An AtkinsRéalis Company

Create ahead.

City of Eaton Rapids – Lead Service Line Replacement

Michigan Drinking Water State Revolving Fund Project Plan

April 2026

C2AE, An AtkinsRéalis Company
1211 Ludington Street
Escanaba, MI 49829

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List of Abbreviations

Abbreviation	Description	Abbreviation	Description
AMP	Asset Management Plan	MG/L	Milligrams Per Liter
ASCE	American Society of Civil Engineers	NEPA	National Environmental Policy Act
AWWA	American Waterworks Association	NPDES	National Pollutant Discharge Elimination System
BR	Business Risk	NPV	Net Present Value
CAS or CI	Cast Iron Pipe	NRWA	National Rural Water Association
CFM	Cubic Feet per Minute	O&M	Operation and Maintenance
CFS	Cubic Feet Per Second	OMB	US Office of Management And Budget
Cl	Chlorine	PFAS	Per- and polyfluoroalkyl substances
CIP	Capital Improvement Plan	Potholing	Localized Excavation Using Vactor Truck
DBP	Disinfection Byproduct	PPM	Parts Per Million
DI or DIP	Ductile Iron Pipe	PRV	Pressure Reducing Valve
DO	Dissolved Oxygen	PVC	Polyvinyl Chloride (Pipe)
DWAM	Drinking Water Asset Management	REU	Residential Equivalent Unit
DWSRF	Michigan Drinking Water State Revolving Fund	RRI	Repair, Replacement, and Improvements (Fund)
EDU	Equivalent Dwelling Unit	SAN	Sanitary Sewer
EGLE	Mich. Dept. of Environment, Great Lakes, & Energy	SAW	Michigan Stormwater, Asset Management, and Wastewater Funding
ENR	Engineering News-Record	SCADA	Supervisory Control and Data Acquisition
EPA	US Environmental Protection Agency	SF	Square Foot
FPS	Feet per Second	SRF	Michigan State Revolving Loan Fund
GPCD	Gallons Per Capita Per Day	TDH	Total Dynamic Head
GPD	Gallons Per Day	TTHM	Total Trihalomethane
GPM	Gallons Per Minute	TWST	Treated Water Storage Tanks
GRR	Galvanized requiring replacement	USACE	US Army Corps of Engineers
HP	Horsepower	USDA RD	US Dept. of Agriculture - Rural Development
ITA	Intent to Apply	VFD	Variable Frequency Drive
LSLR	Lead Service Line Replacement	WM	Watermain
MG	Million Gallons	WTP	Water Treatment Plant
MGD	Million Gallons Per Day	WV	Water Valve

Project Background

This Project Plan was authorized by the City of Eaton Rapids within the EGLE Technical, Managerial, and Financial grand program. The purpose of the Project Plan is to evaluate needs and recommend alternatives for improvements to the City's water system, including their plan to address required water service line replacements.

Previous studies for the City provided the majority of the background information presented here; refer to Appendix D.

Study and Service Areas

The City of Eaton Rapids is in the southern part of Michigan's Lower Peninsula, surrounding a section of the Grand River. It is approximately 18 miles south of the State's capital, Lansing, and within Eaton County. The City itself is approximately 3.5 square miles, split between Townships 1 and 2N, and in Range 3W.

The water system currently services approximately 2,450 customers, including residential, commercial, industrial, and public/institutional. Meters at each well totalize daily pumpage to the WTP, while a master meter at the WTP totalizes daily pumpage to the water distribution system. Customer water meters are read/billed monthly. The water system service area generally corresponds to the corporation limits.

The area of study is within the legal boundaries of Eaton Rapids (see Figure 1 for study and service area). Areas proposed for DWSRF consideration are within these boundaries.

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DWSRF PROJECT PLAN LOCATION

CITY OF EATON RAPIDS
EATON COUNTY, MI

PROJECT #: 24-0049

FIG. 1

DATE PRINTED: 3/26/2026 11:44 AM
COORDINATE SYSTEM: WGS 1984 WEB MERCATOR AUXILIARY SPHERE
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Population

Population in the study area is expected to remain stable. Population projections noted in Table 1 reflect a continuation of trends from the last 50 years. No significant growth is expected in the next five years for residential or commercial development.

Table 1: Population Projections

Year	City of Eaton Rapids	Eaton Rapids Township	Hamlin Township	Eaton County
1960	4,052	1,597	1,229	49,684
1970	4,494	2,066	1,621	68,892
1980	4,510	2,823	2,195	88,337
1990	4,695	3,003	2,351	92,879
2000	5,330	3,821	2,953	103,655
2010	5,214	4,113	3,343	107,759
2020	5,203	3,991	3,227	109,175
2030 (a)	5,408	4,530	3,686	121,964
2040 (a)	5,620	4,708	3,831	126,763
2050 (a)	5,842	4,893	3,982	131,751

Note: 1960 to 2020 based on published US Census figures

(a) Average increase per decade within the communities above is 4%, 13%, 1%, and 12%, respectively.

Existing Environment Evaluation

The existing environment within the City of Eaton Rapids is developed residential and commercial areas. This includes neighborhoods, business districts, and scenic parks within the City limits. The City is characterized by relatively flat topography and is segmented by Grand River. The river is typically used for recreational purposes and not businesses, though commercial use is permitted. Wetlands and floodplains are present within the City. Eaton Rapids does contain significant historical and archaeological sites, but no impacts to them are anticipated.

The City is considering upgrades to existing infrastructure that will cause temporary environmental impacts, but no net increase in water system extent, withdrawal, residuals production or other material effects. Full details may be found under the section labeled “Environmental Evaluation”.

Existing System

The City of Eaton Rapids owns and operates a public water system which serves the City. Figure 2 on the following page provides a map of the existing water distribution system and location of the facilities. There are 2,450 known water services within this system. There are approximately 1,325 water services in Eaton Rapids that are categorized in the CDSMI as "lead" or "galvanized previously connected to lead." The status of approximately 456 of the total services is unknown. Refer to the CDSMI Summary in Appendix D for further details.

Condition of Source Facilities

The system contains seven groundwater supply wells (and one abandoned well), which are situated in the northern part of the City in two separate wellfields. The State has determined these wells to have a high to moderate susceptibility for contamination based on geologic sensitivity. The wellhead protection areas are included on the map of existing facilities and a wellhead protection plan is in place. Total capacity is 3280 gpm and firm capacity with standby power is 2130 gpm.

Water Treatment

The City has a conventional iron removal Water Treatment Plant (WTP) equipped with two aerators/detention tanks, two high service pumps, and three dual-cell horizontal pressure filters. The firm capacity for treatment based on the high service pumps is 1000 gpm.

Storage Tank

There are two elevated water storage tanks with mixers in the City, Tank 1 - West with 250,000 gallons and Tank 2 – East with 750,000 gallons of storage.

Service Lines

Recent publicity related to lead and copper in drinking water is leading to significant changes in distribution system operation and management. Lead and copper levels in Eaton Rapids have been above the allowable Action Levels in the recent past according to Water Quality Reports (see Appendix D).

It is known that a substantial percentage of Eaton Rapids' water distribution system remains with lead-impacted services. The City is in the process of identifying and removing lead services. Map for condition, material, and location of lead service lines is located in Appendix F.

Distribution System

Water main material, age and condition is summarized in excerpts from the 2023 Water Reliability Study in Appendix D. The system contains approximately 40 miles of 4"-16" main which is 95% ductile and cast iron pipe. The oldest main is believed to be from the 1950s. Several projects to upside and repair 4-inch

cast iron pipes have been completed in recent years and a significant replacement project is currently underway. See excerpts from 2026 DWSRF Water Main Improvements Project in Appendix D.

Residuals

Existing water treatment does not create residuals.

Water Meter Condition

The City has been performing continually planned and unplanned maintenance on water service lines consistently. The City's water meters are generally in functional condition and are read and billed once a month.

Operation and Maintenance

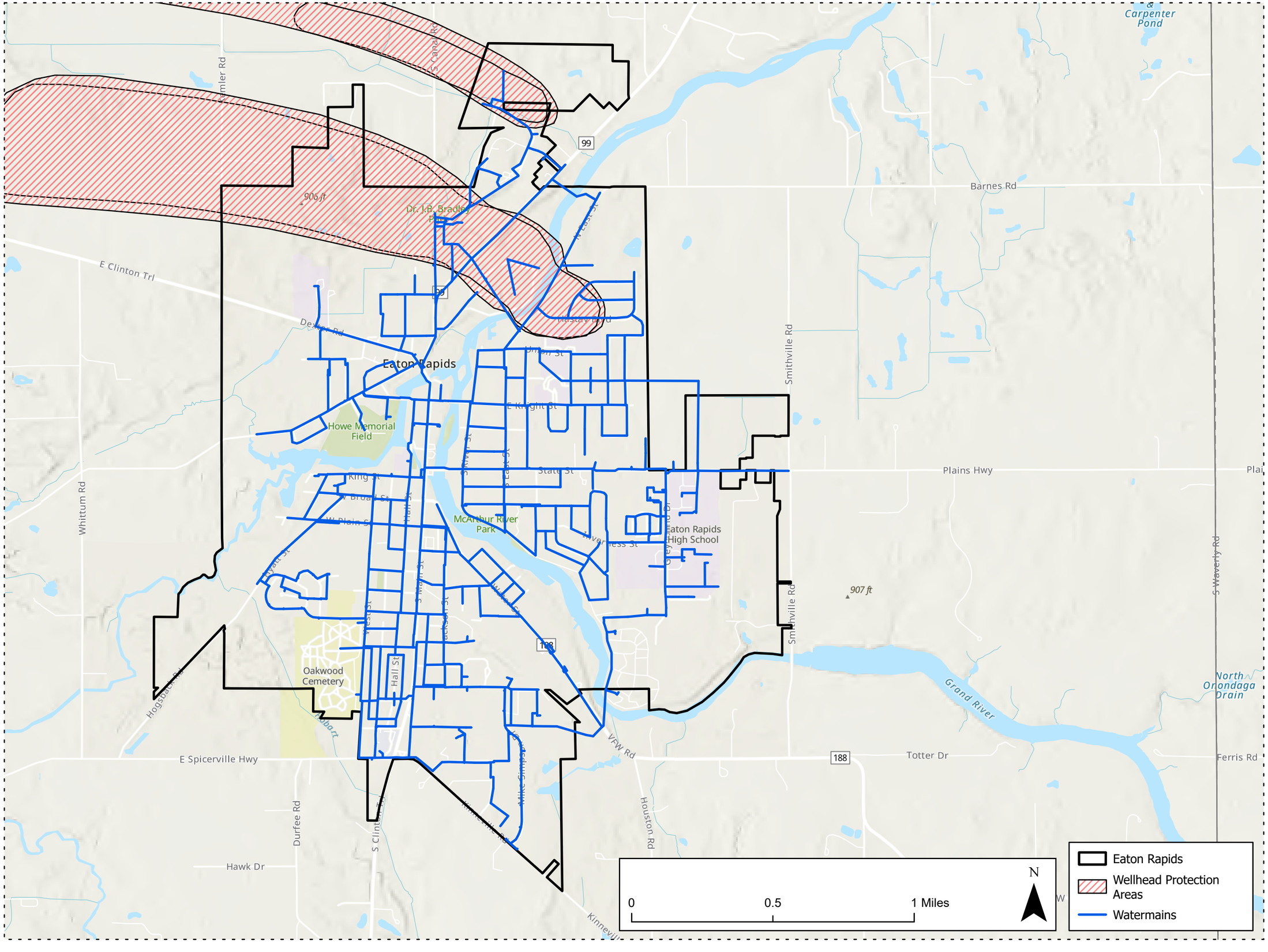
The City has been performing continually planned and unplanned maintenance on water service lines consistently. This effort would be minimized with the completion of the proposed work.

