Algal Bloom (HAB) Project

Address: Mr. Anthony Carson, Jr., City Manager
City of Painesville
7 Richmond Street (P.O. Box 601)
Painesville, Ohio 44077-3222

WSRLA No. FS390733-0006

B. Project Summary

The City of Painesville in Lake County owns and operates a water distribution system and a water treatment plant (WTP) serving about 32,000 people living in Painesville, Concord Township, Painesville Township, part of the City of Mentor, and Grand River. While originally built in Painesville, the city's WTP now is officially located in the City of Mentor as shown in Figure 1.

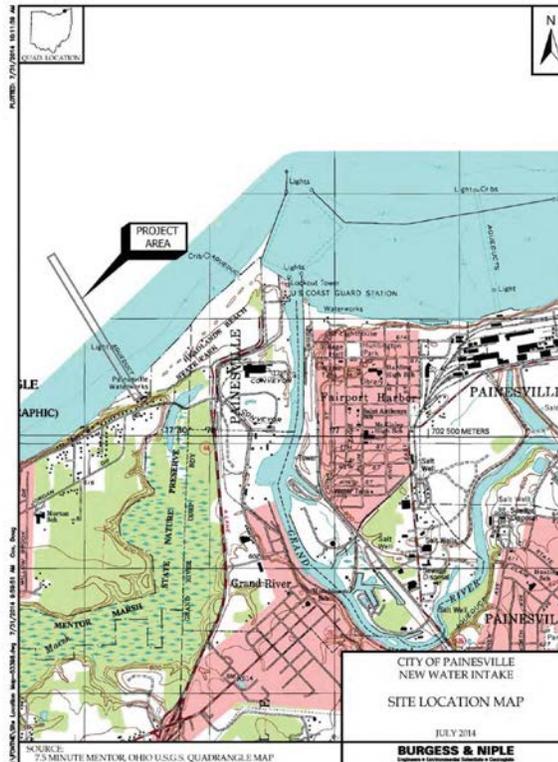


Figure 1, Location of Painesville's Waterworks and Raw Water Intake Project Site (originally drawn at 1" = 2000 feet)

This WTP draws its raw water from Lake Erie through raw water intakes installed over the last century (see Figure 2 below), and subject to a variety of problems and storm damage that have effectively limited their capacity. From the city's WTP, finished water is sent through storage tanks, booster stations, and water mains owned by Painesville and surrounding water systems to the service area's customers (see service area map in Figure 3).

To address the cited capacity problems and to help avoid future hazardous algal bloom (HAB) incidents, storm events, zebra mussel colonization, frazil ice blockages, and high turbidity situations in Lake Erie, Painesville proposes a long-term solution in the form of a new raw water intake, junction chamber, and underwater crib structure in place of the existing intake pipes installed in 1913 and circa 1952. In addition, readers should note that the city has plans to complete five improvements at its WTP to address future capacity needs by 2021. More information on these short- and longer-term improvements can be found in the "Selected Alternative" section of this document.

Under the Ohio EPA's Water Supply Revolving Loan Account (WSRLA) program's HAB incentives, the City of Painesville qualifies for a 0% interest rate for this proposed project's construction. Based on information provided by the city, Painesville expects to use revenues collected from its current water rates and infrastructure improvement fee to repay its \$10 to \$12 million WSRLA loan for the estimated total project cost. The city has indicated that an average city residential customer using 674 cubic feet of water per month currently pays \$17.52 for potable water at a rate of \$2.60 per 100 cubic feet, plus \$8 per month in water system infrastructure improvement (meter) fees, for a total of \$25.52. Converted to an annual equivalent cost (\$306.24), this fee is equivalent to 0.86% of the city's latest median household income (\$35,536). In contrast, the annual fee is expected to be \$314.40 in 2020, or about \$8 higher than today, for a city resident. Readers should note, however, that the meter fee expires on June 30, 2026, so that by 2038 when the WSRLA loan is repaid, the city currently expects that its net water rate will have gone down to around \$3.60 per 100 cubic feet, or \$24.26 per month. More detailed information on this project and its potential environmental impacts can be found below and in Figure 2 (see map on Page 3) from the December 2011 water intake study.

Any direct environmental impacts during the construction of the proposed facilities included in this project over the next two to three years are expected to be manageable given the city's coordination with government review agencies and the impact mitigation agreed to. In addition, no significant, indirect and cumulative (development-related) adverse environmental impacts from this project are expected. Interested readers may want to refer to the "Project Description and Planning" and "Environmental Impacts" sections of this document for more information supporting these conclusions.

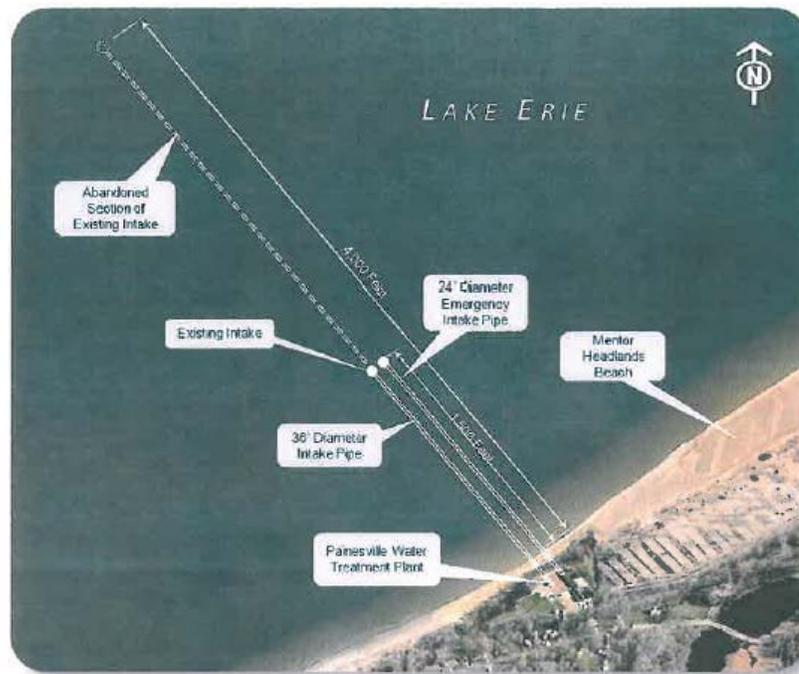


Figure 2, Existing Raw Water Intakes and Painesville WTP Site (not to scale shown)

C. Project Description and Planning

1. Project History

On September 30, 2014 after receiving an OWDA planning and design loan in June 2014, the City of Painesville nominated its new raw water intake project to the WSRLA for construction loan funding consideration. In the interim, Ohio EPA and other agencies have been reviewing the proposed project on a technical and environmental (including socio-economic) impact basis. Prior to this work, the last major repairs to the city’s raw water intakes were completed in 1978. Minor repairs were completed in 2013-2014 to minimize sand infiltration into the intakes and the WTP.

