

Ford River Township Lead Service Line Replacement

**Michigan Drinking Water State Revolving
Fund Project Plan**

Volume 1 – Report Body

March 10, 2025

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List of Abbreviations

Abbreviation	Description	Abbreviation	Description
AC	Acre	O&M	Operation and Maintenance
AMP	Asset Management Plan	OMB	US Office Of Management And Budget
ASCE	American Society of Civil Engineers	PAC	Powdered Activated Carbon
AWWA	American Waterworks Association	PACL	Polyaluminum hydroxychloride
BOD	Biological Oxygen Demand	PFAS	Per- and polyfluoroalkyl substances
BRF	Business Risk Factor	POF	Probability of Failure
CAS or CI	Cast Iron Pipe	POSA	Plan of Study Area
CFM	Cubic Feet per Minute	POTW	Publicly Owned Treatment Works
CFS	Cubic Feet Per Second	PPB	Parts per Billion
Cl	Chlorine	PPD	Pounds Per Day
CIP	Capital Improvement Plan	PPM	Parts Per Million
CT	Contact Time	PRV	Pressure Reducing Valve
CUPPAD	Central U.P. Planning and Devel. Reg. Commission	PS	Pump Station
DBP	Disinfection Byproduct	PSI	Pounds Per Square Inch
DI or DIP	Ductile Iron Pipe	PVC	Polyvinyl Chloride (Pipe)
DO	Dissolved Oxygen	RRI	Repair, Replacement, and Improvements (Fund)
DWAM	Drinking Water Asset Management	RUS	Rural Utility Service (USDA RD)
DWSRF	Michigan Drinking Water State Revolving Fund	SAN	Sanitary Sewer
EDU	Equivalent Dwelling Unit	SAW	Michigan Stormwater, Asset Management, And Wastewater funding
EGLE	Mich. Dept. of Environment, Great Lakes, & Energy	SCADA	Supervisory Control And Data Acquisition
ENR	Engineering News-Record	SCFM	Standard Cubic Feet per Minute
EPA	US Environmental Protection Agency	SF	Square Foot
EPDM	Ethylene Propylene Diene Terpolymer	TSS	Total Suspended Solids
EUPPDR	Eastern U.P. Planning and Devel. Reg. Commission	STO	Storm Sewer
FPS	Feet per Second	SRF	Michigan State Revolving Loan Fund
FSP	Fiscal Sustainability Plan	SWD	Side Wall Depth
GAC	Granular Activated Carbon	TDH	Total Dynamic Head
GPCD	Gallons Per Capita Per Day	TRS	Trihalomethane Removal System
GPD	Gallons Per Day	TTHM	Total Trihalomethane

Abbreviation	Description	Abbreviation	Description
GPD/IN-MI	Gallons Per Day Per Inch Diameter Mile	TWST	Treated Water Storage Tanks
GPM	Gallons Per Minute	USACE	US Army Corps Of Engineers
HP	Horsepower	USDA RD	US Dept. Of Agriculture - Rural Development
HVAC	Heating, Ventilation, and Air Conditioning (System)	UV	Ultra Violet
ITA	Intent to Apply	VFD	Variable Frequency Drive
LSLR	Lead Service Line Replacement	WERF	Water Environment Research Foundation
MDNR	Michigan Department of Natural Resources	WM	Watermain
MG	Million Gallons	WPA	Works Progress Administration (early public works construction program)
MGD	Million Gallons Per Day	WRC	Michigan Water Resources Commission
MG/L	Milligrams Per Liter	WS	Water Service
MH	Access Manhole	WTP	Water Treatment Plant
ML	Milliliter	WUPPDR	Western U.P. Planning and Devel. Reg. Commission
MPN	Most Probable Number	WV	Water Valve
NEMA	National Electrical Manufacturers Association	WWTF	Wastewater Treatment Facility
NEPA	National Environmental Policy Act	WWTP	Wastewater Treatment Plant
NH ₃ -N	Ammonia Nitrogen		
NPDES	National Pollutant Discharge Elimination System		
NPV	Net Present Value		
NRWA	National Rural Water Association		

Project Background

This study (Project Plan) was authorized by Ford River Township. The purpose of the Project Plan is to evaluate needs and recommend alternatives for improvements to the Township's water system.

The Ford River Township 2024 Master Plan by the Ford River Township Planning Commission provided the background information presented in this section.

Study and Service Areas

Ford River Township is located centrally in Michigan's Upper Peninsula, on the north shore of Lake Michigan. The Township is in Delta County. The Township itself takes up approximately 41,500 acres and is located in Township 38N and Range 23W.

The businesses in the study area are primarily focused on recreation, food service, medical, and forestry industries. There is residential development as well as commercial development in the Township, with the commercial development concentrated on M-35 and US-2.

Ford River Township is a Civil Township which allows them to finance, construct, and operate a public water utility. The Township currently supplies water to customers along the M-35 corridor and immediate area.

The area of study is within the legal boundaries of Ford River Township (see Figure 1 and Figure 2 on the next pages). Areas proposed for DWSRF consideration are within these boundaries.