Design Capacity

The current capacity of the wells is 3.28 million gallons per day (MGD). The capacity of the WTP is 1.44 MGD and these values exceed the existing and projected needs.

Climate Resiliency

Eaton Rapids has fairly shallow wells (likely an unconfined aquifer) and is this regard most susceptible to climate change impacts in the event of a drought. Buried utilities such as the water service lines are insulated from most climate impacts such as storms, fire, and heat. Depth of cover is a consideration and frost depth is estimated at 42 inches below grade but may reach even deeper in extreme cases.



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DWSRF PROJECT PLAN STUDY AND SERVICE AREA

CITY OF EATON RAPIDS
EATON COUNTY, MI

PROJECT #: 24-0049

FIG. 2

DATE PRINTED: 3/26/2026 3:21 PM
COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MICHIGAN SOUTH FIPS 2113 FT INTL
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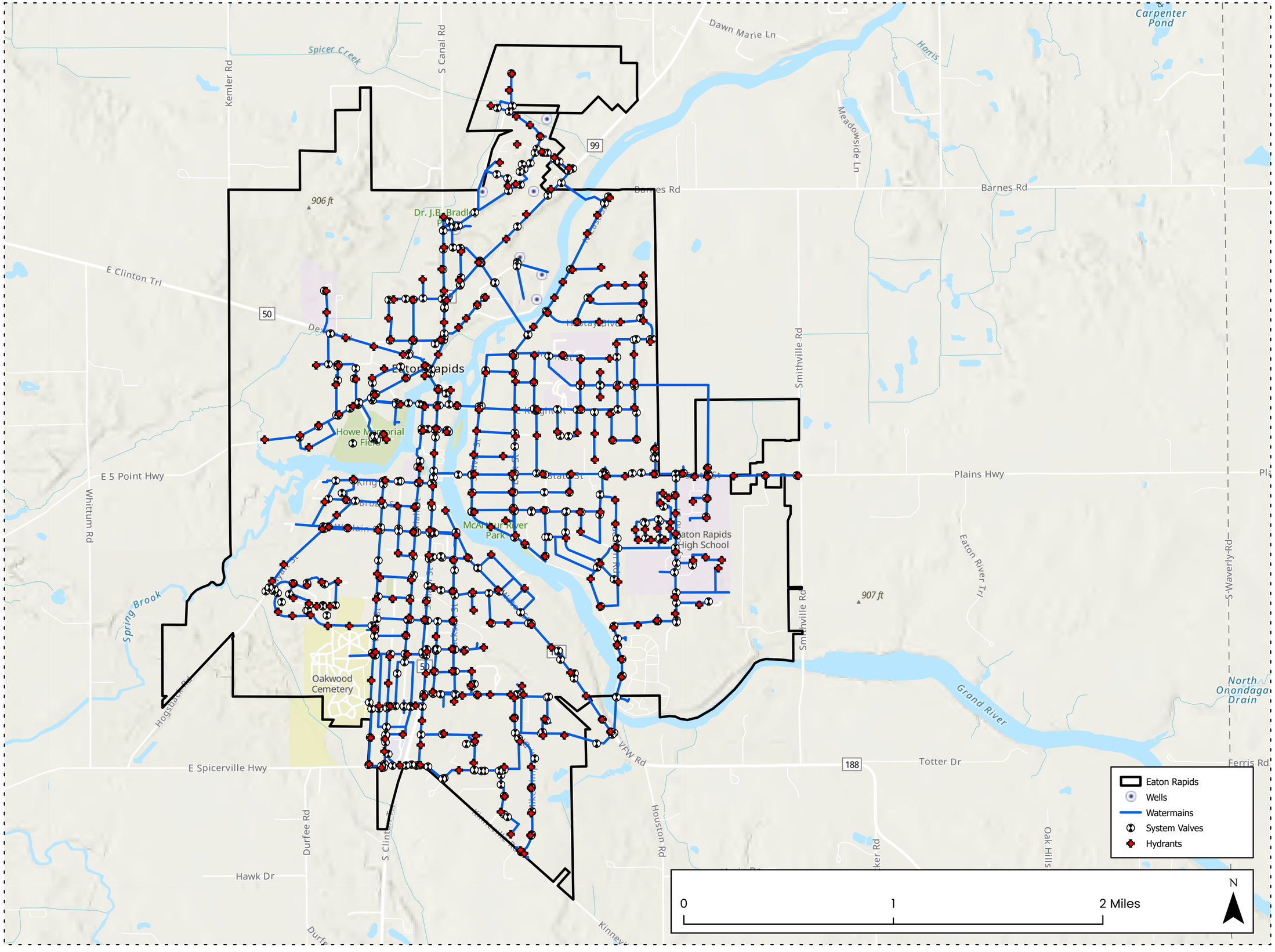

THE BAR BELOW SHOWS PRIMARY COLORS

THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID

WE RECYCLE

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DWSRF PROJECT PLAN

EXISTING WATER SYSTEM AND FACILITIES

CITY OF EATON RAPIDS
EATON COUNTY, MI

PROJECT #: 24-0049

FIG. 3

Need for the Project

To remain in compliance with State and Federal regulations and to prioritize the safety of their residents, Eaton Rapids needs to replace all lead-impacted water services by 2040.

Compliance with Drinking Water Standards

The City of Eaton Rapids is in compliance with the drinking water standards as defined in the Administrative Rules for Act 399 and has no record of non-compliance with regulations but has had acute violations. To maintain compliance with Lead and Copper rules, the City will be required to replace all lead-impacted lines within its system.

Orders or Enforcement Actions

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

Drinking Water Quality Problems

According to the City's 2024 Water Quality Report available in Appendix D, the water system was in violation with Lead and Copper, exceeding the allowable Action Level. Corrections have been made to address sampling issues with TTHM and HAA5.

Projected Future Needs

Eaton Rapids is currently entering the construction phase of a significant water main replacement project through DWSRF. The remaining, immediate future needs for the City of Eaton Rapids include projects to replace all the lead-impacted service lines within the city.

The five-year and twenty-year Capital Improvement Plans for the City of Eaton Rapids summarize the improvements for the water system which the City proposes to implement. For more detailed descriptions of the capital improvement plan projects, refer to the Water System Reliability Study excerpts and Asset Management Plan in Appendix D.

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WE RECYCLE

N

Legend

- Elevated Storage Tank
- Production Well

Water

Water Main Age

- 1950-1959
- 1960-1969
- 1970-1979
- 1980-1989
- 1990-1999
- 2000-2009
- 2010-2019
- 2020-2023

Raw Water Main

Water Main Age

- 1950-1959
- 1990-1999
- 2000-2009
- City Limits/Service Area
- City_of_EatonRapids_Roads

Areas of known lead goosenecks

WELL #8
430 GPM

WELL #6
ABANDONED

WELL #2
350 GPM

WTP

WELL #7
700 GPM

WELL #1
1,000 GPM

WELL #3
250 GPM

WELL #4
250 GPM

WELL #5
300 GPM

TANK 1
250,000 GAL

TANK 2
750,000 GAL

KEMLER RD
S OAKS RD
S SMITH RD
WINDING ACRES LN
GALUSHA GROVE
FOLLOW RIDGE DR
CARLTON DR
GUNNISON S
LYNDHURST DR
N EAST ST
E CLINTON TR
DEXTER RD
E FIVE POINT HW
E SPICERVILLE HW
PLAINS HW
OAKRIDGE DR
SMITH LAKE RD
HOSKINS RD
VFW RD
KATELIN DR
HAWK DR
DURFEE RD
S CLINTON TR
SCHAEFFER LN
TRINITY LN
HOUSTON RD
LISA MARIE DR
HAWMAN DR
SPICERVILLE ST
WILLIAMS ST
KYLE ST
MONTGOMERY ST
KIMBARK AV
LINDY AV
MARLIN AV
GRAND ST
WEST ST
VERO ST
HELEMAN ST
HAVEN ST
ALICE ST
EATON PINES BD
S GALLERY DR
HARWOOD CT
TROY CT
TYLER DR
PARK ST
W ELIZABETH ST
E ELIZABETH ST
W SOUTH ST
E SOUTH ST
W PLAIN ST
E PLAIN ST
W BROAD ST
E BROAD ST
KING ST
JENNIE ST
HART ST
MONTGOMERY ST
HALL ST
GOODRICH ST
JACKSON ST
MAPLE ST
GROVE ST
MICHAELS VIEW LN
N TABERNACLE DR
OUTER DR
WESLEY RD
EPWORTH RD
CHAPEL RD
GRAND RIVER DR
OAKWOOD AV
N TABERNACLE CT
MCARTHUR RIVER DR
PEBBLE LN
FOX ST
EXETER ST
CUMBERLAND DR
COVENTRY RD
RIDGEMOOR DR
INVERNESS ST
RAEBURN RD
GREENTREE RD
PHEASANT RUN
BLANDFORD
JOHN R DAVIDSON DR
GOLD ST
TIPPERARY DR
LEONARD ST
DUTTON ST
HOLMES ST
E HAMLIN ST
W KNIGHT ST
E KNIGHT ST
KNIGHT ST
DIANA ST
CRANE ST
UNION ST
CONNEMARA RD
N CENTER ST
S CENTER ST
N RIVER ST
S RIVER ST
N MAIN ST
S MAIN ST
MILL ST
FROST ST
BROWN ST
TAGGART ST
LAKE ST
OAK ST
CHERRY ST
CHURCH ST
LINE ST
DIVISION ST
UNION ST
MINERVA ST
NORTH ST
BERRY ST
CLARK ST
LESSING ST
MARKET ST
ASHMERVILLE CT
PRAHNER DR
NATHAN DR
HASTAY RD
N MILLER DR
ALBERS ST
KERRY ST
KERRY CT
N DONEGAL ST
S DONEGAL ST
WICKLOW RD
HEATH RD
KINSELLY RD
CARLOW CT
MCLAUGHLIN ST
CASTLE RD
ROSEWOOD LN
WOODLAWN CEMETERY
CEMETERY
AC PIPE

SHEET	DATE	PROJ #	
FIG 3	DEC 2023	22-0445	EXISTING WATER SYSTEM WATER MAIN AGE MAP

CITY OF EATON RAPIDS

WATER SYSTEM RELIABILITY STUDY

EATON COUNTY, MICHIGAN

Figure 4: Known Lead Areas

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 alternatives to address Lead and Copper Rule compliance in the next five to twenty years.

The estimated quantity of water services in need of replacement excludes the water services being replaced by the current DWSRF construction project for water main improvements and adjacent water service replacement.

Potential Alternatives

Alternative 1: No Action, Self-Funded Service Line Replacement

The City of Eaton Rapids currently maintains high quality water treatment and distribution, including many assets that have extended beyond their design life because of excellent maintenance. In compliance with the Lead and Copper Rule, the City will continue to address 5% of their lead-impacted or unknown-material service lines. In this scenario, they will engage contractors on an annual basis for potholing investigations and replacements as needed. Current estimate includes 62% of the "unknowns" as needing replacement (consistent with current inventory proportions), but 100% of the unknowns needing "pothole" investigation to verify.

Emergency partial repairs may be needed to address aging service line issues and breaks rather than implementing proactive preventative and strategic improvements and would require additional costs such as boil-water 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

If awarded funding through DWSRF, City of Eaton Rapids could engage a contractor to identify and replace all lead-impacted water service lines in a comprehensive project. In a service-line-only replacement project, the City is very likely to meet the 2040 deadline for CDSMI compliance.

Many of the water lines are 70 years old and have exceeded their expected life. This alternative does not address adjacent water main or sewer of a similar age or condition. However, completing full replacements for lead impacted service lines would reduce the necessity of emergency replacements and additional expenses. Current estimate includes 62% of the "unknowns" as needing replacement (consistent with current inventory proportions), but 100% of the unknowns needing "pothole" investigation to verify.