2. Project Planning and Population Projections

The city has owned and operated a surface water, rapid mix-flocculation-settling-filtration, water treatment plant (WTP) and related water supply facilities, including its raw water intakes drawing Lake Erie water, since 1897 when it purchased the WTP from the Painesville Water Works Company. From 1890 when the company first installed a 14-inch raw water intake and built its WTP, the city has had problems with its two intake structures, including sand, woody debris, and zebra mussel blockage, as well as damage during storm events that has effectively reduced their capacity. Readers should note that the existing 24-inch diameter raw water intake installed in 1913 and the current 36-inch diameter raw water intake installed during 1951-1957 were constructed to address these types of problems. Over the past sixty years, investigations

and reports have been prepared about every 20 years to determine what the best practical solutions were. The latest studies were concluded in 2011-2014 and recommended that a new 36-inch diameter intake pipe and crib (intake pipe protection) structure be installed that would parallel the existing intake pipes to resolve the noted blockage problems and related difficulties posed by ice accumulation during the winter months.

In addition to these intakes and the WTP, the city maintains over 128 miles of water mains (ranging in size from 1" to 30" in diameter), three water towers, two other storage tanks (not counting the storage tank at the WTP site), and five pumping stations (three are back-ups) over four pressure districts. The city has indicated that it cannot account for about 13% of its water production and that about 60% of its water mains are over 30-years old. Emergency water supply connections between the city and the adjacent other large water systems, including Fairport Harbor, Lake County, and Aqua Ohio, exist to provide short-term solutions to the city's lack of potable water when the need arises.

Readers may also want to refer to Figure 3 below as it pertains to population projections for the current (2015) and future (2035-2040) service area boundary originally established about 1990. According to the city, the purpose of its proposed WSRLA-funded raw water intake project is to furnish a new primary (36-inch diameter) raw water supply for the residential and other water customers within the water treatment plant's service area shown in Figure 3. In the next 20 years, this current service area in Lake County is expected to expand from the area bounded in yellow to the area bordered by red.

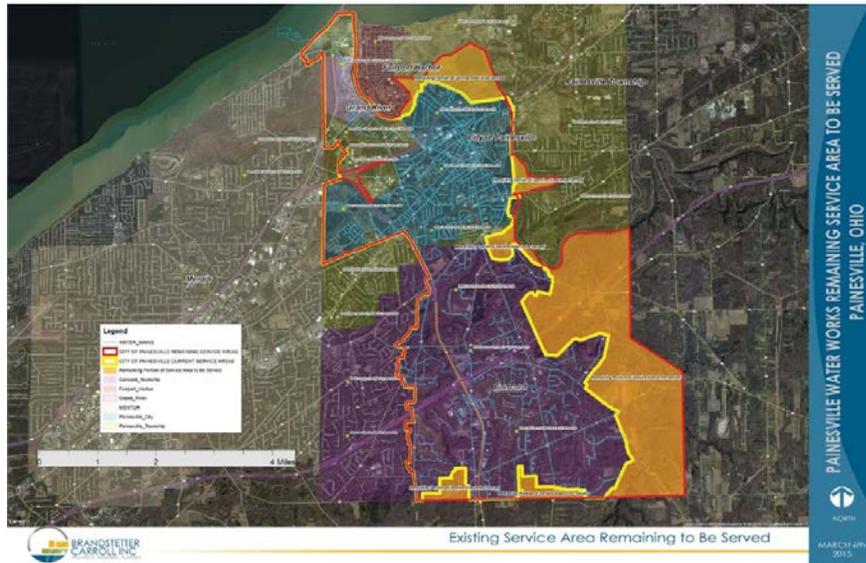


Figure 3, Current and Future Service Area for Painesville's WTP (not to scale shown)

Currently, the city's service area has about 32,000 people. Of these people, most live in Painesville itself (19,900), while the rest live in Concord Township (9,862), Painesville Township (1,160), part of the City of Mentor (314), and Grand River (399). The city's growth projections for its service area indicate that the population should reach 34,279 by 2040, and that demand for its water supply will increase from the current average and peak demand values of 3.27 and 7.96 million gallons per day (mgd) respectively to 4.11 mgd average and the

8.9 mgd maximum day flows by the year 2040. Typically, summer time water use values are higher than winter time usage.

According to the city, there are about 10,400 service connections. Of this total, there are 8300 residential and 2100 non-residential customers in the service area. The city projects its customer base to grow by 85-100 taps per year. If all of this increase were to be associated with new housing, rather than serving existing homes on private wells, under current one-acre zoning, one could expect about 800 acres of land to be converted to residential use by 2040.

3. Discussion of Feasible Alternatives

Upon determining that a no-action alternative would not address the basic problems facing Painesville’s raw water intakes, the city and its consultants reviewed several alternative water main transmission routes (see Figure 4) and mixes of local and regional water sources. These options and their relative costs are presented below in Table 1. As costs were the primary factor in the city’s decision making process, no other criteria (such as non-monetary factors) were considered during the alternatives analysis part of planning.

Table 1. Total 20-Year Life Cycle Costs of City’s Evaluated Alternatives	
Alternative Description	Estimated Costs (rounded to the 1000 dollars from the city’s estimates)
Painesville New Raw Water Intake	\$36,773,000
Raw Water Purchase from Lake County East	\$68,498,000
Raw Water Purchase from Lake County West	\$71,535,000
Raw Water Purchase from Aqua Ohio	\$52,555,000
Finished Water Purchase from Lake County East	\$111,335,000
Finished Water Purchase from Lake County West	\$116,171,000
Finished Water Purchase from Aqua Ohio	\$45,967,000
Notes:	
1. The raw water purchase options assume that greater than 50% of the Painesville service area’s water would come from the repaired 36-inch diameter water intake pipe and the rest would come from either one of the three other options. The costs of repairing (lining to eliminate leaks) and extending the existing intake to make it fully functional are included in the raw water purchase options.	
2. The finished water purchase options assume that the city’s water treatment plant would be converted into a booster station and these costs are included in this estimate. Emergency demands would be addressed by water storage facilities at the WTP and elevated storage tanks.	
3. The city indicates there was no direct specific communication with the adjacent water systems related to these conceptual alternatives. Publicly-available rate information and accessible system maps were utilized for the evaluations of the water purchase options. The feasibility of actually obtaining an agreement from the adjacent water systems, in light of their own future growth needs, was not determined. Specific right-of-way access, space, and spacing considerations were not identified.	