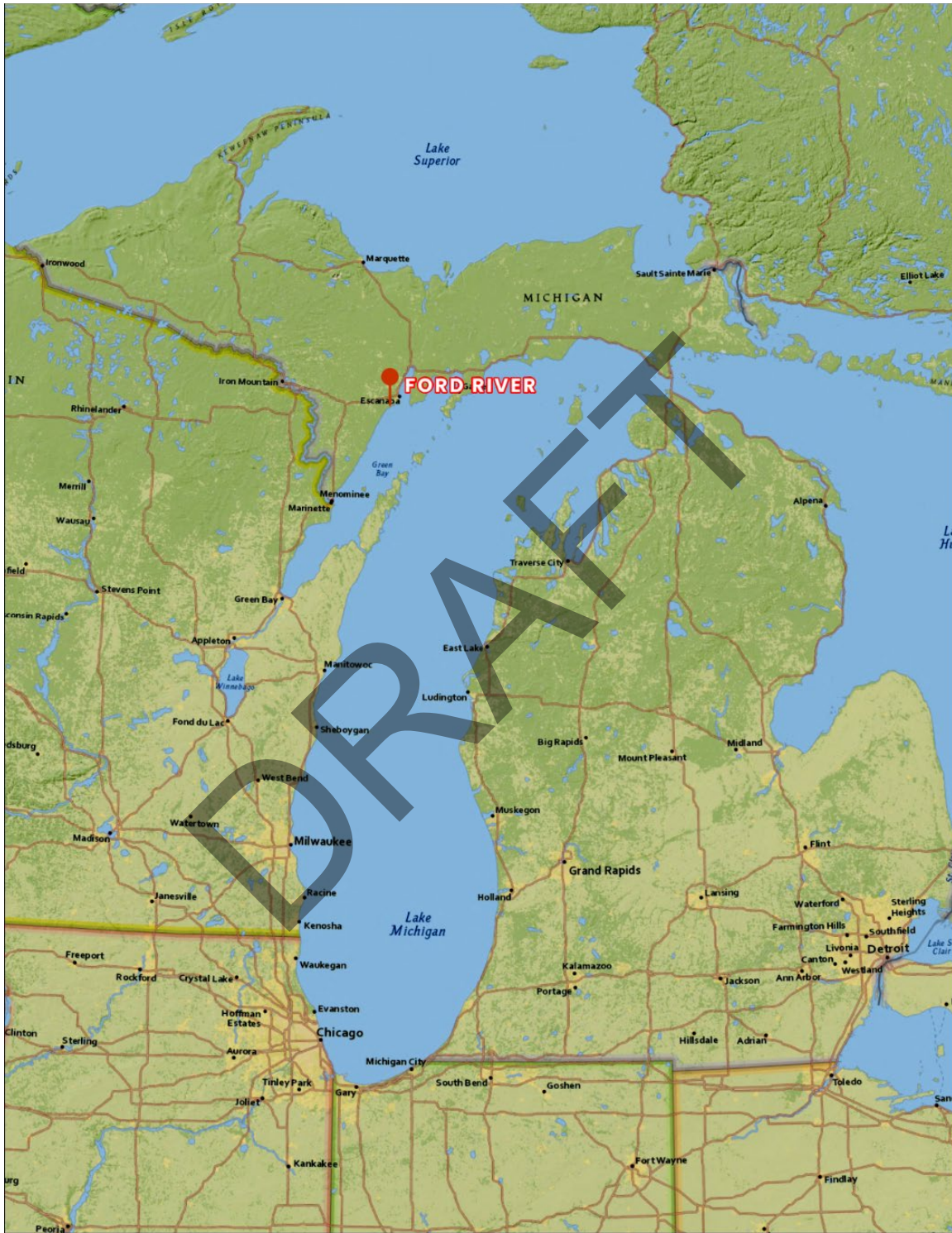
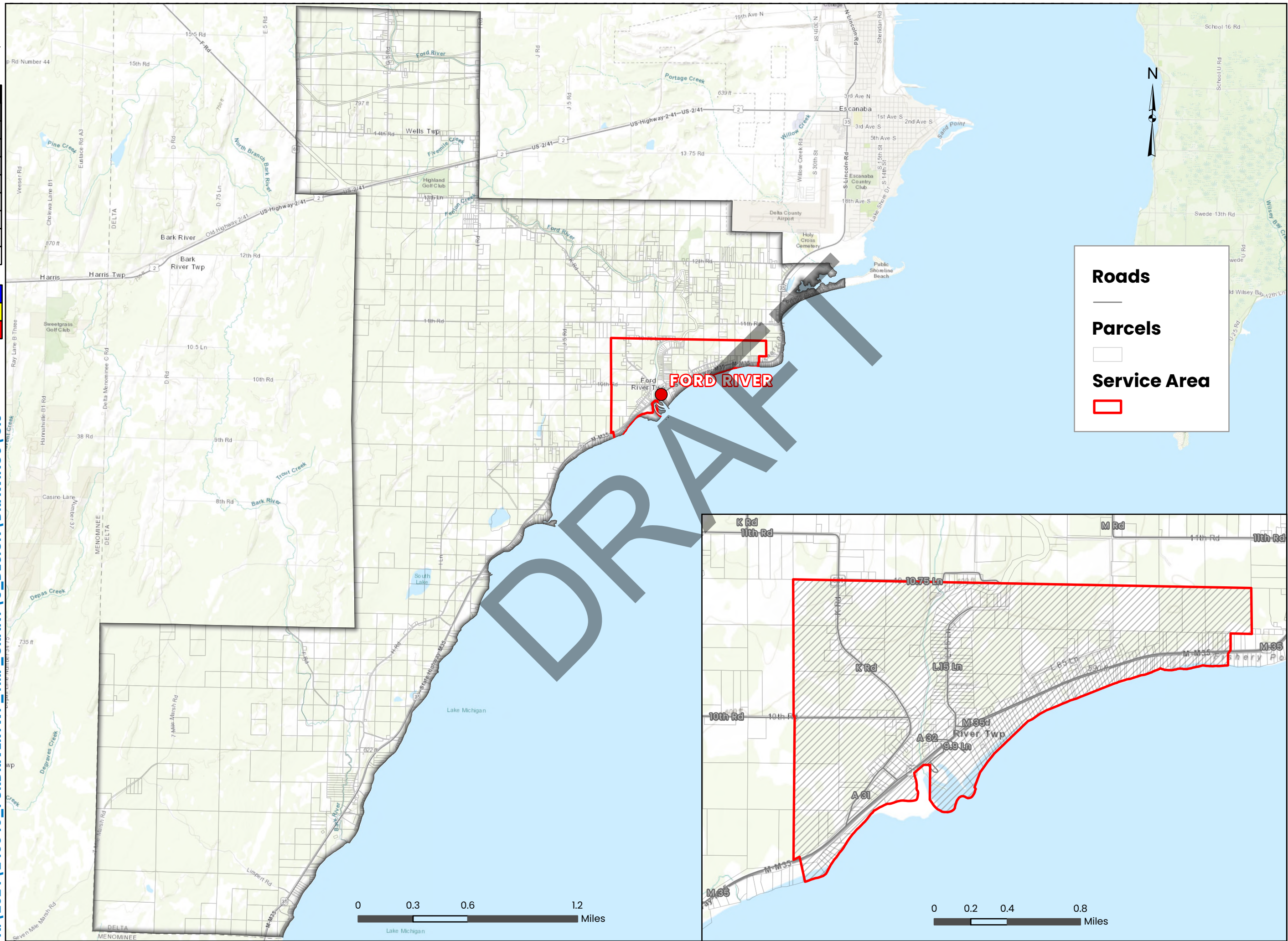


