Create ahead.

City of Gaylord Lead Service Line Replacement

Michigan Drinking Water State Revolving Fund Project Plan

Volume 1 – Report Body

May 5, 2025

C2AE
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Gaylord, MI 49735

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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
CI	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		

Background

This study (Project Plan) was authorized by the City of Gaylord via execution of a letter proposal for the TMF grant project. The purpose of the Project Plan is to evaluate needs and recommend alternatives for improvements on the City's water system to address health concerns associated with lead and galvanized water service piping.

Previous studies for the City provided the majority of the background information presented here: the 2022 Water System Reliability Study completed by C2AE and the Complete Distribution System Materials Inventory (CDSMI) Summary and line by line inventory.

Study and Service Areas

The City of Gaylord is located in the northern part of Michigan's Lower Peninsula, on the 45th Parallel. It sits directly north of Otsego Lake. The City serves as the county seat of Otsego County. The City itself is approximately 4.8 square miles located in Township 30N and Range 3W. The economic base of the study area is primarily tourism relying on outdoor related recreational opportunities.

The City of Gaylord is a Home Rule City. They therefore have the authority to finance, construct, and operate a public water utility. The water system currently services approximately 2,313 customers, including residential, commercial, industrial, and manufacturing. Additionally, the water system service area varies in elevation from 1,320 feet in the southwest part of the City near the Gaylord Industrial Park and the Otsego County Airport to 1,380 feet in the northeast part of the City near the Gaylord High School. As such, the water distribution system is separated into two pressure districts; the North/High Pressure District is located north of Main St./M-32, while the South/Low Pressure District is located along and south of Main St./M-32.