No Action or Optimum Performance of Existing System

Leaving lead-impacted water services in place is not a viable option, as the City is legally obligated to be lead free by 2040. The City will continue to work with leak detection and fix leaks as they are found to further reduce lost water.

The City of Eaton Rapids has maintained acceptable performance for its existing water system. This is done by continual O&M throughout the City while detecting potential issues. However, the severity and frequency of these issues will continue to increase with the current lead lines in place.

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 each property.

Monetary Evaluation

The construction costs used in this analysis are based on previous work done in Eaton Rapids 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 $10,000 per service and $500 per pothole from recent bid prices from Eaton Rapids and neighboring communities. For costing purposes, the ratio of known-replacements/total known was applied to the services of "unknown" material; estimate assumes the ratio of lead-impacted services stays consistent throughout the potholing. All unknown services are assumed to need potholing for inventory purposes. These estimations were determined by the CDSMI and a preview of it can be found in Appendix D.

Sunk Costs

Potholing, asset management planning, and project plan development are considered sunk costs, but they were offset by the assistance of the TMF grant from EGLE. Likewise, the preliminary construction plans generated during service line inventory will be beneficial if used to engage a contractor.

Present Worth

A present worth analysis is also included in Table 2, below. Because Eaton Rapids is not an overburdened community, they are eligible for a 30-year loan/bond term. The bond schedule, operating expense, and salvage values can be found in Appendix A. In the self-funding scenario (alternative 1) construction costs are distributed evenly over the next 13 years as an annual increase to operations and maintenance. A

detailed accounting of the 20-year present worth analysis is included in Appendix A. A summary is included in Table 2 below.

Table 2: Present Worth Analysis

Item	Description	Alternative 1: Self-Funded LSLR	Alternative 2: DWSRF LSLR
1	Construction Costs	$0	$14,258,318
2	Engineering, Legal, Administration, Planning, and Contingencies	$0	$2,851,664
3	Total Capital Cost	$0	$17,109,982
4	Total OM&R Change	$1,306,152	$-10,000
5	Present Worth of O&M Costs	$14,629,168	$-160,402
6	Salvage Value	$12,661,386	$10,265,989
7	Present Worth of Salvage Value	$8,193,385	$6,643,285
8	**Total Present Worth**	**6,435,784**	**$10,306,295**

Table row description for Table 2:

1. Construction costs are developed from existing bids and capital improvement planning.
2. Project support fees based on a percentage of construction costs; typical rate 20%. Table 5 further breaks this total cost down for Alternative 2.
3. Capital costs are the sum of 1 and 2.
4. OM&R costs are based on maintaining existing operations ($0 increase) or paying for construction from cash reserves ($/year/service).
5. Present value of O&M costs for 20 years at 2.2% (real discount rate).
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 future salvage at 2.2% interest for 20 years.
8. Total of items 3 and 5 minus 7

Escalation

No escalating values or interest costs were included in the cost evaluation.

User Costs

Cost changes for the project users have been calculated based on funding from cash reserves (13 year timeline) or 30-year low interest loans. Increase per residential user range from $25-38/month. Review detailed breakdown of REU calculations and debt service in Appendix A.

Environmental Evaluation

The City of Eaton Rapids 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 preliminary environmental review has been performed, and the findings are included within Appendix C. Several maps are included in Appendix F which illustrate land/water interface, natural resources, and special conservation areas.

Potential Affected Items

1. 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.
2. 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.
3. 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.
4. Wetlands: Although there are scattered pockets and areas of wetlands in the project area (City), none are expected to be impacted by the project.
5. Coastal Zone: No part of the project area (City) will be within a coastal zone.
6. Floodplains: Floodplains or high-water marks exist along the shoreline of Grand River. It is anticipated that the proposed project will not impact any floodplains.
7. Natural or Wild and Scenic Rivers: There are no designated natural or wild and scenic rivers in the study area.
8. Surface Waters: The project area surrounds part of Grand River. No work is anticipated near existing surface water.
9. 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.
10. 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

From among the Lead Service Line Replacement alternatives, the construction work will need to proceed regardless of DWSRF funding. If funding from the State is available with a portion of loan forgiveness, Alternative 2 is the cost-effective alternative. If Eaton Rapids is not funded, they will proceed with construction based on self-funding through elevated user rates over the next 20 years.

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

Non-lead brass fittings and K-copper services will mitigate and prevent the migration of lead in the public water system. For longer services, small diameter plastic pipe will be used to provide adequate pressure at a lower cost. Each individual service should be able to provide at least 35 psi and approximately 30 gpm. It is recommended that water service materials be consistent with the current DWSRF water main improvements project which includes standard details for water main and water service. Expected depth of bury (below frost depth 48-inches) is planned for six feet (72 inches).

No changes to wells, treatment, pumps, storage volume, residuals production or routing are included among the selected alternatives.

The scope of this selected alternative is to identify and replace all lead-impacted services not already included in the DWSRF Water Main improvements project. Refer to Appendix A for projected quantities.

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 Eaton Rapids is expected to be at least 50-years.

No weighted useful life analysis was included because the water service line materials are expected to have consistent service life in excess of the DWSRF loan timeline.

Schedule for Design and Construction

Preliminary design has been completed for the service line replacements in a manner consistent with recent contracts for "pothole" investigation and restoration. To prepare for bidding and construct the selected alternative, the City of Eaton Rapids could proceed rapidly with a second-quarter timeline. and construction is present in Table 4 below. It is expected that fourth quarter's financing will be used.

Table 3: Project Schedule

Item	Target
DWSRF Application Submittal	Spring 2026
DWSRF Acceptance	Summer 2026
Funding Commitment	Fall 2026
Start Design	Spring 2026
Land & Easements Acquisition	Not Applicable
Permits	Not required for LSLR
Advertise for Bids	Winter 2027
Funding Closing	Spring 2027
Contract Award	Spring 2027
Construction	Summer 2027
Substantial Completion	Fall 2028
Final Completion	Fall 2028

Project and User Costs

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

Table 4: Project Cost Summary

Item	Estimated Cost
Construction	**$14,258,318**
Administration, Legal, Bonding, Permits, & Miscellaneous	**$162,708**
Planning	$299,724
Design	$719,339
Bidding	$34,254
General Engineering During Construction	$291,161
Post Construction Services	$34,254
Resident Project Representative	$470,995
Additional Services – Design Related	$162,708
Additional Services – Construction Related	$316,852
Engineering Total	**$2,491,994**
Contingencies	$1,425,832
Total Project Cost	**$18,176,144**

Table 6 demonstrates the impact on user rates that may be possible with a project of this size. This breakdown assumes a 30-year debt service on the bond at an interest rate of 2.75% 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 5: User Costs

Description	Self-Funding	DWSRF Loan
DWSRF Loan Amount	0	$18,177,000
Anticipated Interest Rate	N/A	2.75%
Term	10 years	30 Years
Annual Debt Service	$1,398,231	$897,661
Monthly Debt Service	$116,519	$74,805
Estimated System REU	2864	2864
User Rate Impact / REU / month	$40.68	$26.12

These components will be submitted to EGLE for funding under the LSLR-only funding category for FY2027. A preliminary score sheet has been included in Appendix B.

Overburdened Community

An “Overburdened Community Status Determination Survey” will be submitted to EGLE through their online portal. Based on FY2027 criteria, Eaton Rapids is not expected to qualify as “overburdened” or “significantly overburdened” because their median annual household income exceeds the threshold.

Implementability

The City of Eaton Rapids 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 and has the legal, institutional, technical, financial, and managerial resources to accomplish implementation of the recommended alternatives.

The City plans to coordinate lead service line replacement with regular road repaving and maintenance. Coordination with the DWSRF Water Main Improvements project will also be ongoing.

Environmental and Public Health Impacts

The City of Eaton Rapids has considered the impact of these recommended improvements. The areas most affected have already been impacted by the original construction of water facilities. The necessary disruption due to construction must be performed with conservation in mind. A preliminary environmental review has been prepared and the findings are included within Appendix C.

Direct Impacts

Construction Impacts

Construction activity impacts will be short term and are not expected to be unusual for utility facility construction. Directional drilling is increasingly common for water service installation, but some amount of open trench is certain. Construction-related dust and erosion will be addressed through conventional soil erosion and sediment control best practices. Where applicable, contract documents will require construction methods and disturbed areas to be minimized regarding their impact on the site and neighboring areas. Tree removal may be necessary where they have grown into and above water main and services.

Operational Impacts

Potential operational impacts are consistent with regular construction work, including temporary shut-downs for water control and possible boil advisories. Traffic will be affected around construction areas and detours will be put in place for safety. Any accidents such as chemical spills or contamination are not expected but plans to handle situations will be provided.

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.

The cost of lead-impacted service replacements is being afforded by the City of Eaton Rapids at the expense of all users. A low-interest SRF loan will extend the repayment time and reduce immediate costs to rate payers.

Indirect Impacts

The project segments will take place in previously developed areas and should not create changes in rate, density, or type of land development. Air and water quality changes stemming from primary and secondary development are expected to be temporary and minor. 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.

No additional or increased resource consumption will occur due to these projects other than during construction. Pipe material, bedding soil and fuel consumption during construction are embedded costs that are not avoidable.

Cumulative Impacts

This project will be conducted in previously disturbed areas of road right-of-way and residential lawns. Because of this, there will be minor cumulative impacts this project has on the environment such as compaction of soil and abandonment-in-place of previous water service line. This project will also have temporary impacts on the environment because excavation and noise are temporary. It is not anticipated that there will be any environmental impacts after construction is completed.

One positive impact this project will have 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.

The cumulative costs of current 2026 DWSRF Water Main Improvements Project and the proposed LSLR project will certainly increase water user rates. City leadership is growing experienced in administration of SRF projects and is working to control cost increases.

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.

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. City staff are expected to maintain current operations throughout construction and with the new facilities in place.

Construction impacts

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 dewatering will be done locally, discharging to the ground surface or adjacent storm sewer. Imported soil will be used to bed the pipe, but native soil is otherwise expected to be used for backfill. Disposal of construction spoils in wetlands, floodplains, shorelines, or other sensitive areas will be prohibited. All spoils will be disposed of off-site at an approved location.

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. 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.

Traffic Safety

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.

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.

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. Disruption of utilities during construction will be kept to the minimum necessary to allow new installations. Repairs will be made in a timely manner.

User Impacts

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. The direct benefit of LSLR is to the residents at each individual property. However, the improved health and resiliency at that location will continue into perpetuity.

Public Participation

The City of Eaton Rapids water system needs and generic potential fixes have been openly noted at several City Council meetings over the past decade. The Council held an informational public meeting in the past year in which the results of the potholing and internal inspections and state requirements for lead impacted service line replacements and compliance were discussed.

Eaton Rapids has submitted DWSRF Project Plans in the past and has received funding in FY2025. Additional project development was completed in 2026, and this updated, Lead Service Line - Only project plan will be advertised for public comment in 2026.

Public Meeting

The FY2027 DWSRF Project Plan was summarized at the public meeting as follows:

1. A description of the water quality problems to be addressed by the project and the principal alternatives that were considered.
2. A description of the recommended alternative, including its capital costs and a cost breakdown by project components.
3. A discussion of project financing and costs to users, including the proposed method of project financing and estimated monthly debt retirement; the proposed annual, quarterly, or monthly charge to the typical residential customer; and any special fees that will be assessed.
4. A description of the anticipated social and environmental impacts associated with the recommended alternative and the measures that will be taken to mitigate adverse impacts.

Public Meeting Advertisement

This project plan will be advertised for public review and comment prior to the April 27th City Council meeting.

Public Meeting Summary

The following elements from the public hearing must be included in the final plan.