Readers should refer to Figure 4 below for a layout of these various alternatives. As they would not entail any work in Lake Erie, they do not entail any impacts on Lake Erie resources. However, they would possibly require creek crossings that the city’s raw water intake proposal does not involve.

More information on the outcome of the city’s cost-effectiveness analysis of alternatives can be found in the following section.

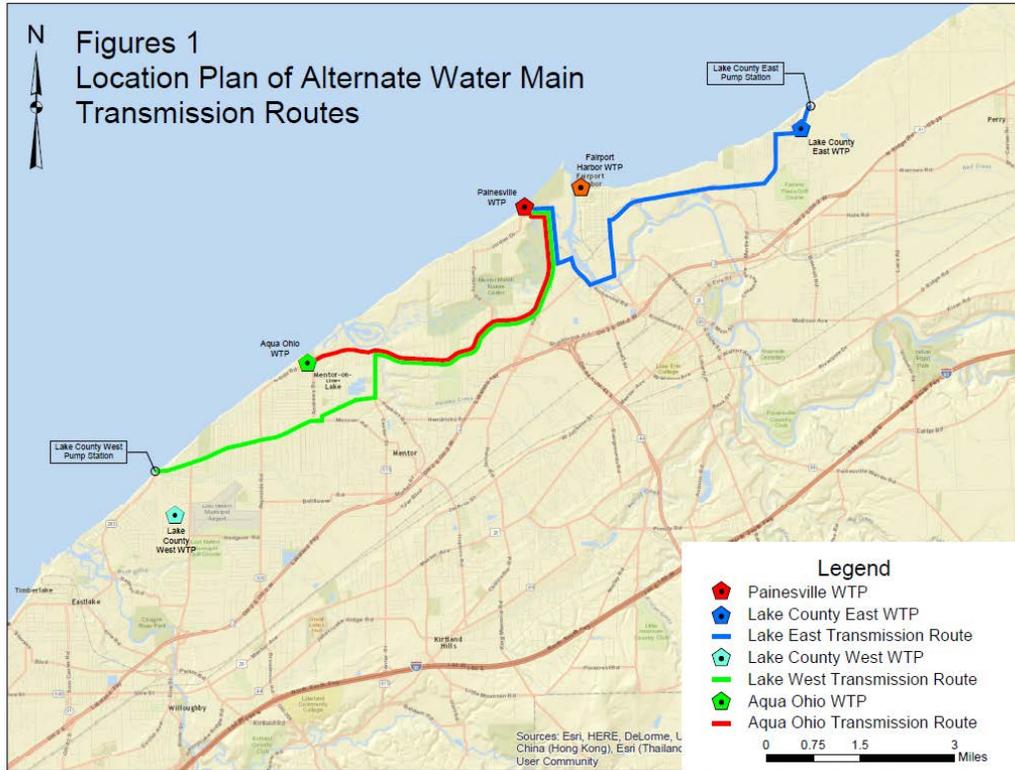


Figure 4, Alternative Service Options (not to scale shown)

4. Selected Alternative

Based on the results of the cost analysis shown in Table 1 and its predecessors, the city selected its preferred alternative to implement. This option consists of constructing a new primary raw water supply via a 36-inch-diameter intake pipe and crib to be laid about 100 feet away and parallel to the existing damaged 36-inch intake, which will then be converted to a secondary intake to supply water to the Painesville WTP raw water pump station. More specifically, the new components include improvements to one existing and two new junction chambers, the new intake pipe and inspection points, new riser pipes and two shallow-depth marker buoys, new intake crib, new chemical feed system, and appurtenances (including new and relocated on-shore water mains and cleaning of existing intake pipes). More information on this aspect of the project can be found below in the environmental impacts section of this document. Currently, the city's WTP occupies about 4.2 acres of land on a 10.15 acre site, leaving about 5.94 acres vacant as shown below in Figures 5 and 6. Of this site where the on-shore work is proposed to be performed, the area consists of a paved parking area, a grassy opening between trees, and a beach. Offshore, the project area generally consists of lake bottom sand and clays.



Figure 5, Proposed Raw Water Intake Location

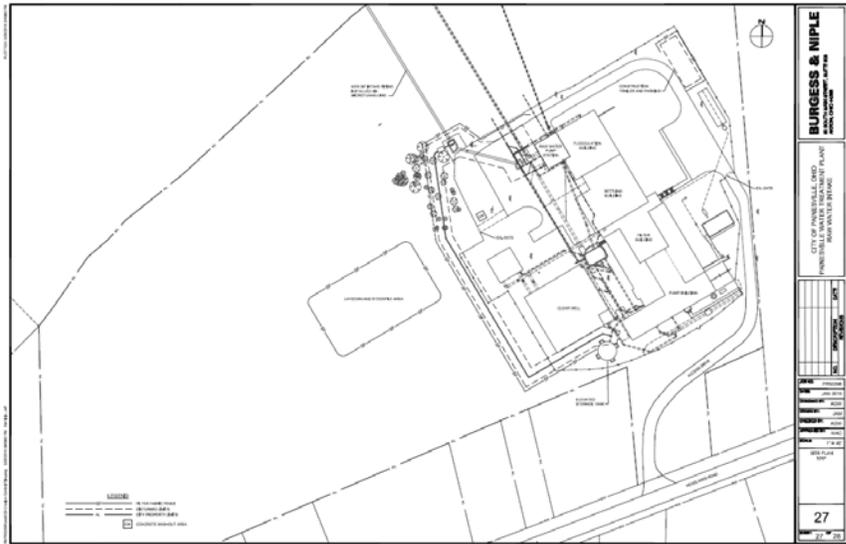


Figure 6, Layout of WTP Site, Contractors' Materials Area, and Other Key Features

