



GRETCHEN WHITMER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY  
LANSING



LIESL EICHLER CLARK  
DIRECTOR

April 22, 2022

TO: All Interested Citizens, Organizations, and Government Agencies

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT  
**Village of Onsted, Lenawee County  
Water Main and Lead Water Service Replacements  
Water Treatment and Well Improvements  
Drinking Water State Revolving Fund Project Numbers: 7624-01 and 7625-01**

The purpose of this notice is to seek public input and comment on a preliminary decision by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) that an Environmental Impact Statement (EIS) is not required to implement recommendations discussed in the attached Environmental Assessment of a water supply project plan submitted by the applicant mentioned above.

#### **HOW WERE ENVIRONMENTAL ISSUES CONSIDERED?**

Part 54, Safe Drinking Water Assistance, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, being Sections 324.5401 to 324.5418 of the Michigan Compiled Laws Annotated, requires EGLE to evaluate all environmental implications of a proposed water supply project. EGLE has done this by incorporating a detailed analysis of the environmental impact of the proposed alternatives in its review and approval process. A project plan was prepared by the applicant and reviewed by the State. EGLE has prepared the attached Environmental Assessment and found that the proposed project does not require the preparation of an EIS.

#### **WHY IS AN EIS NOT REQUIRED?**

Our environmental review concluded that no significant environmental impacts would result from the proposed action. Any adverse impacts have either been eliminated by changes in the project plan or will be reduced by the implementation of the mitigative measures discussed in the attached Environmental Assessment.

#### **HOW DO I GET MORE INFORMATION?**

A map depicting the location of the proposed project is attached. This information is also available on our website at [Michigan.gov/DWSRF](http://Michigan.gov/DWSRF) under "Related Links." The Environmental Assessment presents additional information on the project, alternatives that were considered, impacts of the proposed action, and the basis for our decision. Further information can be obtained by calling or writing one of the contact people listed below.

### **HOW DO I SUBMIT COMMENTS?**

Any comments supporting or disagreeing with this preliminary decision should be submitted to me at EGLE, Constitution Hall, P.O. Box 30457, Lansing, Michigan 48909-7957. We will not take any action on this project 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 applicant will then be eligible to receive loan assistance from this Agency to construct the proposed project.

Any information you feel should be considered by EGLE should be brought to our attention. If you have any questions, please contact Mr. David J. Worthington, the senior project manager, at 517-554-1835, by email at [Worthingtond@michigan.gov](mailto:Worthingtond@michigan.gov), or you may contact me. Your interest in this process and the environment is appreciated.

Sincerely,



Kelly Green, Administrator  
Water Infrastructure Financing Section  
Finance Division  
517-284-5433

Attachment

**DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY  
DRINKING WATER STATE REVOLVING FUND  
VILLAGE OF ONSTED, LENAWEE COUNTY  
WATER MAIN AND LEAD WATER SERVICE REPLACEMENTS  
WATER TREATMENT AND WELL IMPROVEMENTS  
ENVIRONMENTAL ASSESSMENT  
APRIL 2022**

**I. PROJECT IDENTIFICATION**

**Applicant:** Village of Onsted

**Address:** 108 South Main Street  
Onsted, Michigan 49265

**Authorized Representative:** Mr. Sam Lafata, Village President

**Project Numbers:** 7624-01 and 7625-01

The village of Onsted (Onsted) is seeking two DWSRF low interest loans to finance the construction of water treatment and well improvements, water main upgrades, and lead service line replacement (LSLR) throughout the village. Onsted is in Lenawee County in south central Michigan.

A study area has been delineated that incorporates the village's water service area limits (See Figure 1). The service area consists of the water system components installed from 1945 to 1970. The project limits start at the western edge of the water system on Slee Road approximately 950 feet (FT) west of Maple Street (Maple). The limits continue east to Maple then north along Maple to Main Street (Main). The limits continue north on Main to approximately 357 FT north of 4th Street (4<sup>th</sup>). The project limits continue east to Connor Street (Connor) then south to 1st Street (1<sup>st</sup>). The limits then head southeast from 1st and Connor to the 4th and Stoli Court intersection then south to Slee Road (Slee). The project limits continue west along Slee to Onsted Highway (Onsted Hwy) then south approximately 950 FT to the South Water Plant (SWP). The limits continue north on Onsted Hwy then west to the starting point.