1. Summary of the meeting held and what was covered during the meeting. If a presentation was given, a copy of the slides is sufficient for a summary.
2. List of all attendees. If possible, include contact information such as email addresses for those present to be sent a copy of the Environmental Assessment.
3. Any specific concerns that were raised during the meeting and the responses.
4. Any written comments that were received during the public notice period and the responses.

5. Any changes that were made to the project because of public comment should be described in the plan
6. Adoption of the project planning document.

Adoption of Project Planning Document

EGLE and Owner preliminary review comments will be incorporated into the final version of this Project Planning Document. A resolution by City Council accepting the Project Plan and selected alternative will be included in Appendix E.

Appendix A
Basis of Cost

New Construction

Description	Alternative 1: Self-funding	Alternative 2: DWSRF Loan
Water service investigation (potholing)*	$ 187,500	$ 187,500
Water service, 1 inch (typical) *	$ 13,391,851	$ 13,391,851
Water main, 8 inch HDPE	$ -	$ -
Water well, 20" diameter, 600 ft	$ -	$ -
Supporting structures	$ -	$ -
Mobilization (5%)	$ 678,968	$ 678,968
Construction Costs	**$ 14,258,318**	**$ 14,258,318**
Engineering, Legal, Administration and Contingency	$ 3,917,826	$ 3,917,826
Total Capital Costs	**$ 18,176,144**	**$ 18,176,144**

*(Subtract current project replacements underway)**	*436*	*18%*	
Number of "unknown" services	456		375 *
Number of confirmed replacements needed	1,325		1090 *
Number of Non-Lead Services	669		550 *
Number of Services w/ Known Material	1,994		
Proportion of GRR/total in water system	0.66		
Typical water service cost (ea)	$ 10,000.00		
Estimated number of replacements	1339		

Engineering Costs

Description	Alternative 1	Alternative 2
Construction Costs	**$ 14,258,318**	**$ 14,258,318**
Admin, Legal, Bonding, Permits, & Misc	$ 162,708	$ 162,708
Planning	$ 299,724	$ 299,724
Design	$ 719,339	$ 719,339
Bidding	$ 34,254	$ 34,254
General Engineering During Construction	$ 291,161	$ 291,161
Post Construction Services	$ 34,254	$ 34,254
Resident Project Representative	$ 470,995	$ 470,995
Additional Services – Design Related	$ 162,708	$ 162,708
Additional Services – Construction Related	$ 316,852	$ 316,852
Engineering Total	**$ 2,491,994**	**$ 2,491,994**
Contingencies	$ 1,425,832	$ 1,425,832
Total Project Cost	**$ 18,176,144**	**$ 18,176,144**

20-Year Present Value Evaluation

Description	Alternative 1	Alternative 2
Construction Cost		$ 14,258,318
Engineering, Legal, Admin and Contingencies		$ 3,917,826
Total Capital Cost		$ 18,176,144

Salvage Value of Alternative		
Structures, Piping, and Valves (50 year Life)	$13,450,347	$10,905,687
Equipment (20 year life)	$ -	$ -
Average Useful Life after 20-year evaluation	37	30
Total	$ 13,450,347	$ 10,905,687

Present worth Analysis of Alternative		
Total Capital	$ -	$ 18,176,144
Total Annual OM&R change	$ 1,388,165	$ (10,000)
Salvage	$ 13,450,347	$ 10,905,687
Real Interest/Discount Rate	0.022	0.022
Years*	13	20
$(1+i)^N$	1.33	1.55
Present Value of Annual O&M Change	$ 15,547,725	$ (160,402)
Present Value of Salvage	$ 8,703,933	$ 7,057,243
Present Value	$ 6,843,791	$ 10,958,499

**13 for annual expense OM&R, 20 for salvage value)*

Engineering Costs

Meter Size	# of meters	Multiplier for REUs	No. of REUs
5/8 & 3/4	2029	1	2029
1"	23	2.5	58
1.5"	30	5	150
2"	34	8	272
3"	11	15	165
4"	3	25	75
10"	1	115	115
Total Existing Users	**2131**		**2864**

Bond Schedule

Bond lifetime	**30**
Interest Rate:	**2.750%**
Yrs Deferred Principal:	**0**
Principal:	**$18,177,000**
Ammort. Factor	**0.0494**
Ammortized Payment:	**$897,661**
Monthly Debt Service	**$74,805**
Estimated System EDUs	**2864**
User Rate Impact per month	**$26.12**

Year	1st Interest	2nd Interest	Principal Paid	Total Year Payment	Loan Balance
					18,177,000
1	249,934	249,934	398,000	897,868	17,779,000
2	244,461	244,461	409,000	897,923	17,370,000
3	238,838	238,838	420,000	897,675	16,950,000
4	233,063	233,063	432,000	898,125	16,518,000
5	227,123	227,123	443,000	897,245	16,075,000
6	221,031	221,031	456,000	898,063	15,619,000
7	214,761	214,761	468,000	897,523	15,151,000
8	208,326	208,326	481,000	897,653	14,670,000
9	201,713	201,713	494,000	897,425	14,176,000
10	194,920	194,920	508,000	897,840	13,668,000
11	187,935	187,935	522,000	897,870	13,146,000
12	180,758	180,758	536,000	897,515	12,610,000
13	173,388	173,388	551,000	897,775	12,059,000
14	165,811	165,811	566,000	897,623	11,493,000
15	158,029	158,029	582,000	898,058	10,911,000
16	150,026	150,026	598,000	898,053	10,313,000
17	141,804	141,804	614,000	897,608	9,699,000
18	133,361	133,361	631,000	897,723	9,068,000
19	124,685	124,685	648,000	897,370	8,420,000
20	115,775	115,775	666,000	897,550	7,754,000
21	106,618	106,618	684,000	897,235	7,070,000
22	97,213	97,213	703,000	897,425	6,367,000
23	87,546	87,546	723,000	898,093	5,644,000
24	77,605	77,605	742,000	897,210	4,902,000
25	67,403	67,403	763,000	897,805	4,139,000
26	56,911	56,911	784,000	897,823	3,355,000
27	46,131	46,131	805,000	897,263	2,550,000
28	35,063	35,063	828,000	898,125	1,722,000
29	23,678	23,678	850,000	897,355	872,000
30	11,990	11,990	874,000	897,980	-2,000

User Costs

Description	Alternative 1	Alternative 2
Construction Costs	$ 14,258,318	$ 14,258,318
Admin, Legal, Bonding, Permits, & Misc	$ 3,917,826	$ 3,917,826
Total Capital Cost	**$ 18,177,000**	**$ 18,177,000**
Bond lifetime		30
Interest Rate:		0.0275
Yrs Deferred Principal:		0
Principal:		$ 18,177,000
Ammort. Factor		**0.0494**
Ammortized Payment:	**$1,398,231**	**$897,661**
Monthly Debt Service	$ 116,519	$ 74,805
Estimated System REUs	2864	2864
User Rate Impact per month	$ 40.68	$ 26.12
New User Rate per Month	**$ 93**	**$ 78**

106 W. Allegan Street, Suite 500
Lansing, MI 48933
517.371.1200
www.c2ae.com

BID TABULATION

Eaton Rapids, Water Distribution Improvements, Contract 2, DWSRF#7520-01
City of Eaton Rapids
Eaton Rapids, Eaton County, Michigan
June 23, 2025

Approximate # services: 438
Approximate cost per service: $7,488
Subtotal of project: 25%