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

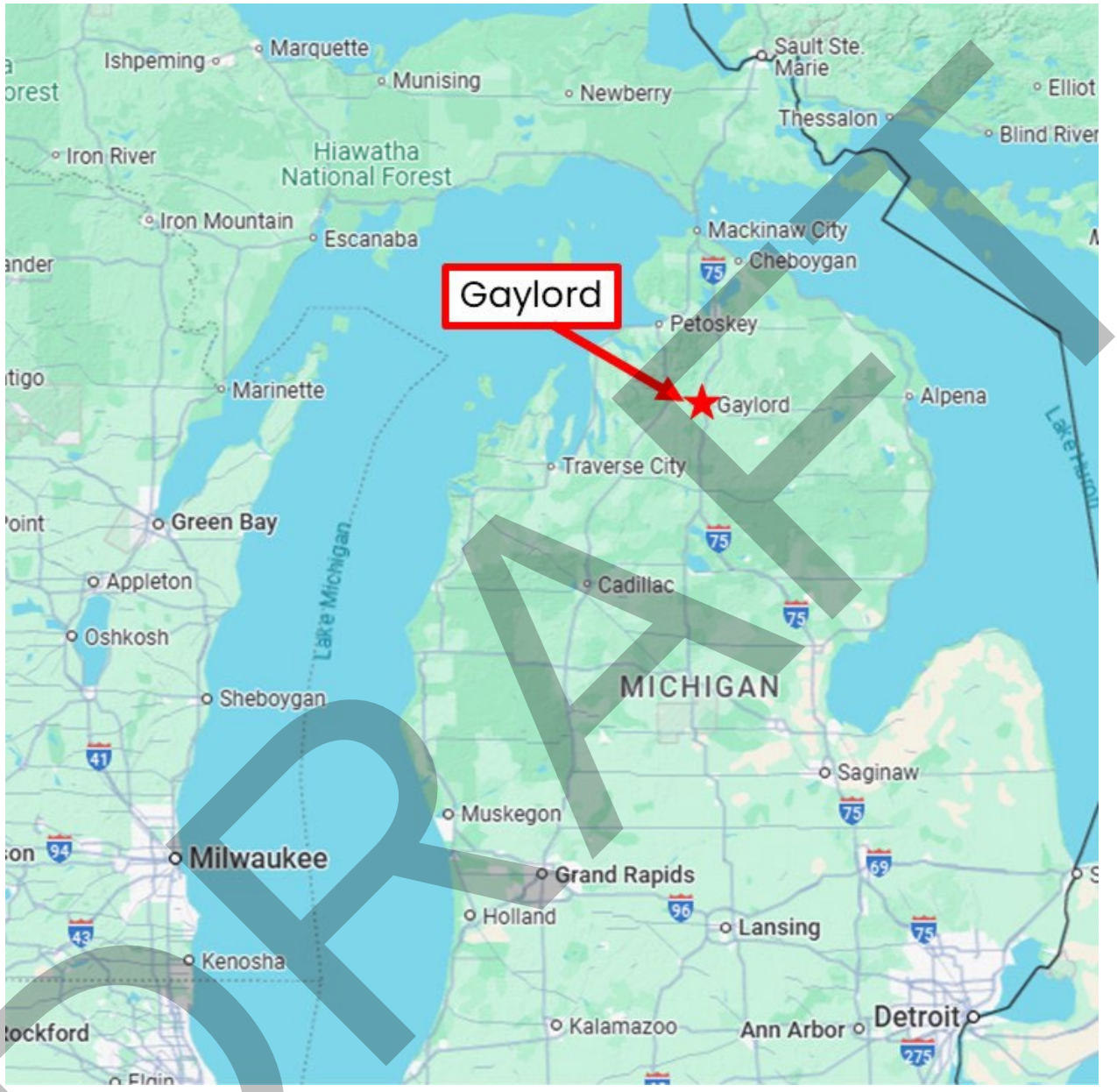
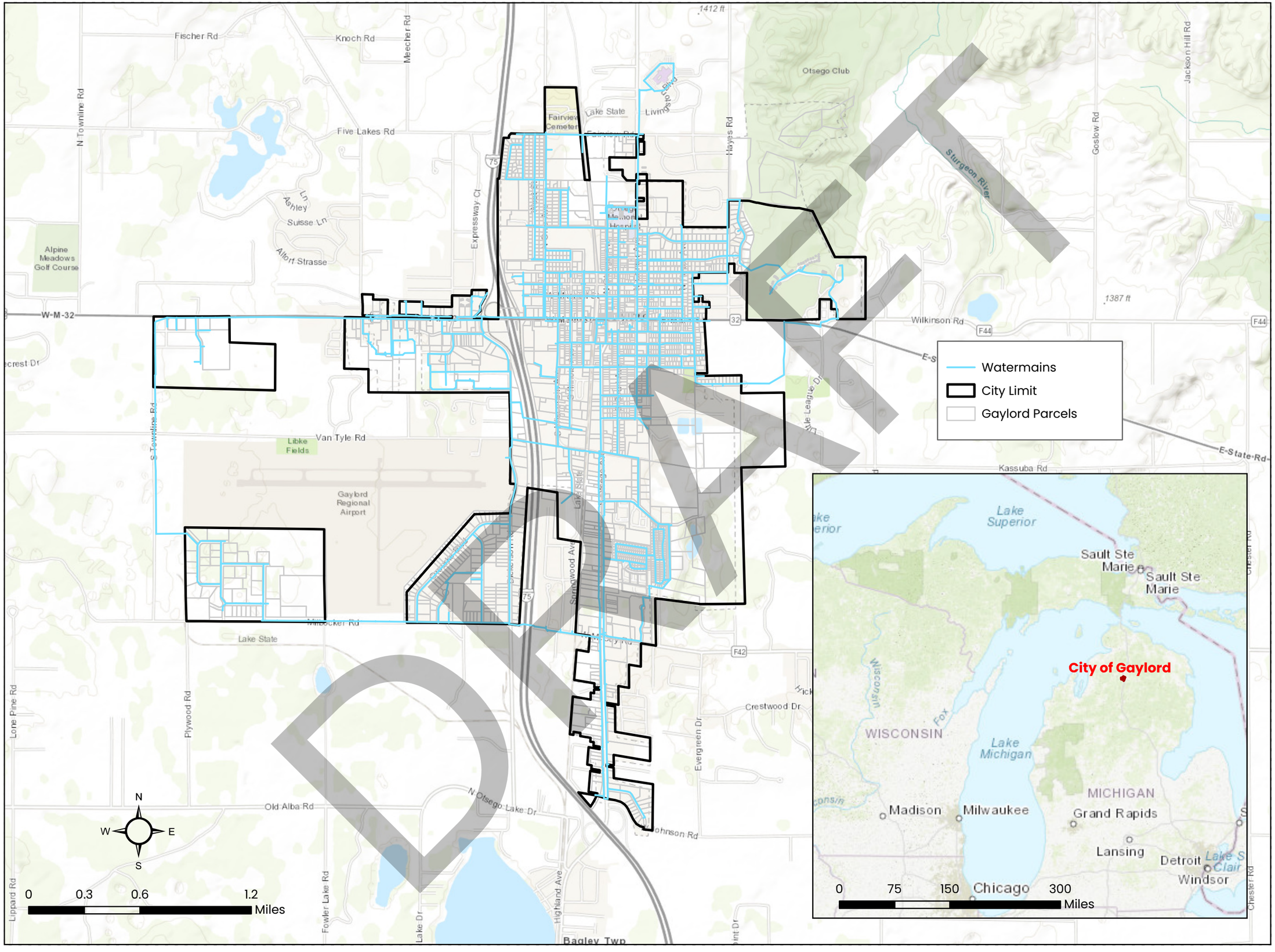