The proposed new raw water intake and underwater crib structure will allow the city to clean and televise the existing 36-inch diameter intake pipe (built in 1952), and use it as a reserve raw water intake.¹ Like the two other existing raw water intakes, the city proposes to connect the new intake to its existing raw water pump station through junction chamber improvements that

¹ The city's 24-inch diameter riveted steel intake pipe constructed in 1913, decommissioned in 2010-2011, and briefly put back into service in 2011 as a standby intake will remain out of service permanently. Upon cleaning, this intake may be used temporarily during the construction period if needed and it is feasible.

serve Painesville's WTP. Doing this entire project will also enable the city to avoid hazardous algal bloom (HAB) incidents, storm events, and high turbidity situations in Lake Erie in the future by having new inlets about 4,000 feet offshore and at a depth of 24 feet below the lake's surface. In addition to the piping and junction chamber work, chemical feed systems are included in the project to help deter zebra mussel colonization.

Readers should also note that the city plans to complete additional improvements to address future capacity needs at the WTP. This work will be done as separate projects planned for the year 2021. They include the following programmed improvements needed to reach the 8.9 million gallons per day (mgd) maximum daily flow capacity rating to address future demands:

1. The City will perform a WTP capacity rating evaluation to confirm component capacities and the upgrades necessary to meet the 8.9 mgd future demand.
2. A plan will be submitted for a pilot study to re-rate the existing 10 dual media sand filters to increase surface flows from 2.3 gallons per minute (gpm)/square foot (sf) to 3.0 gpm/sf and thereby increase capacity from 7.5 MGD to 9.6 MGD with one filter out of service.
3. A new meter will be installed on the Morton Salt header to measure Morton's raw water usage.
4. Funds will be allocated to replace the existing raw water flow tubes with new magnetic flow meters to accurately measure water flow pumped to the rapid mix tanks.
5. A "tube settler" retrofit of the existing settling basins will be implemented in the year 2021 at an estimated cost of \$500,000.

Please also note that the city is planning \$400,000 a year in water treatment and distribution system improvements for the next ten years.

D. Project Implementation

The City of Painesville expects to advertise this project for bids soon. The current engineer's estimate is between \$10 and \$12 million, reflecting the extended timeframe and environmental impact concerns that are related on this proposed project, and includes rolling in the planning and design costs previously incurred through the OWDA loan. More specifically, feedback from federal and state government agencies have required schedule adjustments, so as to minimize impacts on fish and wildlife resources found in the project area. As a result, current estimates are for the project to be completed between July and October each year over a two to three year period.

The City of Painesville bills its inside and outside city limits residential water customers on a monthly basis and currently charges a city resident \$2.60 per 100 cubic feet for any usage between 0 and 400,000 cubic feet. The comparable rate for a non-resident is \$3.88 per 100 cubic feet. Using average water usage figures of 674 cubic feet per month provided by the city's finance director suggest that an average residential water customer currently pays about \$17.52 per month, plus a monthly water system infrastructure improvement (meter) fee of \$8 for a 5/8 inch meter, for a total of \$25.52 per month. This monthly combined fee is equivalent to \$306.29 per year for a city resident. For a non-city resident using the same amount of water and

currently paying \$26.15 per month plus the \$8 meter fee, the total monthly fee of \$34.15 is equivalent to an annual amount of \$409.81. In contrast, the annual fee is expected to be \$314.40 in 2020, or about \$8 higher than today, for a city resident. Readers should note that the infrastructure investment (meter) fee expires on June 30, 2026, so that by 2035 when the WSRLA loan is repaid, the city currently expects that its net water rate will have gone down to around \$3.60 per 100 cubic feet, or \$24.26 per month. To conclude, the city's land lease costs, plus any unexpected shortfalls in loan repayment over the life of the WSRLA loan, will need to be covered by tapping into surpluses in the city's water revenues fund or water fee increases. Please note that these costs have factored in the capital costs of projects expected to be needed in 2021. Table 2 below provides a cost breakdown of the city's raw water intake project.

Table 2, Estimated Project Cost Summary (2015-2038)	
Item	Costs
* Construction	\$8,500,000 - \$10,500,000
* Planning, Design, & Construction Services	<u>\$1,500,000</u>
Total WTP Project Costs	\$ 10,000,000 - \$12,000,000
Submerged Land Lease Costs (ODNR)	\$16,353 for 817,644 square feet
Current (Year 2015) Total Annual O,M&R Cost of WTP and Distribution System	\$3,941,838
Estimated Year 2020 (2038) Total Annual O,M&R Costs of WTP and Distribution System following improvements	\$4,681,667 (\$8,696,146 in 2038)
Current (Year 2015) Total WTP and Distribution System Annual Capital Costs and Debt Service:	\$3,247,166
Estimated Year 2020 (2038) WTP and Distribution System Annual Capital Costs and Debt Service:	\$1,962,024 (\$1,992,852) including \$600,000 in new annual debt from this proposed project.
Total Annual Costs	
2015	\$7,189,004
2020 (2038)	\$6,643,690 (\$10,688,998 in 2038)

E. Environmental Impacts of the Selected Alternative

The proposed project discussed in this document involves replacing the city's existing 24" diameter, riveted steel pipe raw water intake and 36" diameter, reinforced concrete pipe raw water intake with a new 36" diameter, pre-stressed concrete cylinder intake pipe, riser pipes, intake crib, chemical feed system, and appurtenances extending about 4,000 feet into Lake Erie (see Figure 7 below). It also includes two on-shore junction chamber improvements and modifications to an existing chamber. The total length of this proposed new intake, including the landward portion between the Lake Erie shore and the city's WTP, is about 4,600 feet and will parallel the existing intakes shown below at a depth of 15-25 feet below the bottom of Lake Erie.