Item	Description	Unit	Quant.	Average Cost	LSLR Cost	C&D Hughes 3097 Lansing Rd. Charlotte, MI 48813		CL Trucking & Excavating, LLC 256 E Parmeter Rd Ionia, MI 48846		Hoffman Bros. 8574 Verona Rd Battle Creek, MI 49014		Mead Brothers PO Box 99 Springport, MI 49284		Dunigan Bros 911 E South Street Jackson, MI 49203		Leavitt & Starck 16220 National Parkway Lansing, MI 48906		ET Mackenzie Co 4248 W. Saginaw Grand Ledge, MI 48837	
						Cost	Total	Cost	Total	Cost	Total	Cost	Total	Cost	Total	Cost	Total	Cost	Total
1	Mobilization, Max $530,000	LSUM	1	2.92%	$ 93,153.06	$530,000.00	$530,000.00	$530,000.00	$530,000.00	$530,000.00	$530,000.00	$529,850.00	$529,850.00	$530,000.00	$530,000.00	$530,000.00	$530,000.00	$530,000.00	$530,000.00
2	Tree, Rem, 19 inch to 36 inch	EA	10	$ 1,581.96		$1,500.00	$15,000.00	$1,100.00	$11,000.00	$975.00	$9,750.00	$4,000.00	$40,000.00	$1,425.00	$14,250.00	$1,023.75	$10,237.50	$1,050.00	$10,500.00
3	Tree, Rem, 6 inch to 18 inch	EA	5	$ 729.21		$500.00	$2,500.00	$415.00	$2,075.00	$370.00	$1,850.00	$2,500.00	$12,500.00	$541.00	$2,705.00	$388.50	$1,942.50	$390.00	$1,950.00
4	Pavt, Rem	SYD	2,135	$ 15.58		$12.00	$25,620.00	$14.00	$29,890.00	$7.45	$15,905.75	$29.00	$61,915.00	$9.50	$20,282.50	$15.00	$32,025.00	$22.10	$47,183.50
5	Sidewalk, Rem	SYD	1,456	$ 10.46		$8.00	$11,648.00	$10.00	$14,560.00	$13.30	$19,364.80	$5.80	$8,444.80	$8.40	$12,230.40	$15.01	$21,854.56	$12.70	$18,491.20
6	HMA Surface, Rem	SYD	53,975	$ 5.60		$3.50	$188,912.50	$4.00	$215,900.00	$3.25	$175,418.75	$4.70	$253,682.50	$6.70	$361,632.50	$10.28	$554,863.00	$6.75	$364,331.25
7	Corporation Stop, 1 inch	EA	436	$ 770.99	$ 336,151.02	$600.00	$261,600.00	$350.00	$152,600.00	$565.30	$246,470.80	$600.00	$261,600.00	$2,190.00	$954,840.00	$566.62	$247,046.32	$525.00	$228,900.00
8	Corporation Stop, 2 inch	EA	2	$ 1,562.60	$ 3,125.21	$1,000.00	$2,000.00	$950.00	$1,900.00	$1,028.00	$2,056.00	$1,100.00	$2,200.00	$4,935.00	$9,870.00	$1,135.22	$2,270.44	$790.00	$1,580.00
9	Curb Stop and Curb Box, 1 inch	EA	436	$ 869.13	$ 378,940.06	$850.00	$370,600.00	$700.00	$305,200.00	$509.10	$221,967.60	$1,800.00	$784,800.00	$329.80	$143,792.80	$1,235.00	$538,460.00	$660.00	$287,760.00
10	Curb Stop and Curb Box, 2 inch	EA	2	$ 1,444.16	$ 2,888.32	$1,000.00	$2,000.00	$1,350.00	$2,700.00	$878.80	$1,757.60	$3,300.00	$6,600.00	$988.10	$1,976.20	$1,592.22	$3,184.44	$1,000.00	$2,000.00
11	Water Service, Building Penetration Allowance, $500.00	EA	40	$ 500.00	$ 20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00
12	Water Service, Interior Plumbing Connection Allowance, $500.00	EA	40	$ 500.00	$ 20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00	$500.00	$20,000.00
13	Water Service, Misc Site Restoration Allowance, $600.00	EA	95	$ 600.00	$ 57,000.00	$600.00	$57,000.00	$600.00	$57,000.00	$600.00	$57,000.00	$600.00	$57,000.00	$600.00	$57,000.00	$600.00	$57,000.00	$600.00	$57,000.00
14	Hydrant Assembly	EA	71	$ 8,229.96		$6,000.00	$426,000.00	$8,500.00	$603,500.00	$7,995.00	$567,645.00	$8,750.00	$621,250.00	$10,420.00	$739,820.00	$7,994.70	$567,623.70	$7,950.00	$564,450.00
15	Gate Valve and Box, 4 inch, Modified	EA	9	$ 1,813.99		$1,800.00	$16,200.00	$1,550.00	$13,950.00	$1,367.00	$12,303.00	$2,600.00	$23,400.00	$1,585.00	$14,265.00	$1,645.96	$14,813.64	$2,150.00	$19,350.00
16	Gate Valve and Box, 6 inch, Modified	EA	15	$ 2,274.69		$2,000.00	$30,000.00	$1,750.00	$26,250.00	$1,565.00	$23,475.00	$2,800.00	$42,000.00	$1,835.00	$27,525.00	$1,872.80	$28,092.00	$4,100.00	$61,500.00
17	Gate Valve and Box, 8 inch, Modified	EA	134	$ 2,739.19		$3,250.00	$435,500.00	$2,400.00	$321,600.00	$2,127.00	$285,018.00	$3,300.00	$442,200.00	$2,565.00	$343,710.00	$2,482.30	$332,628.20	$3,050.00	$408,700.00
18	Gate Valve and Box, 10 inch, Modified	EA	14	$ 4,338.76		$5,000.00	$70,000.00	$3,600.00	$50,400.00	$2,945.00	$41,230.00	$4,200.00	$58,800.00	$3,690.00	$51,660.00	$3,436.30	$48,108.20	$7,500.00	$105,000.00
19	Gate Valve and Box, 12 inch, Modified	EA	1	$ 6,069.33		$6,500.00	$6,500.00	$4,500.00	$4,500.00	$3,577.00	$3,577.00	$9,900.00	$9,900.00	$4,530.00	$4,530.00	$4,178.30	$4,178.30	$9,300.00	$9,300.00
20	Hydrant, Rem, Modified	EA	39	$ 1,191.80		$725.00	$28,275.00	$850.00	$33,150.00	$1,789.00	$69,771.00	$1,200.00	$46,800.00	$453.60	$17,690.40	$975.00	$38,025.00	$2,350.00	$91,650.00
21	Water Service, 1 inch, Modified	FT	15,309	$ 88.62	$ 1,356,727.32	$55.00	$841,995.00	$65.00	$995,085.00	$66.70	$1,021,110.30	$65.00	$995,085.00	$85.00	$1,301,265.00	$108.66	$1,663,475.94	$175.00	$2,679,075.00
22	Water Main, 4 inch, Tr Det F, Modified	FT	910	$ 162.94		$165.00	$150,150.00	$115.00	$104,650.00	$114.90	$104,559.00	$128.00	$116,480.00	$206.40	$187,824.00	$221.29	$201,373.90	$190.00	$172,900.00
23	Water Main, 4 inch, Tr Det G, Modified	FT	835	$ 186.56		$165.00	$137,775.00	$140.00	$116,900.00	$141.10	$117,818.50	$170.00	$141,950.00	$248.50	$207,497.50	$221.29	$184,777.15	$220.00	$183,700.00
24	Water Main, 8 inch, Tr Det F, Modified	FT	2,813	$ 164.25		$120.00	$337,560.00	$112.00	$315,056.00	$148.10	$416,605.30	$148.00	$416,324.00	$190.20	$535,032.60	$221.47	$622,995.11	$210.00	$590,730.00
25	Water Main, 8 inch, Tr Det G, Modified	FT	27,608	$ 192.49		$120.00	$3,312,960.00	$155.00	$4,279,240.00	$163.40	$4,511,147.20	$153.00	$4,224,024.00	$249.00	$6,874,392.00	$247.00	$6,819,176.00	$260.00	$7,178,080.00
26	Water Main, 10 inch, Tr Det G, Modified	FT	196	$ 344.14		$205.00	$40,180.00	$150.00	$29,400.00	$143.90	$28,204.40	$415.00	$81,340.00	$252.30	$49,450.80	$337.78	$66,204.88	$905.00	$177,380.00
27	Temporary Water Service	EA	124	$ 2,839.23	$ 352,064.34	$700.00	$86,800.00	$1,000.00	$124,000.00	$974.60	$120,850.40	$1,000.00	$124,000.00	$4,270.00	$529,480.00	$6,130.00	$760,120.00	$5,800.00	$719,200.00
28	Connect to Existing Water Main	EA	84	$ 6,289.14		$2,300.00	$193,200.00	$4,500.00	$378,000.00	$5,755.00	$483,420.00	$5,600.00	$470,400.00	$7,735.00	$649,740.00	$7,434.00	$624,456.00	$10,700.00	$898,800.00
29	Curb and Gutter, Rem	FT	7,530	$ 8.10		$10.00	$75,300.00	$7.00	$52,710.00	$7.80	$58,734.00	$5.00	$37,650.00	$6.30	$47,439.00	$12.79	$96,308.70	$7.80	$58,734.00
30	Machine Grading, Modified	STA	336	$ 3,128.57		$2,250.00	$756,000.00	$1,650.00	$554,400.00	$250.00	$84,000.00	$4,200.00	$1,411,200.00	$4,050.00	$1,360,800.00	$5,500.00	$1,848,000.00	$4,000.00	$1,344,000.00
31	Subgrade Undercutting, Type II	CYD	110	$ 78.71		$85.00	$9,350.00	$50.00	$5,500.00	$55.00	$6,050.00	$70.00	$7,700.00	$125.30	$13,783.00	$95.00	$10,450.00	$70.65	$7,771.50
32	Erosion Control, Inlet Protection, Fabric Drop	EA	297	$ 162.02		$105.00	$31,185.00	$110.00	$32,670.00	$103.80	$30,828.60	$160.00	$47,520.00	$112.10	$33,293.70	$128.22	$38,081.34	$415.00	$123,255.00
33	Erosion Control, Silt Fence	FT	2,630	$ 3.04		$1.50	$3,945.00	$2.50	$6,575.00	$2.10	$5,523.00	$5.00	$13,150.00	$2.50	$6,575.00	$2.88	$7,574.40	$4.80	$12,624.00
34	Subbase, CIP	CYD	345	$ 49.94		$65.00	$22,425.00	$30.00	$10,350.00	$50.80	$17,526.00	$50.00	$17,250.00	$33.60	$11,592.00	$45.40	$15,663.00	$74.80	$25,806.00
35	Aggregate Base, 6 inch	SYD	2,552	$ 21.68		$18.00	$45,936.00	$17.50	$44,660.00	$25.70	$65,586.40	$13.12	$33,482.24	$25.90	$66,096.80	$13.57	$34,630.64	$38.00	$96,976.00
36	Aggregate Base, 8 inch	SYD	60,927	$ 22.87		$20.00	$1,218,540.00	$20.00	$1,218,540.00	$30.00	$1,827,810.00	$17.42	$1,061,348.34	$31.60	$1,925,293.20	$16.15	$983,971.05	$24.90	$1,517,082.30
37	Aggregate Surface Cse, 6 inch	SYD	3,408	$ 16.97		$25.00	$85,200.00	$15.00	$51,120.00	$10.55	$35,954.40	$14.70	$50,097.60	$17.90	$61,003.20	$14.95	$50,949.60	$20.70	$70,545.60
38	Driveway Maintenance, Commercial	EA	24	$ 680.97		$350.00	$8,400.00	$650.00	$15,600.00	$141.80	$3,403.20	$500.00	$12,000.00	$1,445.00	$34,680.00	$1,250.00	$30,000.00	$430.00	$10,320.00
39	Driveway Maintenance, Residential	EA	244	$ 312.87		$275.00	$67,100.00	$250.00	$61,000.00	$78.00	$19,032.00	$50.00	$12,200.00	$722.10	$176,192.40	$600.00	$146,400.00	$215.00	$52,460.00
40	Intersection Maintenance	EA	222	$ 768.80		$400.00	$88,800.00	$1,000.00	$222,000.00	$0.01	$2.22	$50.00	$11,100.00	$631.60	$140,215.20	$2,000.00	$444,000.00	$1,300.00	$288,600.00
41	Shld, Cl II, 4 inch	SYD	6,276	$ 13.66		$10.00	$62,760.00	$9.00	$56,484.00	$12.35	$77,508.60	$8.35	$52,404.60	$15.10	$94,767.60	$11.50	$72,174.00	$29.35	$184,200.60
42	Geotextile, Stabilization	SYD	10	$ 88.50		$20.00	$200.00	$5.00	$50.00	$10.00	$100.00	$8.70	$87.00	$319.20	$3,192.00	$91.57	$915.70	$165.00	$1,650.00
43	Dr Structure Cover, Adj, Case 1	EA	171	$ 901.29		$600.00	$102,600.00	$650.00	$111,150.00	$867.80	$148,393.80	$1,350.00	$230,850.00	$841.20	$143,845.20	$650.00	$111,150.00	$1,350.00	$230,850.00
44	Dr Structure Cover, Adj, Case 2	EA	14	$ 648.24		$450.00	$6,300.00	$525.00	$7,350.00	$466.50	$6,531.00	$1,000.00	$14,000.00	$841.20	$11,776.80	$500.00	$7,000.00	$755.00	$10,570.00
45	Dr Structure Cover, Type B	EA	20	$ 1,049.19		$800.00	$16,000.00	$650.00	$13,000.00	$745.10	$14,902.00	$650.00	$13,000.00	$1,510.00	$30,200.00	$1,089.20	$21,784.00	$1,900.00	$38,000.00