Figure 1: Project Location

THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID BLACK

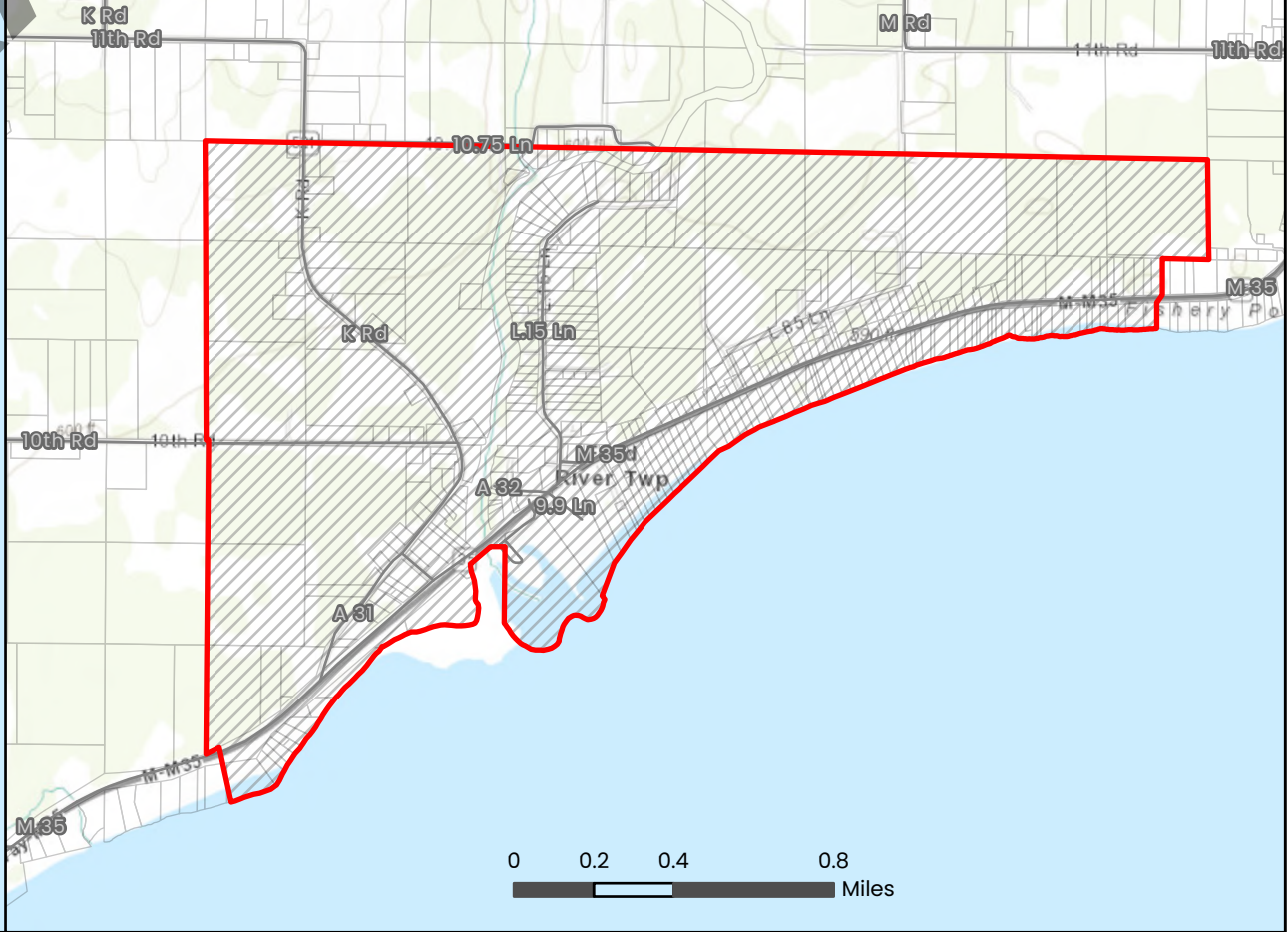
THE BAR BELOW SHOWS PRIMARY COLORS



Roads
—

Parcels
□

Service Area
□



FORD RIVER TWP, MICHIGAN
TMF WATER SERVICE MATERIAL INVESTIGATIONS

FORD RIVER TWP
DELTA COUNTY, MI

Population

Population in the study area is expected to stabilize assuming the national and regional economies remain stable. Population projections noted in Table 1, which follows, reflect the optimism that the regional economy will remain stable. A little influx of new growth is expected in the study area other than redistribution of commercial and residential patterns.