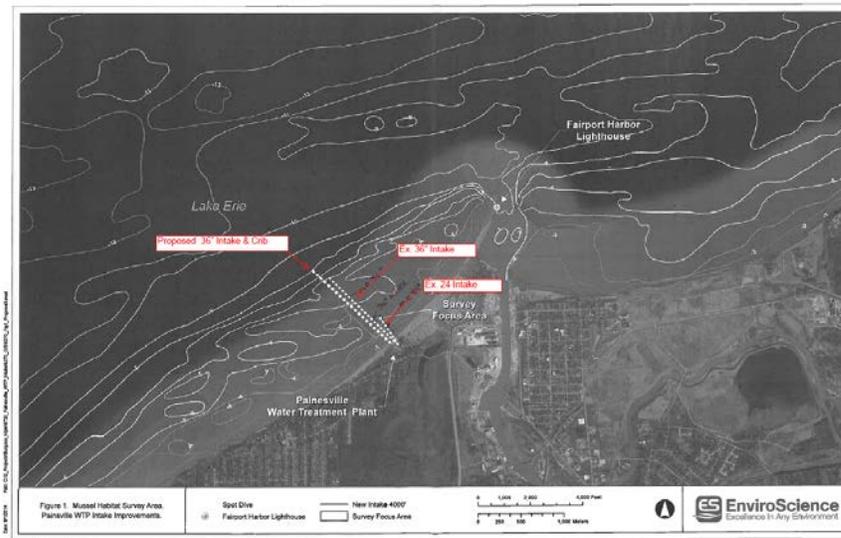


Figure 7, Setting for Proposed Project (not to scale shown)

In addition to the pipe and appurtenances installation, this project entails permanent placement of rock armoring (601 cubic yards) and ballast rock (303 cubic yards) to construct and protect the raw water intake crib structure about 20-30 feet below the ordinary high water mark of Lake Erie (570 feet above mean sea level). As construction of the proposed pipe will entail both micro-tunneling (first 2300 lineal feet of pipe) and open cut trench methods (last 2250 lineal feet in the deeper part of the lake), the city proposes to place about 9700 cubic yards of limestone backfill below the lake bottom to anchor the portion of the intake installed in an open cut trench, followed by backfilling of lake bottom materials. Temporary sidecasting of approximately 34,900 cubic yards of sand and 7,055 cubic yards of clay 100 feet on either side of the 20-foot wide trench below the lake’s ordinary high water mark is also an unavoidable component of the proposed project’s open cut trench section. In contrast, exit and retrieval of the microtunneling machine is expected to involve both limited temporary and permanent placement of fill material from a barge. More specifically, the microtunneling machine’s retrieval pit will require the temporary placement of about 142 cubic yards of limestone backfill, as well as the temporary use of sheet piling, and the permanent installation of about 167 cubic yards of concrete caissons approximately 12 feet below the existing lake bottom to form a temporary coffer dam. This structure is proposed to be placed about 1900-2000 feet from shore.

Rock material used in the existing 24” diameter intake crib, and no longer needed after its demolition as part of this project, will be re-used for construction of the city’s new intake. Any woody material left as part of the crib constructed circa 1913 will be disposed off-site at landfills approved for this purpose. As condition of the nationwide Clean Water Act (CWA) Section 404 permit received for this project, all temporarily placed fill material is required to be restored to a preconstruction condition within 14 days.

As the components of the proposed project just discussed are required to meet the terms and conditions of the Section 404 nationwide permit (#12), CWA Section 401 water quality certification, and the Ohio Department of Natural Resources’ coastal zone certification, these

requirements are incorporated by reference into this EA. Only those specific features of the proposed project described above that relate to the typical parts of our environmental attributes review are summarized below. Readers should note that direct, indirect, and cumulative (development-related) environmental impacts also will be addressed where pertinent.

Lake Erie and its immediate surroundings are the most noticeable environmental resources that will be impacted by this proposed project. However, readers should also refer to the service area map included as Figure 3 on Page 4 as this larger area constitutes the overall setting for this project and any development that may be associated with this project and the city's future plans for water line improvements. For that reason, the sensitive nature of the Grand River and its watershed will be considered below in our evaluation of the proposed project's particular impacts on major categories of environmental attributes. Where there is any potential for direct impacts on any resources in either the human or natural environment, an analysis can be found below, along with a statement of how the potential direct environmental impacts will be reduced to acceptable, temporary levels or avoided in their entirety. Similarly, any potentially indirect, adverse environmental impacts of the project – those associated with private development that is dependent on the completion of this project to proceed – are also identified, evaluated, and, where needed, existing, ongoing local and regional approaches to mitigate these possible impacts are specified. Taken together, these direct and indirect impacts are generally not expected to be adverse or significant when considered in this context. More specific information on individual environmental attributes follows.

1. Topography, Grading Activities, and Soils

Given the narrow focus of this proposed project and the limited area of lakeshore and lake habitat (under 5 acres on land and about 0.5 acres offshore) that will be directly affected, area topography shown on maps of Painesville and vicinity will not be adversely affected by the grading activities that are part of this proposed project. In particular, the use of micro-tunneling and conditioned, subsurface open trench methods (including backfilling) are expected to result in no significant changes to site topography. Since Lake Erie in the immediate project area can be subject to storms that disrupt the lake bottom, the proposed construction activities need to be considered in that context. Viewed in this manner, Ohio EPA expects that the permanent and temporary construction-related impacts on topography will not be adverse or significant.

Any future development of the area shown in Figure 3 is similarly not expected to have any adverse impacts on site topography and soils. The basis for this conclusion is that site development in this area should generally retain the existing topographic conditions.

2. Surface and Ground Water

Surface Water. Lake Erie and the Grand River (see Figure 1) comprise the two largest and most recognizable surface water resources in the immediate project vicinity. As exceptional warmwater habitats, they need to be protected from direct construction-related and other impacts. The following terms and condition of the city's CWA Section 404 Nationwide 12 permit address these possible concerns and together should reduce or avoid most adverse impacts on surface water quality. For example, mechanical equipment shall be operated in a manner to minimize turbidity that could degrade water quality and adversely affect aquatic life. Also, all

erosion and sediment controls shall be in place prior to any grading or filling operations and installation of the proposed intake pipe and related improvements, and be maintained until construction is completed and the area is stabilized. Finally, all fill material shall be free of fines, oil and grease, and other pollutants, and shall contain no broken asphalt. Taken together with these permit requirements, the prohibited construction activities and other general and detail mitigation notes on the plan sheets covering storm water permit related activities are expected to prevent any direct, significant, adverse impacts on surface water resource quality in the project area.