Figure 1: Location Map



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Population

Population in the study area is expected to stabilize assuming the national and regional economies can recover and stabilize. Population projections noted in Table 1, which follows, reflect the optimism that the regional economy will remain stable. Approximately one percent of new growth is expected in the study area every five years, along with redistribution of commercial and residential patterns. The area depends heavily on tourism.

Table 1: Population Projections

Year	City of Gaylord	Livingston Township	Bagley Township	Otsego County
1960	2,568	929	1,186	7,545
1970	3,012	1,393	2,294	10,422
1980	3,011	1,703	4,106	14,993
1990	3,256	1,755	4,929	17,957
2000	3,681	2,339	5,838	23,301
2010	3,645	2,525	5,886	24,164
2020	4,286	2,652	5,867	25,089
2030 (a)	4,372	2,705	5,984	25,591
2040 (a)	4,460	2,759	6,104	25,103

Note: 1960 to 2020 based on published US Census figures

(a) 2030 to 2040 population projections include approximately 1% growth/5-year period.

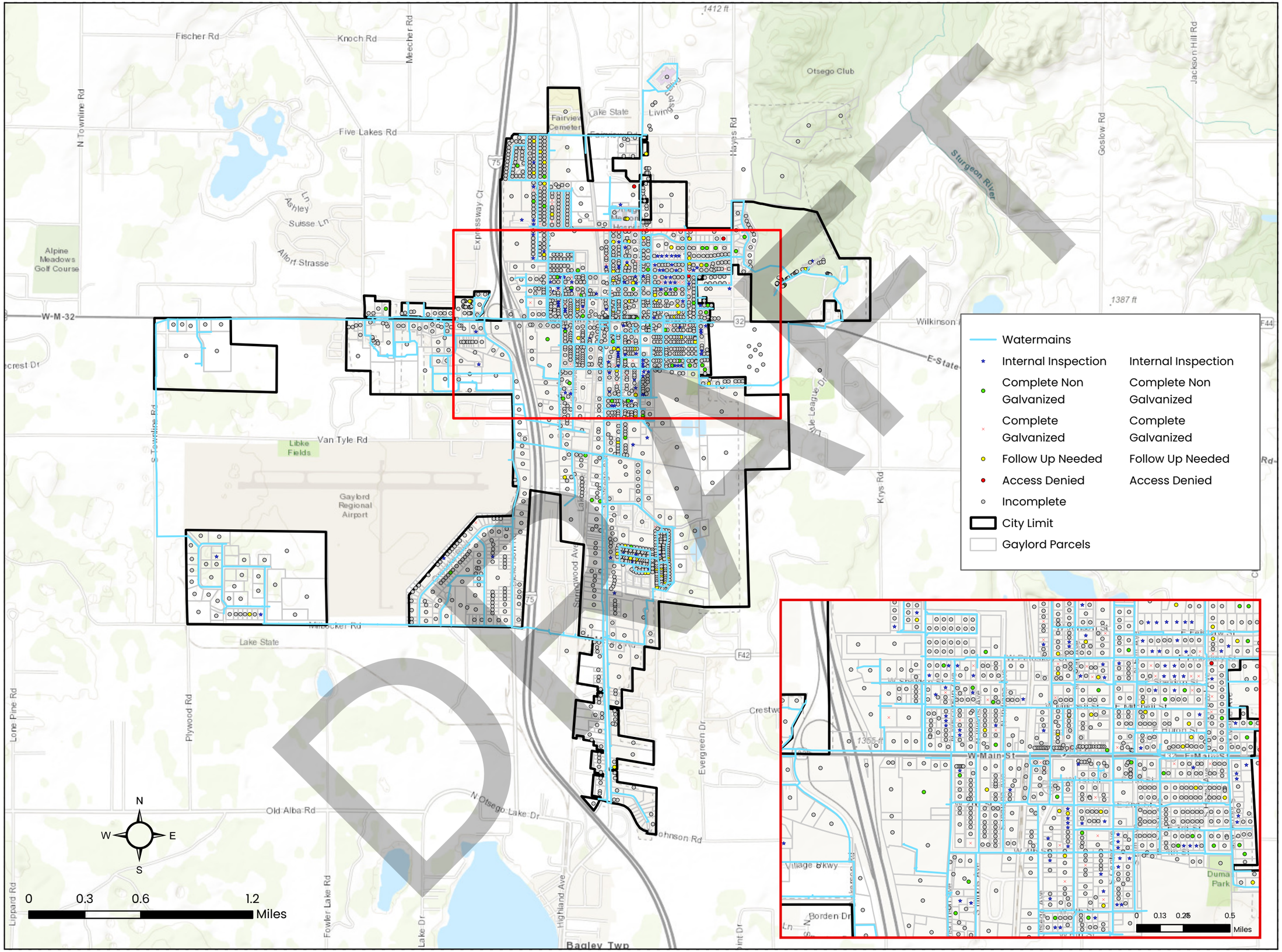
Existing Environment Evaluation

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

The City of Gaylord owns and operates a public water system which serves the City. Figure 3 on the following page provides a map of the existing water distribution system and location of the facilities. There are approximately 308 water services in Gaylord that are lead, contaminated by lead, or suspected of being contaminated. Refer to the CDSMI Summary in Appendix D for further details.

The City of Gaylord water system currently consists of four groundwater supply wells with vertical turbine pumps, two 300,000-gallon elevated water storage tanks, and approximately 48.7 miles of 4" to 16" diameter water main.



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Water Service Lines

Recent publicity related to lead and copper in drinking water is leading to important changes in distribution system operation and management. Lead and Copper levels in Gaylord are well below EPA requirements and the City is doing a very good job managing this aspect.

It is not believed that Gaylord has full lead service lines. However, it is known that a small percentage of the system remains with galvanized services suspected of being connected to the main with a lead gooseneck. The City is in the process of identifying and removing lead goosenecks/connected galvanized services as they are discovered during construction of local street projects.

Need for the Project