Table 1: Population Projections

Year	Ford River Township	Bark River Township	City of Escanaba	Delta County
1960	1,308	1,361	15,391	34,298
1970	1,762	1,299	15,368	35,924
1980	2,136	1,571	14,355	38,947
1990	2,016	1,548	13,659	37,780
2000	2,226	1,650	13,140	38,520
2010	2,054	1,578	12,616	37,069
2020	2,019	1,595	12,450	36,903
2030 (a)	2,019	1,595	12,450	36,903
2040 (a)	2,019	1,595	12,450	36,903

1960 to 2020 based on published US Census figures

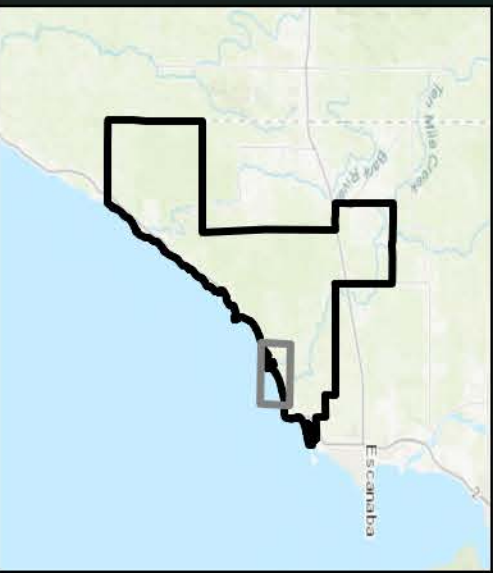
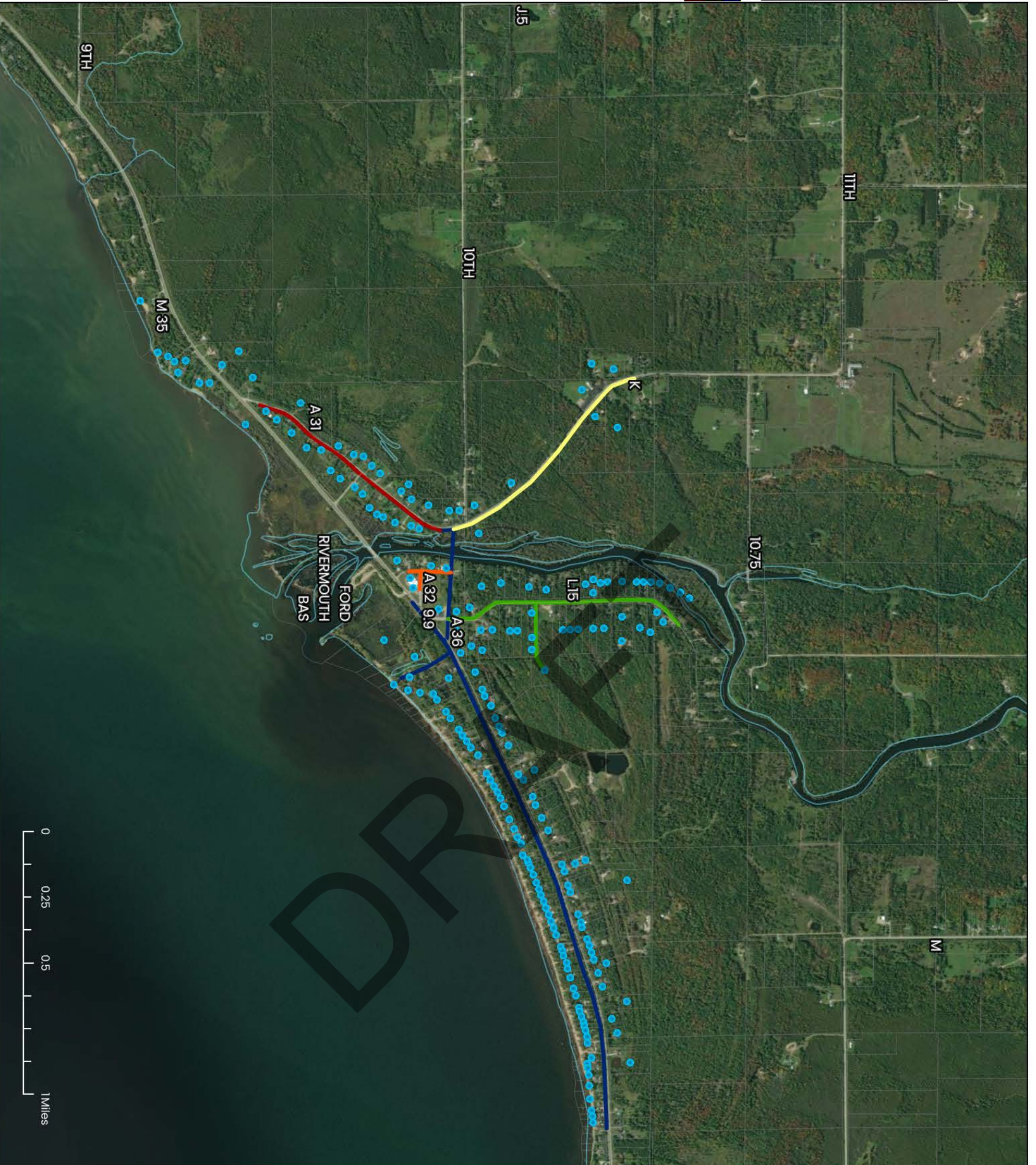
(a) 2030 to 2040 assumes no change in the population due to populations in the Upper Peninsula not changing