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46	Dr Structure Cover, Type D	EA	20	$ 1,220.39		$1,000.00	$20,000.00	$850.00	$17,000.00	$992.10	$19,842.00	$720.00	$14,400.00	$1,640.00	$32,800.00	$1,290.60	$25,812.00	$2,050.00	$41,000.00
47	Dr Structure Cover, Type E	EA	20	$ 811.47		$1,000.00	$20,000.00	$400.00	$8,000.00	$408.70	$8,174.00	$340.00	$6,800.00	$1,165.00	$23,300.00	$866.60	$17,332.00	$1,500.00	$30,000.00
48	Dr Structure Cover, Type K	EA	20	$ 1,261.47		$1,150.00	$23,000.00	$950.00	$19,000.00	$978.40	$19,568.00	$800.00	$16,000.00	$1,750.00	$35,000.00	$1,401.90	$28,038.00	$1,800.00	$36,000.00
49	Hand Patching	TON	514	$ 212.41	$ 109,180.94	$200.00	$102,800.00	$200.00	$102,800.00	$200.00	$102,800.00	$150.00	$77,100.00	$274.90	$141,298.60	$252.00	$129,528.00	$210.00	$107,940.00
50	HMA Approach	TON	1,705	$ 154.37	$ 263,203.29	$135.00	$230,175.00	$135.00	$230,175.00	$135.00	$230,175.00	$135.00	$230,175.00	$185.60	$316,448.00	$210.00	$358,050.00	$145.00	$247,225.00
51	HMA, 4EL	TON	5,698	$ 103.35		$92.00	$524,216.00	$92.00	$524,216.00	$92.00	$524,216.00	$92.00	$524,216.00	$126.50	$720,797.00	$131.67	$750,255.66	$97.25	$554,130.50
52	HMA, 5EL	TON	4,282	$ 110.70		$97.00	$415,354.00	$97.00	$415,354.00	$97.00	$415,354.00	$97.00	$415,354.00	$133.40	$571,218.80	$148.47	$635,748.54	$105.00	$449,610.00
53	Driveway, Nonreinf Conc, 6 inch	SYD	1,553	$ 63.84		$56.25	$87,356.25	$68.00	$105,604.00	$53.25	$82,697.25	$48.00	$74,544.00	$73.40	$113,990.20	$68.25	$105,992.25	$79.70	$123,774.10
54	Driveway, Nonreinf Conc, 8 inch	SYD	285	$ 83.32		$64.80	$18,468.00	$92.50	$26,362.50	$74.25	$21,161.25	$69.00	$19,665.00	$84.50	$24,082.50	$98.18	$27,981.30	$100.00	$28,500.00
55	Curb and Gutter, Conc, Det F4	FT	7,010	$ 32.10		$25.00	$175,250.00	$33.00	$231,330.00	$31.90	$223,619.00	$27.00	$189,270.00	$32.60	$228,526.00	$34.13	$239,251.30	$41.10	$288,111.00
56	Curb Ramp Opening, Conc	FT	774	$ 34.25		$26.00	$20,124.00	$33.00	$25,542.00	$30.90	$23,916.60	$27.00	$20,898.00	$33.90	$26,238.60	$34.13	$26,416.62	$54.85	$42,453.90
57	Sidewalk, Conc, 4 inch	SFT	7,997	$ 6.65	$ 53,214.32	$4.55	$36,386.35	$6.50	$51,980.50	$6.40	$51,180.80	$4.20	$33,587.40	$5.90	$47,182.30	$5.88	$47,022.36	$13.15	$105,160.55
58	Sidewalk, Conc, 6 inch	SFT	645	$ 8.77	$ 5,658.49	$6.25	$4,031.25	$7.50	$4,837.50	$7.40	$4,773.00	$5.00	$3,225.00	$8.20	$5,289.00	$10.76	$6,940.20	$16.30	$10,513.50
59	Curb Ramp, Conc, 6 inch	SFT	4,200	$ 9.58		$8.25	$34,650.00	$8.50	$35,700.00	$9.35	$39,270.00	$6.00	$25,200.00	$10.80	$45,360.00	$11.03	$46,326.00	$13.15	$55,230.00
60	Curb Slp, HMA	FT	410	$ 3.04		$2.00	$820.00	$2.00	$820.00	$2.00	$820.00	$2.00	$820.00	$2.80	$1,148.00	$8.40	$3,444.00	$2.10	$861.00
61	Post, Mailbox	EA	246	$ 160.79		$65.00	$15,990.00	$75.00	$18,450.00	$42.40	$10,430.40	$150.00	$36,900.00	$243.10	$59,802.60	$150.00	$36,900.00	$400.00	$98,400.00
62	Fence, Chain Link, Rem, Salv, and Reinstall	FT	310	$ 48.73		$25.00	$7,750.00	$22.00	$6,820.00	$25.00	$7,750.00	$30.00	$9,300.00	$39.10	$12,121.00	$40.00	$12,400.00	$160.00	$49,600.00
63	Fence, Wood, Rem, Salv, and Reinstall	FT	280	$ 69.60		$20.00	$5,600.00	$22.00	$6,160.00	$20.00	$5,600.00	$45.00	$12,600.00	$65.20	$18,256.00	$50.00	$14,000.00	$265.00	$74,200.00
64	Sign, Type III, Rem, Erect, Salv, Modified	EA	114	$ 109.48		$75.00	$8,550.00	$60.00	$6,840.00	$165.00	$18,810.00	$75.00	$8,550.00	$100.10	$11,411.40	$131.25	$14,962.50	$160.00	$18,240.00
65	Pavt Mrkg, Polyurea, 6 inch, White	FT	1,770	$ 2.24		$2.95	$5,221.50	$1.90	$3,363.00	$1.90	$3,363.00	$1.90	$3,363.00	$3.00	$5,310.00	$2.00	$3,540.00	$2.00	$3,540.00
66	Pavt Mrkg, Polyurea, 6 inch, Yellow	FT	3,254	$ 2.24		$2.95	$9,599.30	$1.90	$6,182.60	$1.90	$6,182.60	$1.90	$6,182.60	$3.00	$9,762.00	$2.00	$6,508.00	$2.00	$6,508.00
67	Pavt Mrkg, Polyurea, 12 inch, Crosswalk	FT	20	$ 94.54		$395.00	$7,900.00	$40.00	$800.00	$40.00	$800.00	$40.00	$800.00	$62.50	$1,250.00	$42.00	$840.00	$42.30	$846.00
68	Pavt Mrkg, Polyurea, 24 inch, Stop Bar	FT	10	$ 132.66		$395.00	$3,950.00	$80.00	$800.00	$80.00	$800.00	$80.00	$800.00	$125.10	$1,251.00	$84.00	$840.00	$84.55	$845.50
69	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	EA	30	$ 230.76		$195.00	$5,850.00	$150.00	$4,500.00	$150.00	$4,500.00	$195.00	$5,850.00	$260.20	$7,806.00	$255.15	$7,654.50	$410.00	$12,300.00
70	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	EA	30	$ 2.18		$1.00	$30.00	$5.00	$150.00	$0.01	$0.30	$1.00	$30.00	$1.30	$39.00	$4.83	$144.90	$2.10	$63.00
71	Pedestrian Type II Barricade, Temp	EA	30	$ 183.22		$150.00	$4,500.00	$150.00	$4,500.00	$100.00	$3,000.00	$150.00	$4,500.00	$200.20	$6,006.00	$217.35	$6,520.50	$315.00	$9,450.00
72	Channelizing Device, 42 inch, Fluorescent, Furn	EA	110	$ 42.43		$39.00	$4,290.00	$30.00	$3,300.00	$16.00	$1,760.00	$39.00	$4,290.00	$52.00	$5,720.00	$38.59	$4,244.90	$82.45	$9,069.50
73	Channelizing Device, 42 inch, Fluorescent, Oper	EA	110	$ 1.75		$1.00	$110.00	$2.00	$220.00	$0.01	$1.10	$1.00	$110.00	$1.30	$143.00	$4.83	$531.30	$2.10	$231.00
74	Dust Palliative, Applied	TON	10	$ 418.94		$150.00	$1,500.00	$400.00	$4,000.00	$178.90	$1,789.00	$200.00	$2,000.00	$326.20	$3,262.00	$577.50	$5,775.00	$1,100.00	$11,000.00
75	Minor Traf Devices	LSUM	1	$ 409,375.14		$325,000.00	$325,000.00	$547,000.00	$547,000.00	$558,000.00	$558,000.00	$111,990.00	$111,990.00	$87,690.00	$87,690.00	$307,646.00	$307,646.00	$928,300.00	$928,300.00
76	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	FT	200	$ 5.10		$3.00	$600.00	$3.00	$600.00	$3.00	$600.00	$4.50	$900.00	$4.70	$940.00	$2.10	$420.00	$15.40	$3,080.00
77	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	FT	200	$ 5.10		$3.00	$600.00	$3.00	$600.00	$3.00	$600.00	$4.50	$900.00	$4.70	$940.00	$2.10	$420.00	$15.40	$3,080.00
78	Sign, Type B, Temp, Prismatic, Furn	SFT	600	$ 6.26		$4.00	$2,400.00	$5.00	$3,000.00	$9.00	$5,400.00	$4.00	$2,400.00	$5.30	$3,180.00	$8.09	$4,854.00	$8.45	$5,070.00
79	Sign, Type B, Temp, Prismatic, Oper	SFT	600	$ 1.07		$1.00	$600.00	$2.00	$1,200.00	$0.01	$6.00	$1.00	$600.00	$1.30	$780.00	$0.11	$66.00	$2.10	$1,260.00
80	Sign, Type B, Temp, Prismatic, Spec, Furn	SFT	100	$ 11.26		$8.00	$800.00	$14.00	$1,400.00	$13.00	$1,300.00	$8.00	$800.00	$10.70	$1,070.00	$8.19	$819.00	$16.90	$1,690.00
81	Sign, Type B, Temp, Prismatic, Spec, Oper	SFT	100	$ 0.93		$1.00	$100.00	$1.00	$100.00	$0.01	$1.00	$1.00	$100.00	$1.30	$130.00	$0.11	$11.00	$2.10	$210.00
82	Traf Regulator Control	LSUM	1	$ 168,322.59	$ 79,625.81	$45,000.00	$45,000.00	$60,000.00	$60,000.00	$109,940.00	$109,940.00	$451,454.92	$451,454.92	$41,240.00	$41,240.00	$224,523.20	$224,523.20	$246,100.00	$246,100.00
83	Slope Restoration, Non-Freeway, Type A	SYD	20,000	$ 10.27		$6.00	$120,000.00	$7.00	$140,000.00	$5.50	$110,000.00	$7.52	$150,400.00	$12.30	$246,000.00	$11.50	$230,000.00	$22.10	$442,000.00
84	Monument Box	EA	10	$ 799.89		$600.00	$6,000.00	$600.00	$6,000.00	$550.00	$5,500.00	$350.00	$3,500.00	$971.30	$9,713.00	$927.90	$9,279.00	$1,600.00	$16,000.00
85	Monument Box, Adj	EA	10	$ 707.97		$450.00	$4,500.00	$450.00	$4,500.00	$248.90	$2,489.00	$800.00	$8,000.00	$454.00	$4,540.00	$952.90	$9,529.00	$1,600.00	$16,000.00
86	Monument Preservation	EA	10	$ 960.71		$400.00	$4,000.00	$400.00	$4,000.00	$450.00	$4,500.00	$1,200.00	$12,000.00	$2,645.00	$26,450.00	$665.00	$6,650.00	$965.00	$9,650.00
87	Protect Corners	EA	75	$ 375.77		$200.00	$15,000.00	$200.00	$15,000.00	$185.00	$13,875.00	$200.00	$15,000.00	$330.40	$24,780.00	$550.00	$41,250.00	$965.00	$72,375.00
88	Gate Box, Adj, Case 1	EA	80	$ 669.87		$500.00	$40,000.00	$475.00	$38,000.00	$317.00	$25,360.00	$1,000.00	$80,000.00	$822.20	$65,776.00	$859.90	$68,792.00	$715.00	$57,200.00
89	Gate Valve and Box, Abn	EA	1	$ 627.64		$500.00	$500.00	$450.00	$450.00	$292.10	$292.10	$1,000.00	$1,000.00	$551.40	$551.40	$300.00	$300.00	$1,300.00	$1,300.00
90	Gate Valve and Box, Rem	EA	5	$ 1,510.61		$500.00	$2,500.00	$500.00	$2,500.00	$584.30	$2,921.50	$3,000.00	$15,000.00	$2,865.00	$14,325.00	$525.00	$2,625.00	$2,600.00	$13,000.00
91	Additional Water Main Fittings, Not Shown on Plans	LB	5,000	$ 17.00		$3.00	$15,000.00	$10.00	$50,000.00	$9.30	$46,500.00	$4.40	$22,000.00	$5.70	$28,500.00	$68.90	$344,500.00	$17.70	$88,500.00
92	Additional Water Main, Environmental Joint, 6 inch	EA	50	$ 104.32		$250.00	$12,500.00	$23.65	$1,182.50	$19.90	$995.00	$25.00	$1,250.00	$27.70	$1,385.00	$159.00	$7,950.00	$225.00	$11,250.00
93	Additional Water Main, Environmental Joint, 8 inch	EA	50	$ 132.73		$350.00	$17,500.00	$47.35	$2,367.50	$32.45	$1,622.50	$50.00	$2,500.00	$55.30	$2,765.00	$159.00	$7,950.00	$235.00	$11,750.00
94	Water Main, 6 inch, Tr Det F, Modified	FT	8	$ 174.10		$100.00	$800.00	$110.00	$880.00	$128.10	$1,024.80	$250.00	$2,000.00	$252.60	$2,020.80	$212.97	$1,703.76	$165.00	$1,320.00
95	Water Main, 6 inch, Tr Det G, Modified	FT	1,115	$ 150.68		$100.00	$111,500.00	$130.00	$144,950.00	$117.80	$131,347.00	$130.00	$144,950.00	$199.00	$221,885.00	$212.97	$237,461.55	$165.00	$183,975.00
96	Water Service, 1 inch, Trenchless	FT	500	$ 107.79	$ 53,892.86	$90.00	$45,000.00	$48.00	$24,000.00	$69.30	$34,650.00	$53.00	$26,500.00	$78.30	$39,150.00	$90.90	$45,450.00	$325.00	$162,500.00
97	Water Service, 2 inch, Modified	FT	64	$ 138.68	$ 8,875.61	$65.00	$4,160.00	$92.50	$5,920.00	$84.50	$5,408.00	$145.00	$9,280.00	$235.50	$15,072.00	$183.27	$11,729.28	$165.00	$10,560.00
98	Water Service, 2 inch, Trenchless	FT	100	$ 144.54	$ 14,454.14	$140.00	$14,000.00	$78.50	$7,850.00	$91.45	$9,145.00	$90.00	$9,000.00	$130.50	$13,050.00	$131.34	$13,134.00	$350.00	$35,000.00
99	Water Shutoff, Adj, Case 1	EA	20	$ 474.76		$375.00	$7,500.00	$335.00	$6,700.00	$144.90	$2,898.00	$1,000.00	$20,000.00	$693.50	$13,870.00	$574.90	$11,498.00	$200.00	$4,000.00