The following projects are targeted for construction in 2022:

- Water main and LSLR on 1st, 2<sup>nd</sup>, and 3rd Streets
- A new Aeralater treatment unit inside the existing building at the SWP and a raw water line from the Park Plant's (PPs) existing wells to the SWP.

The total project cost is estimated to be \$3,760,000 which may result in a billing increase from approximately \$87.90 per quarter to approximately \$122.85 per quarter for the average residential user. This is a worst-case scenario, as actual rate changes may be smaller since Onsted qualifies for up to \$2,018,100 in grants and principal loan forgiveness.

**II. PROJECT BACKGROUND**

**A. Existing Facilities**

Onsted's existing distribution system contains 18,231 linear feet (LF) of 6-inch diameter water main, 8,874 LF of 8-inch diameter water main and 1,141 LF of 10-inch diameter

water main. There are 50 fire hydrants and 74 isolation valves. System pipe material is approximately 50 percent cast iron, 3 percent ductile iron, and 47 percent polyvinyl chloride. 15 percent of the system is less than 20 years old; 23 percent of the system is 20 to 30 years old; 10 percent is 30 to 40 years old; 10 percent of the system is 40 to 50 years old; and 19 percent of the system is 50 to 60 years old.

Onsted's system was first constructed in 1945. There are 358 known water services. 148 services are connected to the water lines installed after 1970 and likely do not contain lead. 210 services are connected to water main installed prior to 1970 and likely contain lead.

Water is provided by three 8-inch diameter wells. Well 1, installed in 1945, has been abandoned. The current firm well capacity of the system is 353 gallons per minute (GPM). The permitted firm capacity is 454 GPM. Following completion of Well 5, the permitted firm capacity will increase to 704 GPM. The system has two iron removal plants (PP and SWP). Wells 2 and 4 are located at the PP site and Wells 3 and 5 are located on the SWP site. The PP was installed in 1947 and is a pressure treatment system with a capacity of 50 GPM. The SWP was installed in 1985 and is an aeration/filtration treatment system. In 2021, the filter media was replaced, increasing the treatment system capacity from 200 GPM to 300 GPM.

The existing system has two storage tanks. The north tank is located at the PP and has a capacity of 57,800 gallons (GL). The south tank is located at the SWP and has a capacity of 150,000 GL.

## **B. Project Need**

The Main water main is part of the original system constructed from 4th north to the village limits is part of the original system installed in 1945 and is 6-inch diameter cast iron pipe. The water main from 4th south to Slee is part of the 1960 system expansion and is 6-inch diameter cast iron pipe. The entire section of water main on Main was backfilled with existing soils. These soils are corrosive to cast and ductile iron water main. Over the last 60-70 years the water main has lost thickness due to corrosion. The iron pipe is no longer capable of resisting the pressures of the system. The water main is averaging 5-6 breaks per year and is held together with repair bands.

The existing water main along Main has substantially failed. Each time the water main experiences a break, the water is turned off reducing pressure to less than 20 pounds per square inch. This results in a boil water notice and an increased risk of contamination to the water supply. This also causes iron and sediments to become resuspended in the water supply creating aesthetic concerns for the consumers.

Michigan updated Act 399 modifying the requirements for water service lines. These new rules are commonly referred to as the Lead Copper Rule (LCR). Beginning in 2021 known lead service lines must be removed at a rate of 5 percent per year and be complete within 20 years. Municipalities are required to complete a full-service inventory of all unknown lines by 2025.

The existing PP has exceeded its useful life and is currently failing. The building is structurally unsound and cannot be repaired. The existing electrical system does not meet current code and is not safe to maintain. The existing pipes and treatment units are corroded beyond repair and parts are not available for maintenance. The ground storage tank is in poor condition and a fence has been installed around the perimeter to protect the public from falling concrete. The plant is rated as an extreme risk and will fail soon.

Once the PP fails, Wells 2 and 4 will no longer be able to be used to pump water to the system. When the SWP needs to be taken offline for maintenance, there will be no additional treatment available. Having two treatment systems provides reliability when one system is removed for maintenance or repair.