Existing Environment Evaluation

The anticipated environmental impacts resulting from implementation of the selected alternative are relatively minor. There is no increase in the extent of the water system, and no major changes in terms of residuals or other material effects. Full detail may be found under the section labeled "Environmental Evaluation".

Existing System

Ford River Township owns and operates a small public water system serving part of the Township. This system serves approximately 200 customers, with the rest of the township who are not on the water system using private wells. Figure 3 on the following page provides a map of the existing water distribution system and location of water services.



Watermain

- East Line
- North Line
- Northwest Line
- South Line
- Southwest Line

Water Service

- Location



FORD RIVER TWP, MICHIGAN
TMF WATER SERVICE MATERIAL INVESTIGATIONS

FORD RIVER TWP
DELTA COUNTY, MI



Need for the Project

Compliance with Drinking Water Standards

Ford River Township is in compliance with the drinking water standards as defined in the Administrative Rules for Act 399 and has no current record of acute violation or non-compliance with regulations. To maintain compliance with Lead and Copper rules, the Township will be required to replace all lead-impacted lines within its system.

Orders or Enforcement Actions

The Township does not currently have any court or enforcement order against it.

Projected Future Needs

Future needs for Ford River Township would include projects to replace all the lead impacted service lines in their water system as well as updating any out-of-date parts and equipment in their water system.

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Analysis of Alternatives

This Project Plan examines several alternatives for Ford River Township's water distribution system development in the next five to twenty years.

Potential Alternatives

Alternative 1: No Action

Ford River Township currently maintains quality water treatment and distribution, including many assets that have extended beyond their design life because of regular maintenance. Without making capital improvements, preventative maintenance will transition to managing increasingly expensive and less predictable failures and inefficiencies. Emergency partial repairs would be needed to address aging service line issues and breaks rather than implementing proactive preventative and strategic improvements, which would require additional costs pertaining to notification, sampling, and reporting. Service line reliability would continue to deteriorate, and the Township would face the risk of not meeting the average annual 5 percent lead impacted service line replacement requirement, leading to possible legal repercussions.

Alternative 2: Replacement of Lead Impacted Water Service Lines

Replacement and upgrading where required water lines over 70 years old are prioritized as to condition via Township records and personnel knowledge. Completing full replacements for lead impacted service lines would reduce the necessity of emergency replacements and additional expenses, while also allowing the Township to remain in compliance with the average annual five percent lead impacted service line replacement and CDSMI requirements.

Regionalization

Ford River Township currently operates as an independent treatment and distribution facility for its community. In the future, there may be an opportunity to connect with the Escanaba water system, if that is deemed beneficial and financially feasible. For this project, however, regionalization will not be analyzed as a proposed alternative, as the lead impacted service line replacements only occur from the water main to the house.

Monetary Evaluation

The construction costs used in this analysis are based on previous work done in Ford River and neighboring communities. Costs have been adjusted based on ENR index and typical engineering and administrative fee rates. Construction costs for the lead impacted service line replacements are estimated to be an average of \$15,000 per service from recent bid prices from neighboring communities. With an estimate of 111 services needing to be replaced, the total construction cost comes to \$1,665,000.

A present worth analysis is also included in Table 2, below. Because Ford River Township is an overburdened community, they are eligible for a 40-year loan/bond term. The bond schedule and salvage values can be found in Appendix A. The anticipated savings in operating expenses is represented in Appendix A as negative "O&M impacts." Likewise, the "no action" alternative indicates escalating expenses as utility rates increase and energy efficiency decreases.

Table 2: Present Worth Analysis

Item	Description	Alternative 1: No Action	Alternative 2: Replacement of Lead Impacted Water Service Lines
1	Construction Costs	\$0	\$1,665,000
2	Engineering, Legal, Administration, Planning, and Contingencies	\$0	\$499,500
3	Total Capital Cost	\$0	\$2,164,500
4	Total Annual O&M Change	\$0	-\$5,000
5	Present Worth of O&M Costs	\$0	\$93,000
6	Salvage Value	\$0	\$432,900
7	Present Worth of Salvage Value	\$0	\$75,000
8	Total Present Worth	\$0	\$2,182,500

Table row description for Table 2:

1. Construction costs developed by AMP and detailed in Appendix A.
2. Project support fees based on a percentage of construction costs; typical rate 30%. Table 5 further breaks this total cost down for Alternative 2.
3. Capital costs are the sum of 1 and 2.