To remain in compliance with State and Federal lead and copper regulations and to prioritize the safety of their residents, Gaylord needs to replace all lead and galvanized previously connected to lead services over the course of the next 20 years.

Compliance with Drinking Water Standards

The City of Gaylord is in compliance with the drinking water standards as defined in the Administrative Rules for Act 399 and has no record of acute violation or non-compliance with regulations. To maintain compliance with Lead and Copper rules, the City will be required to replace all lead-impacted lines within its system over the next 20 years.

Orders or Enforcement Actions

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

Drinking Water Quality Problems

The City has maintained high water quality.

Projected Future Needs

The Capital Improvement Plan for the City of Gaylord summarizes the improvements for the water system, which the City proposes to implement. For more detailed descriptions of the five-year capital improvement plan projects, refer to the Water System Reliability Study excerpts in Appendix D.

Analysis of Alternatives

The City has invested in regular maintenance, asset management, and capital improvements planning for their water treatment and distribution system. This Project Plan examines several alternatives for development in the next five to twenty years.

Potential Alternatives

Alternative 1: No Action

The City of Gaylord currently maintains high quality water treatment and distribution, including many assets that have extended beyond their design life because of excellent 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 City would face the risk of not meeting the average annual five percent lead impacted service line replacement requirement, leading to possible compliance issues.

Alternative 2: Replacement of Lead Impacted Water Service Lines

Replacement and upgrading of water lines over 70 years old where required has been prioritized. This alternative includes emphasis on lines which coincide with aging or deficient water or sewer lines to allow combining projects and maximizing use of project funding for construction while minimizing environmental effects and disruption to area citizens. Completing full replacements for lead impacted service lines would reduce the necessity of emergency replacements and additional expenses, while also allowing the City to remain in compliance with the average annual five percent lead impacted service line replacement and CDSMI requirements. This alternative also includes the potholing of services that are of unknown materials. Determining the materials of the unknown services will help the City determine what other services are lead impacted and will need to be replaced.