Ground Water. No significant, direct, adverse impacts on ground water resources within the project area are expected. The reason for this conclusion is primarily the location and scope of the proposed improvements. In particular, ground water is not used as a source of drinking water in the immediate project area, and any site dewatering activities will be relatively short-term given the types of work (e.g., 400 feet of microtunneling under the beach) needed to install the raw water intake and the use of open-cut trenches to relocate the two 12" diameter water mains within the WTP site. The measures outlined in the dewatering general and detail notes are expected to minimize any effects the project has on ground water within the project area. This conclusion is based in part on the results of the geotechnical report. The taken soil borings indicate that ground water may be encountered at a shallow depth comparable to Lake Erie's ordinary high water mark of about 573.4 feet above mean sea level (msl), or about 5-10 feet below ground level.

Potential for Indirect and Cumulative Impacts on Surface and Ground Water Resources.

The Grand River watershed, which includes the City of Painesville and the rest of the city's service area, especially parts of Concord Township, is environmentally sensitive. These sensitive aquatic resources include wild and scenic portions of the Grand River, its coldwater and exceptional warmwater habitat tributary streams, and the ground water resources that feed into them. Together, urbanization, land development, increasing impervious surface area coverage, and population growth thus have the potential to alter the hydrology of the watershed and lower water quality in area streams. For this reason, it is important that local governments, such as the City of Painesville and Concord Township, take specific steps to address the potential adverse aspects of development and urbanization. Readers may want to note, therefore, that the City of Painesville and Concord Township are taking the following steps to reduce storm water runoff and the percentage of impervious surface area in the watershed:

1. As part of local activities responding to the findings of Ohio EPA's Total Maximum Daily Load (TMDL) report for the Grand River and its watershed, Painesville officials have been taking an active role in local water quality initiatives. For example, the city's water department supervisor and consulting engineers met with the City Planner (Lynn White) and the City Engineer (Leanne Exum, PE) to discuss Painesville's position relative to local riparian setback ordinances and other options available to address the TMDL report on the Lower Grand River watershed.² They also discussed updating the city's own codes and planning documents with these two officials. More specifically, the city is currently planning an upgrade to its codes and planning documents, including environmental and storm water

² Information on the Lower Grand River watershed TMDL report and implementation activities can be found online at: <http://epa.ohio.gov/dsw/tmdl/GrandRiver.aspx>.

policies, wetland protection, and riparian setback. The city recently upgraded the storm water services they obtain from the Lake County Storm Water Department from Level 1 to 2.

2. Painesville supports the local initiatives of the adjacent local government bodies (such as Concord Township) to protect water quality within the Painesville WTP service area. The city also intends to review the county, township, and nearby community policies in order to promote consistency. In that regard, the city engineer has initiated contacts to obtain information from these entities. Additionally, the city's water superintendent is currently "co-chairing" a surface water protection work group that includes representatives from Northeast Ohio Areawide Coordinating Agency (NOACA), The Nature Conservancy, Lake County Soil and Water Conservation District, and other local interested parties. The group is working to produce the first surface water protection plan for the Lake Erie area.

3. Concord Township is in the process of updating its comprehensive plan, and, as part of its work, is considering adding a wetlands and riparian area setback ordinance to its local environmental protection toolkit. Concord Township is one of the jurisdictions in the area served by NOACA that does not have a riparian area setback provision in their existing codes.

These assurances, while meaningful, do not guarantee that development of the service area shown in Figure 1 and the possible resulting increases in impervious surface area and changes in watershed hydrology will not have an impact on area water quality. However, they offer a local path forward to addressing these concerns and suggest how the indirect and cumulative impacts of urbanization and development can be avoided or reduced. On this basis, and the results of the Lower Grand River flow regime³ TMDL studies, we conclude that there are measures in place that can prevent significant, adverse impacts on coldwater habitat and exceptional warmwater habitat streams from occurring in the long-term as the service area population increases and residential development approaches a build-out condition over the next twenty years.

3. Aquatic, Terrestrial, & Critical Habitat, including Floodplains and Wetlands

In terms of direct environmental impacts on aquatic, terrestrial, and critical habitats, the main focus during project planning has been on the aquatic (off-shore), terrestrial (shoreline), and suitable (endangered species) habitats. Ohio EPA and other review agencies, such as the Army Corps of Engineers, the United States Fish and Wildlife Service, and the Ohio Department of Natural Resources, have conditioned their approval of the proposed project on the following aspects related to these three attributes:

1. No in-water work will be performed between April 15 and June 30 to preclude adverse impacts on the spawning activities of native fish species, including such interjurisdictional species as the burbot, a state listed species of concern found in Lake Erie near Fairport Harbor.

³ A flow regime TMDL approach uses reference streams attaining water quality standards as a baseline condition. The goal is to restore non-attaining streams to a more natural pattern under low-flow and high-flow conditions.

2. As the proposed project lies within the range of the piping plover, a federally endangered species, (as well as the red knot's, a proposed federally threatened species) and suitable (beach) habitat used during migration of this species is present in the project area (see photo sequence below), any work that is authorized by a CWA Nationwide 12 permit and that may normally result in a disturbance to the beach cannot occur during two periods: April 1 – May 31 and July 15-October 31. By using microtunneling techniques over the 400 foot distance between the city's WTP site and Lake Erie's ordinary high water mark, no surface disturbance of sensitive beach and dune habitats will result, and the terrestrial part of the project can be constructed without violating these terms and conditions.

3. A Coastal Zone Management Plan certificate from ODNR's Office of Coastal Management indicating consistency with the plan must be obtained prior to initiating construction of the proposed project authorized by a Nationwide 12 permit. Before construction on this proposed project can proceed, certifications under both the Ohio Department of Natural Resources (ODNR's) coastal zone management and Ohio EPA's water quality certification programs are needed. As Ohio EPA's WSRLA program is also required to make a finding of no significant impact on coastal resources as part of its environmental review, it will require that the appropriate certifications prior to construction start be issued. As these approvals are also a requirement of the Army Corps of Engineer's CWA Section 404 permit program, our conclusion that the proposed project will not have any significant, direct or indirect, short-term or long-term adverse impact on coastal resources is premised on the city complying with the requirements of these ODNR, Ohio EPA, and Army Corps of Engineers reviews.