4. O&M costs are based on the full budget, adding or subtracting impacts at the WTP and throughout the distribution system.
5. Present value of O&M costs for 30 years at 4.5% (per 2024 USDA/SRF guidance).
6. Land considered permanent, 50-year life for piping and valves, 50-year life for structures, 20-year life for repairs, and 20-year life for equipment.
7. Present worth of line 6 at 4.5% interest for 40 years.
8. Total of items 3 and 5 minus 7.

Environmental Evaluation

Ford River Township has considered the impact of these recommended improvements. The areas most affected have already been impacted by the original construction of the facilities. The necessary disruption due to construction must be performed with conservation in mind. This project has not been classified as equivalency or non-equivalency. Until the project has been classified as equivalency, a cursory environmental review has been performed, and the findings are included within Appendix C.

Cultural resources

The proposed construction will be within existing facilities and previously disturbed areas. It is expected that there will be no long-term impact to any cultural or historical preservation commitments.

Construction of water system improvements are not anticipated to have any adverse effect on historical, archaeological, geological, or recreational areas. Excavation in previously unexcavated areas is very limited. As is standard with utility projects, construction contracts will contain archaeological discovery procedures to be followed in the event of unanticipated discoveries.

The Natural Environment

1. Climate: Ford River has an average annual rainfall of 29 inches and an average snowfall of 50 inches. January average low temperature is 11° F, while July average high temperature is 76° F. The area is sometimes described as having comfortable summers and long, freezing, snowy winters. The long winters typically drive frost depths to 4 ft, or beyond, which must be considered in any proposed underground construction. Winter season construction is often difficult and sometimes impossible depending on the activity. In general, exterior construction comes to a halt by November 15. Lake Michigan and the Ford River, whose shorelines are

adjacent to the project areas, generally have a tempering effect on the weather, but can sometimes contribute to weather extremes.

2. Air quality: Other than temporary impacts from running construction equipment and fugitive dust, air quality will not be affected by the project. Construction related dust will be minimized through contract enforcement of mitigation measures such as watering.
3. Water quality: Neither surface water nor groundwater quality is expected to be adversely affected by the project. Mitigation measures to control construction run-off will be required by the contract documents. No water withdrawal or dewatering is necessary except for temporary dewatering during construction. Any required construction excavation dewatering will be monitored and on a level with typical construction activities in the area. Discharge water will be stilled, if necessary, as part of the contract and permit required sedimentation control measures.
4. Contaminated areas: When individual projects are designed, contaminated areas will be avoided via utility routing where possible. When construction may infringe on impacted areas, a FOIA request for these sites will be made, EGLE permitting will be pursued if appropriate, and mitigation and safety measures will be required by contractor via construction documents.
5. Wetlands: Although there are scattered pockets and areas of wetlands in the project area (Township), none are expected to be impacted by the project.
6. Coastal Zone: Activities within the Coastal Zone Management Area would be permitted during the design process as needed.
7. Floodplains: Floodplains or high-water marks exist along the shoreline of Lake Michigan and the Ford River. It is anticipated that the proposed project will not impact any floodplains.
8. Natural or Wild and Scenic Rivers: There are no designated natural or wild and scenic rivers in the project area.
9. Surface Waters: The project area is surrounded to the east and south by Lake Michigan and is intersected by the Ford River. No work is anticipated near existing surface waters.
10. Agricultural Resources: There is no designated prime agricultural land in the service/planning area. Therefore, this project is unlikely to negatively impact or remove agricultural land or open space.
11. Sensitive Species and Habitat: There is no sensitive habitat in the project area nor are there any threatened or endangered species in the project area. If needed, mitigation measures will be coordinated with EGLE during the design process and permits pursued where needed.

Selected Alternative

The option to Replace Lead Impacted Service Lines (Alternative 2) is the selected alternative based on positive impacts and cost effectiveness. Due to the nature of the existing infrastructure and the scope of the proposed project, replacement is the most viable option. Design will meet current EGLE and local standards with planned mitigation of environmental issues developed during the design and permitting process.

Design Parameters

The work completed as part of this project will allow the Township to replace water services which are suspected of containing lead; lead goosenecks, lead pipe, lead joints, or are galvanized suspected of being previously connected to lead. Lead service lines, or lines suspected of containing lead need to be replaced to comply with state and federal requirements for safe, clean drinking water. Moreover, replacing lead impacted services will prevent escalating deterioration or emergency failures in the years ahead. The following is a description and design basis for major proposed improvements all associated with the selected alternative Replacement of Lead Impacted Water Services. Additional details can be found in the supporting cost opinions in Appendix A.

Useful Life

According to the US EPA, the estimated useful life of service lines is 30 to 50 years. Useful life may exceed the estimated range if the services are properly maintained and encounter average water quality. Mueller Streamline Co. estimated that their copper pipe could last about 75 years for a system that has no design or water concerns (See Appendix B for correspondence with Mueller Streamline Co.). The useful life of the service lines in Ford River Township is expected to be at the higher end of the 30 to 50 year range, due to the consistent maintenance and necessary repairs of service lines in their water distribution system. There are also records of service lines which have lasted over 50 years in the Township. Table 3 provides details on the weighted useful life.