Regionalization

For this project, 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 Gaylord 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 and $500 per pothole from recent bid prices from neighboring communities. With an estimate of 274 services needing to be replaced and 267 unknown service materials needing to be potholed, the total comes out to $4,243,500. The detailed costs are provided in Appendix A.

A present worth analysis is also included in Table 2, below. Because Gaylord is an overburdened community, they are eligible for a 40-year loan/bond term. The bond schedule, operating expense, 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	$4,243,500
2	Engineering, Legal, Administration, Planning, and Contingencies	$0	$1,273,050
3	Total Capital Cost	$0	$5,516,550
4	Total Annual O&M Change	$0	-$5,000
5	Present Worth of O&M Costs	$0	$93,000
6	Salvage Value	$0	$1,103,310
7	Present Worth of Salvage Value	$0	$190,000
8	**Total Present Worth**	**$0**	**$5,419,550**

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 well sites 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

The City of Gaylord has considered the impact of these recommended improvements on the environment. 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

Significant historical sites are common in Gaylord. The Gaylord area has a long-standing commitment to historic preservation, which is a major part of the area's tourism driven economy. The proposed construction will be within existing facilities and previously disturbed areas. It is expected that there will be no long-term impact.

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 City utility projects, construction contracts will contain archaeological discovery procedures to be followed in the event of unanticipated discoveries.

The Natural Environment

1. Climate: Gaylord has an average annual rainfall of about 36 inches and an average snowfall of 141 inches. January average low temperature is 10° F, while July average high temperature is 79° F. The area is sometimes described as having comfortable summers and freezing, snowy, windy 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.
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 (City), none are expected to be impacted by the project.
6. Coastal Zone: No part of the project area (City) will be within a coastal zone.
7. Floodplains: 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 study area.
9. Surface Waters: No part of the project area (City) will be near 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 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 City to replace water services which are suspected of containing lead: lead goosenecks, lead pipe, lead-jointed, 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 repairs 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. Meuller 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 Meuller Streamline Co.). The useful life of the service lines in the City of Gaylord 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 City. 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	274	$15,000	$4,110,000	50
Weighted Useful Life	274	$15,000	$4,110,000	50

Table row description for Table 3:

1. Number of water service lines were determined by the lead service line investigations and City 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	June 1, 2025
DWSRF Acceptance	Summer 2025
Funding Commitment	Summer 2025
Start Design	Winter 2025
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	**$4,243,500**
Administration, Legal, Bonding, Permits, & Miscellaneous	**$49,000**
Planning	$40,000
Design	$285,000
Bidding	$9,000
General Engineering During Construction	$128,000
Post Construction Services	$22,000
Resident Project Representative	$172,000
Additional Services – Design Related	$54,000
Additional Services – Construction Related	$110,000
Engineering Total	**$820,000**
Contingencies	**$307,000**
Total Project Cost	**$5,419,500**

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	$5,420,000
Anticipated Interest Rate	2.00%
Term	40 Years
Annual Debt Service	$198,132
Monthly Debt Service	$16,511
Estimated System EDUs	3860
User Rate Impact / EDU / month	$4.28

These components will be submitted to EGLE for funding under the Green Project Reserve. It is possible that principal forgiveness may exist for components which qualify for the Green Project Reserve.

Overburdened Community

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

Implementability

The City of Gaylord is incorporated as a Home Rule City in the State of Michigan. The City has successfully implemented water system improvements projects over the past 50 years. The City has shown it has the legal, institutional, technical, financial, and managerial resources to accomplish the implementation of the recommended alternatives.

Environmental and Public Health Impacts

The City of Gaylord 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 properties. 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 disturbances for construction activities of this nature are 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. Additionally, with temperatures becoming increasingly colder, frost depths may become more harmful to older, brittle lines if they are not replaced in a timely manner. 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 City ordinances/policy. All barriers needed 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 soils 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 City 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 City identified the project segments evaluated in this report and all impacts take place within the developed City 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.

Public Participation

The City of Gaylord water system needs and generic potential fixes have been openly noted at several City Council meetings over the past decade. The City is in the process of developing a website to inform the public about the LSLR project and the impacts of lead impacted lines.

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 City Council meeting on April xx, 2025. Written transcripts are included in Appendix E.

Public Meeting Advertisement

An advertisement was placed in the Gaylord Herald Times 10 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 to the advertisement publication, copies of the Project Plan document were made available to the public at City Hall and on the City'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.