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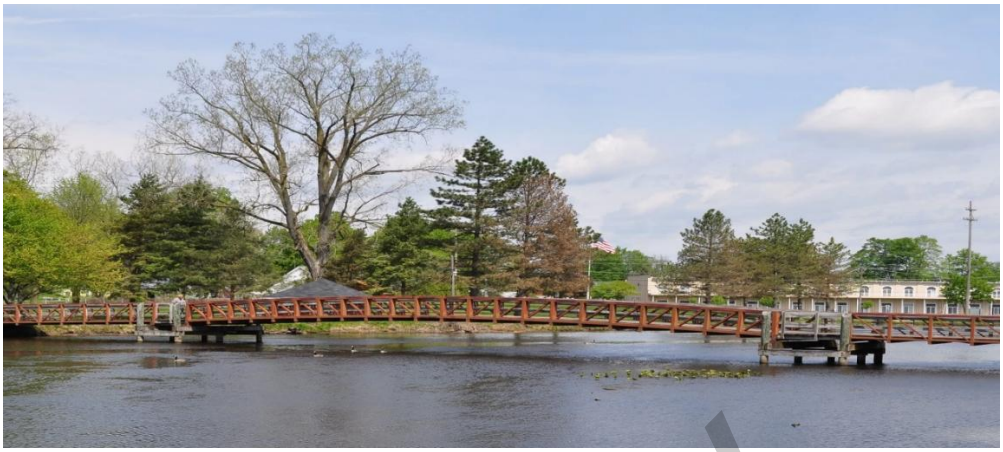
100	Detectable Warning Surface	FT	350	$ 66.24		$80.00	$28,000.00	$41.00	$14,350.00	$41.00	$14,350.00	$41.00	$14,350.00	$104.40	$36,540.00	$68.25	$23,887.50	$88.05	$30,817.50
101	Witness, Log, $1,250.00	DLR	1,250	$ 179.43		$1.00	$1,250.00	$1.00	$1,250.00	$1.00	$1,250.00	$1.00	$1,250.00	$1.00	$1,250.00	$1,250.00	$1,562,500.00	$1.00	$1,250.00
102	Audio-Visual Record	LSUM	1	$ 17,904.29	$ 17,904.29	$21,750.00	$21,750.00	$15,000.00	$15,000.00	$11,800.00	$11,800.00	$9,500.00	$9,500.00	$28,380.00	$28,380.00	$12,600.00	$12,600.00	$26,300.00	$26,300.00
103	Exploratory Investigation	EA	100	$ 518.71	$ 51,871.43	$225.00	$22,500.00	$735.00	$73,500.00	$490.90	$49,090.00	$150.00	$15,000.00	$580.10	$58,010.00	$300.00	$30,000.00	$1,150.00	$115,000.00
104	Fence, Protective	FT	250	$ 9.21		$2.50	$625.00	$4.00	$1,000.00	$3.20	$800.00	$10.00	$2,500.00	$30.40	$7,600.00	$8.00	$2,000.00	$6.35	$1,587.50
105	Project Sign	LSUM	1	$ 1,995.29	$ 1,995.29	$5,000.00	$5,000.00	$1,500.00	$1,500.00	$1,339.00	$1,339.00	$1,500.00	$1,500.00	$928.00	$928.00	$1,200.00	$1,200.00	$2,500.00	$2,500.00
	TOTAL BASE BID				**$3,279,925.79**		**$12,888,173.15**		**$14,261,272.10**		**$14,515,517.82**		**$15,779,740.00**		**$21,316,537.00**		**$23,717,732.33**		**$24,440,383.50**
	Bid Form, Addenda Acknowledged						X		X		X		X		X		X		X
	Bid Bond						X		X		X		X		X		X		X
	Debarment Certificate														X				

Indicates math error

I certify that this is a true and correct tabulation of the bids received by C2AE, Eaton Rapids, Eaton County, MI on Monday, June 23, 2025.

6/24/2025

Keith Toro, PE — Date



THE CITY OF
Eaton Rapids
MICHIGAN

Annual Budget: 2025-2026

With Capital Outlay

CITY OF EATON RAPIDS

2025-2026 Approved Budget

Fund 598 - ELECTRIC UTILITIES	2023-2024 FYE ACTIVITY	2024-2025 APPROVED BUDGET	2024-2025 PROJECTED ACTIVITY	2025-2026 APPROVED BUDGET
TOTAL REVENUES	**$9,918,918.15**	**$12,190,558.00**	**$9,679,598.45**	**$12,207,796.00**
TOTAL EXPENDITURES	**$8,961,297.71**	**$10,652,609.00**	**$7,978,709.30**	**$10,453,043.38**
NET OF REVENUES/EXPENDITURES	**$957,620.44**	**$1,537,949.00**	**$1,700,889.15**	**$1,754,752.62**
Beginning Fund Balance			$11,988,093.00	$13,688,982.15
Capital Outlay			$0.00	($2,044.00)
Ending Fund Balance			$13,688,982.15	$15,441,690.77

Fund 590 - WASTE WATER	2023-2024 FYE ACTIVITY	2024-2025 APPROVED BUDGET	2024-2025 PROJECTED ACTIVITY	2025-2026 APPROVED BUDGET
TOTAL REVENUES	**$2,892,602.51**	**$1,385,408.00**	**$1,569,807.00**	**$2,367,919.00**
TOTAL EXPENDITURES	**$2,750,132.75**	**$1,039,862.04**	**$2,618,377.73**	**$951,413.00**
NET OF REVENUES/EXPENDITURES	**$142,469.76**	**$345,545.96**	**($1,048,570.73)**	**$1,416,506.00**
Beginning Fund Balance			$1,925,281.00	$876,710.27
Capital Outlay			$0.00	($1,302,044.00)
Use of Fund Balance				($500,000.00)
Ending Fund Balance			$876,710.27	$491,172.27

Fund 591 - WATER	2023-2024 FYE ACTIVITY	2024-2025 APPROVED BUDGET	2024-2025 PROJECTED ACTIVITY	2025-2026 APPROVED BUDGET
TOTAL REVENUES	**$1,019,953.68**	**$1,036,715.00**	**$1,039,715.00**	**$1,242,918.00**
TOTAL EXPENDITURES	**$1,022,546.32**	**$877,386.84**	**$1,197,095.33**	**$838,138.35**
NET OF REVENUES/EXPENDITURES	**($2,592.64)**	**$159,328.16**	**($157,380.33)**	**$404,779.65**
Beginning Fund Balance			$1,465,130.00	$1,307,749.67
Capital Outlay			$0.00	($2,044.00)
Ending Fund Balance			$1,307,749.67	$1,710,485.32

Appendix B
Supporting Information

Bender, Rebecca

From: Mueller, Christopher <CMueller@muellerstreamline.com>
Sent: Wednesday, January 29, 2025 10:33 AM
To: Bell, Arlethia
Cc: Thompson, Michael O.
Subject: RE: New Message From Mueller Streamline Co. - SEND A NOTE

Arlethia,

The answer - as I assume you expect - is absolutely that it depends. 75 years is a number that gets thrown around for a system with no design or water concerns. That has been proven repeatedly in water service lines that are buried and even exposed to soil and elements. In that environment, they expect copper to last 2X to 3X the time a plastic service line would last.

The Copper Development Association says that copper tube will last the life of the building if designed properly (and no water issues).

Below is some of their language around things that commonly shorten that lifespan…

When corrosion problems do occur, they usually stem from one of the following causes:

1. *aggressive, hard well waters that cause pitting;*
2. *soft, acidic waters that do not allow a protective film to form inside the copper tube;*
3. *system design or installation which results in excessive water flow velocity or turbulence in the tube;*
4. *unacceptable workmanship;*
5. *excessive or aggressive flux;*
6. *aggressive soil conditions.*

SOURCE: https://copper.org/applications/plumbing/cth/design-installation/cth_3design_gencon.php

The only other guidance worth putting out there is that we are increasingly seeing lifespans shortened with aggressive hot water recirculation lines. These can accelerate one of the factors above to significantly shorten life – especially if the pumps are more aggressive. In that case, plastics can fare 10X worse. We are very aware of many plastic piping systems that have failed in a few years or even a few months when used in (possibly over-sized) hot water recirculation systems.

Hope this helps,
Chris

-----Original Message-----
From: Blake, Danielle K <DKBlake@Muellerstreamline.com>
Sent: Monday, January 27, 2025 10:16 PM
To: Thompson, Michael O. <MOThompson@MuellerStreamline.com>; Mueller, Christopher <CMueller@muellerstreamline.com>
Subject: FW: New Message From Mueller Streamline Co. - SEND A NOTE

Hello,

Please see inquiry from Streamline Contact Us Inbox below.

Thanks for your help,

Danielle Blake
Executive Assistant
Mueller Streamline Co.
Office 901-751-7720
DKBlake@muellerstreamline.com
www.muellerstreamline.com

-----Original Message-----
From: Arlethia Bell <muellerstreamlineco@gmail.com>
Sent: Thursday, January 23, 2025 9:46 AM
To: Streamline_Mail <Mail@Muellerstreamline.com>
Subject: New Message From Mueller Streamline Co. - SEND A NOTE

Name
Arlethia Bell

Email
arlethia.bell@c2ae.com

Company
C2AE

Phone Number
(313)394-9333

Country
United States

City, State
Escanaba, MI

Market
Residential Plumbing

Inquiry Topic
Copper Tube

Message
Hello, what is the average lifetime that your copper tube will last as a water service line, assuming average pH of water? I'm not sure if you have the answer, but an estimate will do if you have one.

Thank you,
Arlethia

Population Estimate, Eaton Rapids and Surrounding Communities

Year	City of Eaton Rapids		% Change	
1960	4,052			
1970	4,494	442	0.098353	3.9%
1980	4,510	16	0.003548	
1990	4,695	185	0.039404	
2000	5,330	635	0.119137	
2010	5,214	-116	-0.022248	
2020	5,203	-11	-0.002114	
2030 (a)	5,307	5,408		
2040 (a)	5,413	5,620		
2050 (a)	5,414	5,842		

Year	Eaton Rapids Township			
1960	1,597			
1970	2,066	469	0.227009	13.5%
1980	2,823	757	0.268154	
1990	3,003	180	0.05994	
2000	3,821	818	0.21408	
2010	4,113	292	0.070994	
2020	3,991	-122	-0.030569	
2030 (a)	4,071	4,530		
2040 (a)	4,152	4,708		
2041 (a)	4,153	4,893		

Year	Hamlin Township			
1960	1,229			
1970	1,621	392	0.241826	14.2%
1980	2,195	574	0.261503	
1990	2,351	156	0.066355	
2000	2,953	602	0.20386	
2010	3,343	390	0.116662	
2020	3,227	-116	-0.035947	
2030 (a)	3,292	3,686		
2040 (a)	3,358	3,831		
2041 (a)	3,359	3,982		

Year	Eaton County			
1960	49,684			
1970	68,892	19,208	0.278813	11.7%
1980	88,337	19,445	0.220123	
1990	92,879	4,542	0.048902	
2000	103,655	10,776	0.10396	
2010	107,759	4,104	0.038085	
2020	109,175	1,416	0.01297	
2030 (a)	111,359	121,964		
2040 (a)	113,586	126,763		
2041 (a)	113,587	131,751		

2024 Water Quality Report for City of Eaton Rapids

Water Supply Serial Number: 02020

This report covers the drinking water quality for Eaton Rapids for the 2024 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2024. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. EPA) and state standards.