4. All mechanical equipment used during this proposed project shall be operated in such a way as to minimize turbidity that could degrade water quality and adversely affect aquatic life. For example, the city expects that a barge supported excavator will be used to dig the open-cut trench where the pipe will be placed, and construct the foundation for the risers and intake cribs within the lake portion of the project; microtunneling equipment will complete the majority of the landward pipe laying task. By using a temporary silt curtain system to manage silt dispersion during construction of the lake portion of the project, turbidity is expected to be kept to levels that will reduce impacts to aquatic life. With this and other environmental impact mitigation provisions in place, and given the proposed project's setting (including no native mussels), no significant, adverse direct environmental impacts on these aquatic and beach habitat types are expected.



Photo 1: Looking north along proposed new raw water intake pipe alignment. Proposed intake will extend approximately 4000 ft into Lake Erie. All elements of the intake structure (onshore and offshore) will be buried or submerged. Mussel habitat survey completed in August 2014 revealed no suitable habitat or specimens of native freshwater mussel species in offshore portion of the alignment.



Photo 2: Looking west along Lake Erie shoreline from proposed alignment.



Photo 5: Looking southeast along proposed intake alignment toward WTP.



Photo 6: Looking northwest along proposed intake alignment from proposed terminus at WTP.

In addition to these provisions, an additional positive feature of this proposed project is that no tree removal is needed to construct it. On this basis, no significant, adverse direct environmental impacts on the wooded terrestrial habitat adjacent to the WTP site, or the species they could support (such as bald eagles, Indiana bats, and Northern long-eared bats) are expected.

Indirect and cumulative impacts from urbanization on these environmental (habitat) attributes are possible and are expected to be similar to those that would affect surface water resources. For the reasons cited above under the surface and ground water part of this document, the other than direct impacts are expected to be insignificant and not adverse. In particular, when viewed in the context of the Lower Grand River TMDL project activities, the growth potential of Concord Township, and the likelihood that Lake County Metroparks properties will be land-locked during the next 20 to 30 years, the flow regime TMDL activities take on more importance.⁴ These local efforts to protect stream and wetland habitats should help address how concerns about increasing storm water runoff and impervious surface area over the next 20-30 years will be mitigated. Accordingly, these assurances are the basis for our conclusion that the possible indirect and cumulative impacts should not become significant, adverse ones.

Floodplains. Based on a review of the proposed project components by Ohio EPA, no significant, direct, adverse effects on floodplain features will result from this project. This conclusion was reached by comparing the existing ground level elevations at Painesville's WTP to the existing flood insurance rate map (see Figure 5 above). As shown, the WTP site and proposed improvements are located mainly above the 100-year (Zone AE) elevation of 575.9 feet msl and the 500-year floodplain (Zone X) at 576.5 feet msl. Only the proposed new junction chamber #3 is located within Zone X. All other proposed improvements will be below ground and so have no direct effect on Lake Erie's floodplain. Finally, by requiring that no excavated material be placed within the 100-year floodplain, the city has assured that these construction activities will have no adverse effects on floodplains.

In terms of managing the proposed project's potential indirect and cumulative effects on Lake Erie and stream floodplains in the service area, the city and township zoning, floodplain regulations, and comprehensive plans are expected to be sufficient to guide development to appropriate locations, and so assure that no significant, adverse impacts result during residential development projected to occur in keeping with area zoning. On the basis of all of

⁴ A flow regime TMDL approach uses reference streams attaining water quality standards as a baseline condition. The goal is to restore non-attaining streams to a more natural pattern under low-flow and high-flow conditions.

these findings, no significant, adverse, direct or indirect impacts on floodplain resources are expected to result from this project.

4. Land Use (including Open Space and Agriculture)

No land use changes are expected to occur as a direct result of the proposed raw water intake project. What is open space/natural habitat and dedicated to the city's WTP within the 10.15 acre site will remain so. Thus, no significant, adverse direct environmental impacts on land use or agricultural lands are expected in the vicinity of the city's WTP.

In terms of indirect and cumulative impacts, Painesville and Concord Township zoning will direct future residential development in the service area shown in Figure 3. One acre lot zoning, as shown below in Figure 8, will apply. Put in the context of our previous surface and ground water findings, the land use changes projected to occur in the service area that this project can support are not considered to involve any significant, adverse indirect environmental impacts. Similarly, as this project does not entail any indirect conversion of farmland, Ohio EPA has concluded that no significant, short- or long-term adverse impacts on agriculturally productive land will accompany it.

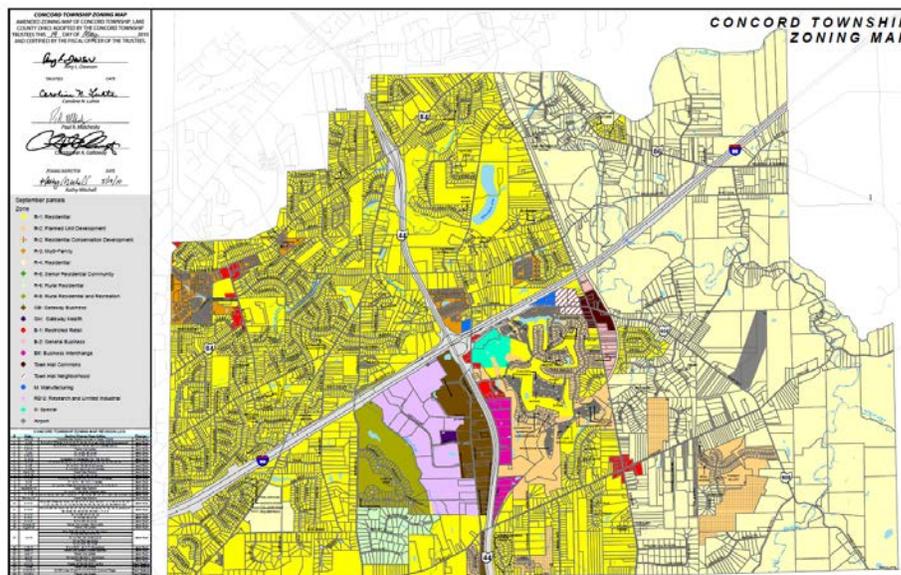


Figure 8, Current Concord Township Zoning

5. Air Quality

This proposed project is expected to entail the use of truck and a barge-mounted dredge to perform the construction activities along the shore of Lake Erie. In this context, the work needed to install the proposed improvements will take two to three years of intermittent work, and so any effects on air quality through locally increased levels of vehicle exhaust or dust should be short-term and minimal. In the long-term, expected population growth and residential development may bring long-term air quality effects to the area around Painesville.