### C. Population Projections

Onsted's population is approximately 962, which is a slight increase from 2000 when it was 813. Table I shows the historic population figures and the projected increase of one percent over the next 20 years.

<b>Year</b>	<b>Population</b>
2000	813
2010	917
2020	962
2030	1,039
2040	1,122

## III. ALTERNATIVES ANALYSIS

The following water system alternatives were considered:

### A. No Action

Under the no action scenario, the treatment plant deficiencies and distribution system pipes would not be improved, and existing lead service lines would remain in service. Public health would be at risk from the water supply and distribution inadequacies and the village would be in noncompliance with the LCR. No action is unacceptable.

### B. Regional Alternative

Onsted is in the heart of The Irish Hills, a mostly rural area known primarily for tourism. The nearest communities with water supplies are the village of Brooklyn (Brooklyn) and the village of Addison (Addison). Both are located approximately 8 miles away. A preliminary cost estimate indicates it would cost over \$8,000,000 to provide water service to Onsted from Brooklyn or Addison. Connecting to a regional system also would not address the many deteriorating components of the Onsted water system. This alternative was rejected as not cost-effective.

### C. Distribution System Improvements w/ Lead Service Line Replacements

Onsted evaluated water main replacement using the following construction methods:

#### 1. Cured-in-Place Pipe (CIPP)

CIPP is used to rehabilitate existing water mains by lining the walls of the existing pipe with a hardened synthetic fiber tube. Hardening of the resin-soaked fiber tube is achieved using steam or hot water, depending on the specific manufacturer's process. Once the liner is completely cured, the laterals are reconnected by cutting and reaming the liner with specialized robotic equipment.

## 2. Directional Drilling

Drilling is the process of using a small, steer-able steel pipe that is guided under the soil to create a pilot hole. The pipe is guided by above-grade monitoring equipment that tracks the depth and location. Once the guided head reaches its location, the host pipe is attached and pulled back through the pilot hole.

## 3. Open-Cut Method

The open-cut trench method involves excavating a trench down to the appropriate line and grade and placing the pipe. The trench is then backfilled with appropriate material and a paving course is placed on the surface.

### **D. Treatment System Alternatives**

The existing PP has exceeded its useful life and needs to be demolished. The Village has three alternatives to consider for replacement of the PP.

#### **Alternate A: SWP Expansion with Packaged Iron Removal System, Well Pump Improvements, and High Service Pump upgrades.**

This alternative installs a new 300 GPM iron filter at the SWP, replaces the well pump for Well 4, adds an additional well pump for Well 5, and replaces the high service pumps with higher rated pumps. The high service pumps will need to be replaced to maintain adequate pressure throughout the system. The existing treatment building will be modified to allow the placement of a new treatment system. The existing wells at the PP will be abandoned. This will reduce the firm capacity of the well system to 204 GPM. This improvement will increase the firm capacity of the treatment system from 50 GPM to 300 GPM. This will allow the treatment system to meet the 20-year projected max day demand but the firm well capacity will not meet future max day demands.

#### **Alternate B: SWP Expansion with Packaged Iron Removal System, Well Pump Improvements, High Service Pump upgrades, and a raw water line installation.**

This alternative installs a new treatment system, upgrades the SWP, and installs a new raw water line from the PP to the SWP. The existing well pumps at the PP will be replaced and the electrical system will be upgraded to current electrical code. The existing pumps at the PP do not have the required head to supply water to the SWP. The pumps will need to be high-head pumps to pump water to the SWP. This alternative will continue to provide firm capacity of the treatment system at 300 GPM and increase the firm capacity of the wells from 204 GPM to 704 GPM. This will allow the system to meet the projected 20-year max day demand.

#### **Alternate C: Installation of a new treatment system at the PP and well pump improvements.**

This alternative will install a new 300 GPM packaged treatment system in the PP, upgrade the well pumps, and bring the electrical system up to code. This alternative will continue to provide firm capacity of the treatment system at 300 GPM and increase the firm capacity of the wells from 335 GPM to 704 GPM. This will allow the system to meet the projected 20-year max day demand.