Table 3: Weighted Useful Life

Component	Number of Components	Average Cost Per Component	Total Cost for Components	Useful Life (Years)
Water Service Line	111	\$15,000	\$1,665,000	50
Weighted Useful Life	111	\$15,000	\$1,665,000	50

Table row description for Table 3:

1. Number of water service lines were determined by the lead service line investigations and Township records.
2. Average cost per service line estimated based on recent bid prices in surrounding communities.
3. Total cost for components is the Number of Components multiplied by the Average Cost Per Component.
4. Useful life estimated as 50 years based on EPA data and existing service line history.
5. Number of components for weighted useful life is the sum of all components.
6. Average cost of components for weighted useful life is the sum of all average component costs.
7. Total cost of components for weighted useful life is the sum of all total costs for components.
8. Weighted Useful Life is the sum of all total component costs multiplied by their useful lives divided by the total cost for all components.

The weighted useful life is 50 years.

Schedule for Design and Construction

The schedule for design and construction is present in Table 4, below. It is expected that the fourth quarter financing will be used.

Table 4: Project Schedule

Item	Target
DWSRF Application Submittal	Summer 2025
DWSRF Acceptance	Summer 2025
Funding Commitment	Summer 2025
Start Design	Winter 2025

Item	Target
Land & Easements Acquisition	Not Applicable
Permits	Spring 2026
Advertise for Bids	Spring 2026
Funding Closing	Spring 2026
Contract Award	Spring 2026
Construction	Summer 2026
Substantial Completion	Fall 2027
Final Completion & Initiate Operation	Fall 2027

Project and User Costs

A brief summary of planning, design, and construction costs is included below in Table 5.

Table 5: Project Cost Summary

Item	Estimated Cost
Construction	\$1,665,000
Administration, Legal, Bonding, Permits, & Miscellaneous	\$19,000
Planning	\$35,000
Design	\$167,000
Bidding	\$4,000
General Engineering During Construction	\$46,000
Post Construction Services	\$4,000
Resident Project Representative	\$59,000
Additional Services – Design Related	\$20,000
Additional Services – Construction Related	\$42,000
Engineering Total	\$377,000
Contingencies	\$104,000
Total Project Cost	\$2,165,000

Table 6 demonstrates the impact on user rates that may be possible with a project of this size. This breakdown assumes a 40-year debt service on the bond at an interest rate of 2.00% for one loan on *Alternative 2 – Replacement of Lead Impacted Water Service Lines* (2025 interest rates). Emergency maintenance is expected to decrease but will be maintained at the existing rate for conservative budgeting. Expected user rate impact is noted in Table 6 below:

Table 6: User Costs

Description	Value
DWSRF Loan Amount	\$2,165,000
Anticipated Interest Rate	2.00%
Term	40 Years
Annual Debt Service	\$79,143
Monthly Debt Service	\$6,595
Estimated System EDUs	207
User Rate Impact / EDU / month	\$31.86

Overburdened Community

An "Overburdened Community Status Determination Worksheet" is included with the final project plan submittal (see Appendix B). According to guidelines, Ford River Township does qualify as an overburdened community considering their current and projected debt service, median household income, and user rates.

Implementability

Ford River Township has successfully implemented water system improvement projects and advanced their water management processes over the years. The Township recognizes the need to operate its utility systems in a financially responsible manner, and the Township has shown it has the legal, institutional, technical, financial, and managerial resources to accomplish implementation of the recommended alternatives.

Environmental and Public Health Impacts

Ford River Township has considered the impact of these recommended improvements. The areas most affected have already been impacted by the original construction of the facilities. The necessary disruption due to construction must be performed with conservation in mind. This project has not been classified as equivalency or non-equivalency. Until the project has been classified as equivalency, a cursory environmental review has been performed, and the findings are included within [Appendix C](#).

Direct Impacts

Social/Economic Impact

The project will create short-term economic benefits in the areas of construction employment and materials supply. No relocation of residents or businesses is expected to result from the project. Long-term human, social and economic impacts will be positive through increased efficiency, reliability, and capacity in area utility infrastructure. There are emotional and community benefits to water security, for example: reducing anxiety, improving gastrointestinal health and brain development, improving hygiene and quality of life.

Construction/Operational Impact

Construction activity impacts will be short term and are not expected to be unusual for utility facility construction. Construction related dust will be minimized through contract enforcement of mitigation measures such as watering. Where applicable, contract documents will require construction methods and disturbed areas to be minimized regarding their impact on the site and neighboring areas. Details will be developed during the design and permitting process. Implementing the improvements will reduce overall system operation and maintenance efforts.

Indirect Impacts

1. Development: The project segments will take place in previously disturbed areas and should not induce changes in rate, density, or type of land development.
2. Land Use: The project is not expected to change current land use patterns.
3. Air and Water Quality: Air and water quality changes stemming from primary and secondary development are expected to be temporary and minor to non-existent.
4. Natural Areas and Sensitive Features: It is anticipated that the project should have no impact on natural areas and sensitive features. Mitigation measures will be coordinated with EGLE during the design process and permits will be pursued as needed in these areas.

5. Secondary Growth: Secondary growth is also not expected to be spurred by the project other than that affected by any well run and maintained utility system.
6. Aesthetics: The project will produce no overall permanent damage to existing area aesthetics; all work is underground, and the surface will be restored to previous state. Minor construction damage will be more than offset by project restoration efforts.
7. Resource Consumption: No additional or increased resource consumption will occur due to these projects other than during construction; material consumption during construction could not be considered significant or excessive. Fuel for operating construction equipment and various piping materials would be the primary materials consumed.