Accordingly, any significant adverse short- or long-term impacts on air quality will be addressed by enforcement of Clean Air Act standards. Currently, Lake County is in full attainment of air quality standards for all six major criteria air pollutants, except for 8-hour ozone (marginal non-attainment) and 1-hour sulfur dioxide. While proposals are apparently not yet in place to address the marginal ozone non-attainment condition in northeast Ohio, Ohio EPA expects that reductions at the Painesville Municipal Power Plant (combined with the permanent shutdown of the Eastlake Power Plant) will result in attaining the sulfur dioxide standard.

6. Noise, Traffic, and Aesthetics

Similar to local air quality conditions, intermittent impacts on local noise, dust, and odor levels and traffic patterns over the next two to three years near the city's WTP will be necessary to construct the proposed project. However, with the mitigation typically included on projects such as this to control noise, dust, and odors associated with heavy motorized equipment and to help direct traffic near the entrance to the work site, any intermittent noise and traffic impacts during the construction period are expected to be minimal and generally insignificant. This conclusion was reached in part on the relatively isolated location of the city's WTP. In terms of aesthetics, the city's WTP is not very visible from Lake Erie or adjacent properties as a result of the trees that screen it from view. As no tree removal is proposed during this project and the improvements will be constructed on the north side of the property, area aesthetics will be unaffected and so no significant, direct adverse impacts on this environmental attribute are expected short-term.

In the long-run, noise, dust, odors, traffic, and aesthetic conditions will either return to a pre-construction condition or improve upon this project's completion within an urbanized area. For these reasons, no significant, direct adverse short- or long-term impacts to noise, dust, odors, traffic, or aesthetics are expected to accompany this project. Future development, any related aesthetic changes, and increases in noise and traffic that may occur are expected to be mitigated by implementation of county comprehensive land use and related plans.

7. Energy Use

The nature and amount of energy needed during the construction activities associated with the proposed site restoration project are expected to be consistent with other projects of this type. In that sense, the energy used (in the form of fossil fuels) will be limited to that associated with heavy construction equipment operating intermittently on-site or on Lake Erie to install the proposed raw water intake improvements described in the preceding pages over the next two to three years. With the reduced or discontinued use of the city's two other raw water intakes upon completion of this proposed project, the long-term expectation is that energy use will decrease and the WTP's operation will be more efficient. This in turn can have a benefit for the sulfur dioxide emission levels in the project area (see air quality section above). On that basis, no short- or long-term adverse environmental impacts on energy resources are expected to occur during this project, or after the new intake goes on-line in about three years.

8. Archaeological and Historical Resources

During the preparation of the CWA Section 404 permit, the city and its consultant coordinated with the Ohio Historic Preservation Office (OHPO) on this project. They concluded that because “all project elements will be submerged or buried upon completion of the project; no permanent landscape or building changes will result from construction of the project; onshore and nearshore elements of the intake (first 1,500 ft) will be microtunneled or directionally drilled in order to avoid disturbing beach and dune environments, and so avoid open excavation in turbulent nearshore zones; construction activities are not expected to be publicly visible from or otherwise adversely impact previously documented historic properties in the area of potential effect.” OHPO’s finding was that “the project footprint does not appear to have a high probability for archaeological deposits,” and that “the proposed project will not affect historic properties.” Accordingly, Ohio EPA concludes that the proposed project will have no effect on archeological or historic resources.

However, should any resources of these types be discovered, the Section 404 permit requires that the city complete the following steps:

1. Immediately cease work and make a reasonable effort to refrain from disturbing or removing the site, protect the site from inclement weather or other possible activities, and immediately contact federal and state authorities (Army Corps of Engineers, Ohio EPA, and OHPO).
2. Follow applicable guidance from OHPO on the treatment of these types of discoveries.

9. Local Economy

For the reasons cited before, this project alone is not expected to require the city to raise its water rates over the life of the WSRLA loan. In fact, the city anticipates that it actually may be able to lower its net water rates by 2038, when the WSRLA loan is repaid. On this basis, the proposed project will have no long-term adverse socio-economic effects on City of Painesville or Concord Township residents, and no discernible adverse impact on the local economy of the city. Ohio EPA reached this conclusion because the projected annual water supply fees in 2020 are expected to be \$314.40, or about \$8 higher than today, for a city resident. This annual fee is only about 0.88% of the city’s current median household income (MHI) of \$35,536. In 2038, water rates are expected to result in annual fees of about \$291 per year, or 0.82% of the current MHI in Painesville.

F. Public Participation

Among other public notification and involvement activities, the city held a public meeting on the proposed project on April 6, 2015 and gave service area residents and city council members an opportunity to learn more about the planned intake improvements. As well, this meeting provided an opportunity for the five residents attending to ask questions about the proposal. On this basis, Ohio EPA has concluded that the City of Painesville provided affected service area customers with an opportunity to participate in the city’s decision making process, to receive

answers to their questions, and has met the WSRLA program's public participation requirements.

The following agencies have reviewed and were given an opportunity to comment on the proposal to finance the proposed raw water line improvements project described in this document and which constitute the city's WSRLA project:

Ohio Department of Natural Resources	Ohio Environmental Protection Agency
Ohio Historic Preservation Office	U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service	

None of these agencies oppose the proposed WSRLA funding of this project.

During the environmental review of this overall project, the city, its consultant, and Ohio EPA coordinated fully with the listed state and federal review agencies. As a result of this coordinated effort to address review agency comments about possible adverse impacts as early as possible, changes were included in the project before final design was completed and submitted to Ohio EPA for detail plan and specifications review. Any other concerns were addressed by city officials during the planning for this project.

G. Reasons for a Preliminary Finding of No Significant Impact

Based upon our review of the city's project planning information and the materials presented in this Environmental Assessment, Ohio EPA has concluded that there will be no significant adverse direct impacts from the proposed project as it relates to the environmental features discussed previously. Through avoidance of the most environmentally sensitive areas and the use of mitigative measures described in this document, the impacts from the proposed construction activities should generally be relatively short-term and insignificant. Under the city and township efforts underway to address water quality concerns in the lower Grand River watershed, no significant, adverse indirect or cumulative impacts from this project and the accompanying plan are expected. Overall, this project is expected to have a lasting human health benefit for current and future users of the City of Painesville's drinking water treatment and distribution systems, and be consistent with local and regional planning efforts.

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