#### **IV. DESCRIPTION OF PROPOSED PROJECT**

The open cut method (alternate 3) was the chosen alternative for the water main replacement. The open cut method was chosen as it was the best financial option and was the best option to implement. This option will provide the least amount of cost to the Village, minimize disruption to the users, and best meet 10 state standards. The water main will be installed in the shoulder or tree lawn along Main. The water main will be installed in the south landscaped area outside the pavement limits on 1st. The water main will be installed on 2nd and 3rd to meet 10 state standards while minimize disruption to users and avoiding existing utilities. In addition, full removal and replacement of lead services lines is included in the alternative as it is required by state law. Materials and construction methods will meet the most current edition of the Michigan Plumbing Code.

With the existing PP demolished, Onsted's selected treatment alternative is to install a new Aeralater treatment unit inside the existing building at the SWP site and run a new raw water line from the existing wells at the PP to the SWP (Alternative B). While not the cheapest option, this alternative was selected as it will provide the necessary firm capacity to meet the 20-year projected max day demand. Even with a new well at the SWP, the plant would not have enough firm capacity to meet the project 20-year demand. The existing building has a garage that is no longer needed for storage. The existing wall separating the building from the garage will be removed and the garage will be weather proofed to allow the additional unit to be placed. The existing piping will be reconfigured to connect the treatment unit into the system. The high services pumps will be replaced with larger pumps. The pumps will be sized to provide and maintain the required pressure and flow throughout the system. The existing well pump at the PP will be replaced and the electrical services updated to meet current code requirements. The wells will be connected to a new raw water line. The well pumps will be sized properly so water can reach the SWP treatment units. This line will be installed up 2nd to Main. It will follow the proposed water main on Main south to Slee. The raw water main will continue south on Main (Onsted Hwy) until it reaches the SWP. The line will be connected to the existing raw water line at the SWP.

Table II shows the breakdown of the project cost, which totals \$3,760,000.

<b>Table II. Project Cost Estimate</b>	
<b>Description</b>	<b>Estimated Cost</b>
Main Water Main Replacement	\$1,468,000
LSLR	\$685,000
Treatment and Well Improvements	\$1,607,000
<b>Totals</b>	<b>\$3,760,000</b>

#### **Project Schedule and Implementation**

The proposed project is expected to be financed with two 40-year loans at 1.875 percent interest from the Drinking Water State Revolving Fund administered by the Michigan Department of Environment, Great Lakes, and Energy. The first loan will cover the costs associated with LSLR totaling \$685,000. Onsted is expected to receive \$579,000 in Water Infrastructure Fund Transfer Act principal loan forgiveness as the DWSRF is offering loan forgiveness to disadvantaged applicants' construction portion of the LSLR project. The second DWSRF loan is expected to be for \$2,152,500. This project has also qualified for a Drinking Water Infrastructure Grant not to exceed \$922,500 as well as up to \$516,600 in principal loan forgiveness for being designated as a disadvantaged community.

Typical average rates for a water customer are about \$87.90 per quarter. A rate increase of approximately \$34.95 per quarter would be needed to service the DWSRF debt and pay for operation and maintenance, resulting in an average quarterly cost of \$122.85 for a typical home. However, this is a worst-case scenario that does not account for the grant and loan forgiveness Onsted is eligible to receive.

Onsted anticipates starting construction shortly after the DWSRF loan closing on August 29, 2022. Construction is expected to require one to two years to complete, with improvements operational by late 2023 or early 2024.

## **V. ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION**

### **A. Description of Affected Environment**

#### Cultural Resources

No historic properties are found in Onsted and so it is concluded that no historic or archeological resources will be affected by the proposed project. If artifacts or archaeological materials are discovered work will stop immediately and a state certified archaeologist will be contacted for guidance.

#### Wetlands/Floodplains/Surface Waters

All projects are located above the high-water mark. No adverse impacts on wetlands, floodplains or surface waters are anticipated. A routine drain crossing permit will be required for the water main on Main Street.

#### Endangered Species

The United States Fish and Wildlife Service was consulted, and it was determined that no threatened or endangered species, critical habitat, or special natural features will be adversely affected.

#### Social Impacts

The proposed project will have a small cost impact to residents. Onsted carefully weighed all alternatives to select the most cost-effective solution for correcting the problems occurring in the areas described. Public health will be protected by eliminating lead service lines.