Cumulative Impacts

This project will be conducted in previously disturbed areas of residential lawns. Because of this, there will be minor cumulative impacts this project has on the environment. This project will also have temporary impacts on the environment because disturbing the environment is temporary. It is not anticipated that there will be any environmental impacts after construction is completed.

One positive impact of this project is the reduction of leaks in the water services. The old, galvanized lines are brittle which can result in leaking. Another positive impact of replacing the old, galvanized lines will improve the water quality as well as reduce lead exposure.

Mitigation

Where adverse impacts due to installation of the recommended improvements cannot be avoided, mitigation measures will be implemented. Costs for mitigation measures were considered and included where applicable in project opinions of probable cost. Mitigation measures needed during construction will be included in construction contract documents.

Short-Term Construction Related Mitigation

1. General Construction: Construction problems anticipated include groundwater control and areas of inferior structural/pipe bedding and backfill soil material. These are normal occurrences with construction in the area and prior planning/design will create a situation where these problems will pose no significant difficulties for qualified contractors.
2. Construction Spoils: Disposal of construction spoils in wetlands, floodplains, shorelines or other sensitive areas will be prohibited. It is anticipated that spoil disposal areas and methods will need to be permitted. All spoils will be disposed of off-site at an approved location.
3. Transportation Issues: Any traffic disruptions that occur (such as equipment deliveries or construction related traffic) will be organized and controlled to minimize disruption of local, transient and emergency traffic. Construction related traffic will be regulated by construction contract language and Township ordinances/policy. All needed barriers and signing will be in conformance with applicable MUTCD standards. Disruption is expected to be minor and localized to the construction sites.
4. Contaminated Soil: If needed or discovered, contaminated soil and/or construction dewatering discharge will be planned and budgeted for with methods covered under project construction specifications. This project does not anticipate encountering contaminated soil or groundwater.
5. Wetlands: The project segments will not infringe on any designated wetland areas.
6. Stream Crossings: No stream crossings are anticipated under the proposed work.
7. Endangered and Threatened Species: It is anticipated that the project should have no impact on natural areas and sensitive features. Mitigation measures will be coordinated with EGLE during the design process and permits will be pursued if needed in these areas.
8. Permitting: Permitting will be obtained during the design process. Construction documents will require the contractor to obtain the erosion control permits needed.
9. Safety: All work will be required to comply with Federal, State and local laws governing activities, safeguards, devices and protective equipment. Minimum requirements are defined by the U.S. Department of Labor and the Michigan Occupational Safety and Health Act.

10. Dust and Noise: Construction dust and noise will be required to be kept to a minimum. No on-site burning will be allowed. Use of water or other suppressants will be used to control fugitive dust and prevent violation of Rule 901 and contractors will be required to use gas engine muffled exhausts.
11. Erosion: Soil Erosion and Sedimentation Control permits will be required for the project. Site-specific mitigation measures will be addressed during design and included in the construction contract documents. At a minimum, mitigation measures will include filter fabric in the impacted catch basins.
12. Restoration: Damaged curbing, driveway and sidewalk surfaces will be restored to equal or better condition in accordance with best management practices. All disturbed site soil will be restored with topsoil, seed, fertilizer, and mulch.
13. Utilities: Disruption of utilities during construction will be kept to the minimum necessary to allow new installations. Repairs will be made in a timely manner.
14. Valuable Features: Implementation of the selected alternative is not expected to significantly impact more extensive or valuable existing features such as mature vegetation.

Mitigation of Long-Term Impacts

1. General Construction: The Township does not expect any long-term impacts from the general construction activities.
2. Siting Descriptions: Work will be confined to existing disturbed locations.
3. Operational Impacts: Long-term operational issues will not be adversely changed by the projects; rather, operations should be enhanced through new more reliable equipment, structures, and general accessibility.

Mitigation of Indirect Impacts

1. Master Planning and Zoning: Long range planning by the Township identified the project segments evaluated in this report and all impacts take place within the developed Township streets and would have no effect on planning and zoning in the community. The work will not impact historical features, agricultural land, or sensitive features.
2. Ordinances: Local ordinances are in place regarding minimum construction and operation standards and site erosion control. Wetlands, floodplains, and other sensitive habitats are protected by State laws and permitting procedures.
3. Land Requirements: None needed for the recommended alternatives.

4. Socio-economic and Environmental Justice Issues: Costs and less tangible impacts such as construction traffic would have no disproportionate impact on any area group. Impacts are spread evenly amongst community collection system users.
5. Noise: Construction dust and noise will be kept to a minimum via construction contract requirements.

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Public Participation

Public Meeting

An initial public meeting on the information presented in this report for *Alternative 2 – Replacement of Lead Impacted Water Service Lines* was held during a regular Township Board meeting on **June xx, 2025**. Written transcripts are included in Appendix E.

Public Meeting Advertisement

An advertisement was placed in the Ford River Township News 30 days prior to the Public Meeting for the Alternative 2 on **May xx, 2025** and again the following week, advertising the formal public hearing. Simultaneously, the advertisement publication, copies of the Project Plan document were made available to the public at the Township Hall and on the Township's website. Appendix E includes the advertisement copies.

Public Meeting Summary

A full transcript of the public meeting is available in **Appendix E**. Comments are summarized in Appendix E with the full transcript. **No written comments were received prior to the Public Meeting.**

Adoption of Project Planning Document

Agency and/or Owner preliminary review comments were incorporated into the final version of this Project Planning Document. The plan was adopted by the City on **April xx, 2025**.