The creation of jobs during construction phase would be a short-term benefit.

### **B. Mitigation Measures**

Impacts of construction activities associated with the project are considered short-term disruptions, that for the most part, will not extend beyond the construction period. Structural and non-structural measures that avoid, eliminate, or mitigate adverse impacts to the environment have been identified. Work will be confined to designated work hours, minimized on weekends or holidays, and all equipment will be required to have proper exhaust systems and mufflers to mitigate noise impacts. Mitigation measures to minimize the negative effect of dust from construction will be utilized. A soil erosion and sedimentation control permit from Lenawee County will be required. All areas disturbed by construction will be restored to existing conditions with compacted backfill, sand, gravel, and asphalt or concrete surfacing. Seeding and mulching will be performed



promptly following land disturbance. Significant plants, such as trees and shrubs, will be protected from damage or replaced if damage is unavoidable.

**VI. PUBLIC PARTICIPATION**

A public hearing on the DWSRF project plan was held on June 14, 2021. The hearing was advertised in *The Exponent*, a local Lenawee County newspaper. A copy of the draft plan was made available for a 30-day period at the village hall prior to the hearing. Questions from the public were answered, but no changes were made to the project because of the hearing. On June 28, 2021, the village council passed a resolution adopting the final project plan and its selected alternatives.

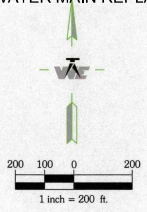
**VII. REASONS FOR CONCLUDING NO SIGNIFICANT IMPACTS**

Expected adverse impacts from the proposed project appear to be minor or largely temporary in nature. There is a social cost to paying for the water system upgrade and operating and maintaining the system. However, completing this upgrade results in increased reliability, minimizes risk to public health and the environment from lead contamination, and protects drinking water quality. It is believed that these beneficial impacts significantly outweigh the minor temporary negative impacts.

Questions regarding this Environmental Assessment should be directed to:

Mr. David J. Worthington, Senior Project Manager  
Water Infrastructure Financing Section  
Finance Division  
Michigan Department of Environment, Great Lakes, and Energy  
P.O. Box 30457  
Lansing, Michigan 48909-7957  
Telephone: 517-554-1835  
E-Mail: [Worthingtond@michigan.gov](mailto:Worthingtond@michigan.gov)

**PROPOSED MAIN STREET WATER MAIN REPLACEMENT**



**ZONING LEGEND**

- AGRICULTURAL
- SUBURBAN RESIDENTIAL
- URBAN RESIDENTIAL
- MULTIPLE FAMILY RESIDENTIAL
- CENTRAL BUSINESS DISTRICT
- GENERAL COMMERCIAL
- SHOPPING CENTER
- LIGHT INDUSTRIAL

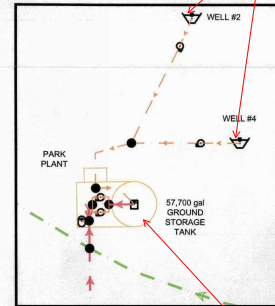
**COLOR CODING LEGEND**

PIPE: DIAMETER (IN)

Red line	<= 3.0
Orange line	<= 6.0
Yellow line	<= 8.0
Green line	<= 10.0

**PROPOSED LEAD SERVICE REPLACEMENT LIMITS**

**NEW WELL HOUSES**



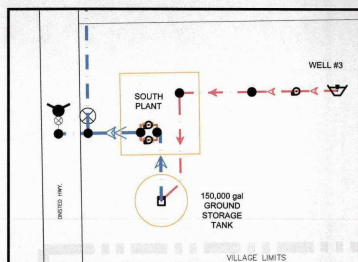
**PARK PLANT ENLARGEMENT**

**DEMO PARK PLANT**

**PROPOSED RAW WATER LINE**

**Service Area**

**ADD IRON TREATMENT UNIT INSIDE EXISTING BUILDING**



**SOUTH PLANT ENLARGEMENT**

**FIGURE 1  
DELINATION OF SERVICE AREA  
AND MAP OF PROJECTS**



**VILLAGE OF ONSTED  
WATER MAP  
DECEMBER 2015**

SCALE: 1"=200'