Your water comes from 6 groundwater wells, each over 60ft. The State performed an assessment of our source water to determine the susceptibility or the relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very-low" to "very-high" based on geologic sensitivity, well construction, water chemistry and contamination sources. The susceptibility of our source is "high" to moderate.

There are no significant sources of contamination in our water supply. We are making efforts to protect our sources by participation in the EGLE approved well head protection program and participation in Abandon well management program.

If you would like to know more about this report, please contact: Mark Lease, City Water Dept. at (517) 663-8118 or mlease@cityofeatonrapids.gov

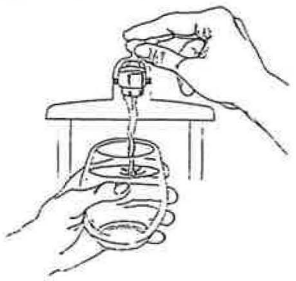
Contaminants and their presence in water: Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline (800-426-4791).

Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Sources of drinking water: The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Our water comes from wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain

contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2024 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2024. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

Terms and abbreviations used below:

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- N/A: Not applicable
- ND: not detectable at testing limit
- ppm: parts per million or milligrams per liter
- ppb: parts per billion or micrograms per liter
- ppt: parts per trillion or nanograms per liter
- pCi/l: picocuries per liter (a measure of radioactivity)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- Level 1 Assessment: A study of the water supply to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- Level 2 Assessment: A very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Regulated Contaminant	MCL, TT, or MRDL	MCLG or MRDLG	Level Detected	Range	Year Sampled	Violation Yes/No	Typical Source of Contaminant
Arsenic (ppb)	10	0	ND	N/A	9/13/18	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.12	N/A	9/12/18	NO	Discharge of drilling wastes; Discharge of metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	ND	N/A	2/13/24	NO	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)	4	4	0.72	N/A	12/9/24	NO	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Sodium[1] (ppm)	N/A	N/A	19	N/A	12/27/23	NO	Erosion of natural deposits
TTHM Total Trihalomethanes (ppb)	80	N/A	0.0738	N/A	6/12/23	Yes	Byproduct of drinking water disinfection
HAA5 Haloacetic Acids (ppb)	60	N/A	0.013	N/A	6/12/23	Yes	Byproduct of drinking water disinfection
Chlorine[2] (ppm)	4	4	0.02	N/A	12/19/24	NO	Water additive used to control microbes
Alpha emitters (pCi/L)	15	0	ND	N/A	4/29/24	NO	Erosion of natural deposits
Combined radium (pCi/L)	5	0	ND	N/A	4/29/24	NO	Erosion of natural deposits
Total Coliform	TT	N/A	N/A	N/A	2024	NO	Naturally present in the environment
E. coli in the distribution system (positive samples)	See E. coli note[3]	0	0	N/A	2024	NO	Human and animal fecal waste
Fecal Indicator – E. coli at the source (positive samples)	TT	N/A	0	N/A	2024	NO	Human and animal fecal waste

norganic Contaminant Subject to Action Levels (AL)	Action Level	MCLG	Your Water[1]	Range of Results	Year Sampled	Number of Samples Above AL	Typical Source of Contaminant
Lead (ppb)	15	0	11	0-13	2024	0	Lead service lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits
Copper (ppm)	1.3	1.3	0.9	0-1.4	2024	1	Corrosion of household plumbing systems; Erosion of natural deposits

(2) *MONITORING VIOLATION*

IMPORTANT IMFORMATION ABOUT YOUR DRINKING WATER

During the monitoring period from June 1, 2024 to June 30, 2024 we did not take the required number of routine samples for total Trihalomethanes and Haloacetic Acids. This violation did not pose a threat to the quality of the drinking water. We will collect follow up samples in June 2025 in order to return to compliance. We apologize for this error and will work to ensure it does not happen again. Also the water supply failed to monitor samples for water quality parameters November 10 – November 23, 2024. Additional samples were taken thoughout the year. We are making efforts to ensure this does not happen in the future. Related health effects during this time are unknown.

Information about lead: *Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. City of Eaton Rapids is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for at least 5 minutes to flush water from both your home plumbing and the lead service line. If you are concerned about lead in your water and wish to have your water tested, contact Mark Lease (517) 663-8118 or mlease@cityofeatonrapids.gov for available resources. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at https://www.epa.gov/safewater/lead.*

There is no safe level of lead in drinking water. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of persons who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Our water supply has 1,469 lead service lines and 446 service lines of unknown material out of a total of 2,366 service lines. If you would like to know more about this report, please contact: Mark Lease mlease@cityofeatonrapids.gov

Monitoring and Reporting to the Department of Environment, Great Lakes, and Energy (EGLE) Requirements: The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at City Hall 200 S. Main St. This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. At regularly scheduled Council meetings at City Hall, will be held on the second and fourth Monday of every Month at 5:00pm. For more information about your water, or the contents of this report, contact Mark Lease (517) 663-8118 or mlease@cityofeatonrapids.gov. For more information about safe drinking water, visit the U.S. EPA at http://www.epa.gov/safewater.

Finance Division
Overburdened Preliminary Determination for FY27 State Revolving Fund Projects

Applicant Information

Applicant: City of Eaton Rapids
ITA Tracking Number: 1030-2836
Project Name: Eaton Rapids Lead Service Line Replacement
Funding Source: DWSRF
Regional System: ☐ Yes ☑ No

Contact Information

Name of Applicant Contact and Title	Rebecca Bender
Email	rebecca.bender@c2ae.com
Phone Number	(906) 241-3145

Summary of Determination

Preliminary Determination	Not Overburdened
SRF Loan Minimum to Maintain or Gain Overburdened Status	$

The table above displays the preliminary results of the application. If the box displays a significantly overburdened determination than the applicant has a preliminary determination of significantly overburdened for FY27. If the box displays overburdened, whether by calculation or not, the applicant has a preliminary determination of overburdened for FY27.

The following pages break down the information that was submitted and used for the preliminary determination. When a final determination has been made, the applicant will be notified of the result.

Initial Overburdened Screening

Name of Municipality	Eaton Rapids city
Median Annual Household Income	$63,875.00
Taxable Value Per Capita	$27,487.00
MAHI Threshold Qualification	Does Not Qualify
Overburdened Determination Without Need for Calculation	Not Overburdened

For determinations made using anticipated debt (i.e., determinations where the change in loan amount will change the applicant status from overburdened to not or vice versa), a final determination will be made based upon the final loan amount after bids/project scope is finalized and not the anticipated amount provided on this form.

If this applicant has applied for overburdened or significantly overburdened status in prior fiscal years, the numbers in the survey (i.e., breakdown of municipalities and their flow amounts, annual payments on existing debt, total OM&R, and REUs) will be compared to check for discrepancies as most of these numbers should be similar year to year. EGLE will contact the applicant if inconsistencies are found, and the final determination may change if the original numbers need to be updated.

I **Rebecca Bender** on behalf of **City of Eaton Rapids** hereby certify that the information in this form is complete, true, and correct to the best of my knowledge.

☑ Yes

04/08/2026

Appendix C

Environmental Information and Correspondence

1. Archeological and Historic Resources

This project has not yet been classified as an equivalency or non-equivalency project, therefore SHPO was not contacted for review. It is anticipated that there will be no impact to any historic properties. Construction activities will be within previously disturbed areas.

2. Tribal Historic Preservation Officers

THPO was not contacted to review and comment on the potential direct or indirect impact on tribal lands, because it is not yet confirmed whether this is an equivalency or non-equivalency project. It is anticipated that there will be no impact to any tribal lands. If this becomes designated as an equivalency project, THPO will be contacted as required.

3. Habitat Conservation

a. Protected Flora and Fauna

This project has not yet been classified as an equivalency or non-equivalency project, therefore MNFI was not contacted for review. Disturbance to these species will be minimized.

b. Protected Flora and Fauna: U.S. Fish and Wildlife Services

The U.S. Fish and Wildlife Services technical assistance website on Section 7 Endangered Species Act Consultation was used to determine if the project will impact any federally listed species. This provided the following results:

- There may be the following endangered and/or threatened species present in the County: Indiana Bat, Whooping Crane, Eastern Massasauga (Rattlesnake), Monarch Butterfly, and Salamander mussel.
- There were no critical habitats found at the Action Area location.
- Also possibly present in the County are these migratory birds: Bald Eagle, Black-billed Cuckoo, Bobolink, Canada Warbler, Chimney Swift, Golden-winged Warbler, Lesser Yellowlegs, Pectoral Sandpiper, Red-headed Woodpecker, Rusty Blackbird, Semipalmated Sandpiper, and Wood Thrush.
- There are no refuge lands or fish hatcheries.
- Although there are wetlands within the IPAC area no permanent ground cover changes, cut or fill are expected.

The action area will be limited to already developed areas. Therefore, this project will not affect suitable habitat for federally listed species. For these reasons, it is likely that the project will have “no effect” on listed species, their habitats, or proposed or designated critical habitat.

4. Land and Water Interface

a. Inland Lakes and Streams

It is not anticipated that the project plan will result in the control or structural modification of any natural stream or inland body of water.

b. Flood Plains

Much of Eaton Rapids lies in the 100 year floodplain. There will be no permanent elevation changes to the ground surface or new buildings/structures as a result of the project. Because of this, all work is exempt from the EGLE Floodplain Authority found in Part 31 of Michigan's NREPA, when ground surface elevations are restored to pre-existing conditions. FEMA Flood Plain maps showing project location are shown on the Land/Water Interface map.

c. Wetlands

It is not anticipated that the project plan construction or operation will have wetland impacts. All proposed construction is within previously disturbed areas. The project location is outlined on a map from the National Wetlands Inventory from the US Fish and Wildlife Services on the Land/Water Interface Map.

d. Great Lakes Shorelands Protection

The City of Eaton Rapids is not located along any Great Lake. It is not anticipated that the project plan construction or operation will affect any shoreland included in the Coastal Barrier Resource System. All construction is not expected to have any impact on shorelands.

USACE Regulated Activities

It is not anticipated that the proposed construction will impact a water resource under federal jurisdiction; therefore, USACE was not contacted on behalf of this project.

e. Joint Permit Applications

None of the proposed work falls under a minor or major permit category of USDACE. If joint permits are needed for this project, the appropriate permitting process will be followed.

5. Air Quality

EGLE was not contacted to review and comment on the potential direct or indirect air pollutant emissions impact that would result from the construction or operation of the proposed project. Fugitive dust emissions on the worksite are potential during construction. If this became an issue, dust suppressants will be used to control the fugitive dust to prevent violations of Rule 901. If this becomes designated as an equivalency project, EGLE will be contacted as required.

6. Airspace and Airports

There is a heliport at the Eaton Rapids Medical center that is within the City of Eaton Rapids limits and Burgess Landing Strip about 3 miles outside of the city limits. No new structures or facilities are being built as part of the proposed project, nor will there be a new or expanded wildlife attraction in the vicinity of the heliport and landing strip. Thus, the MDOT Aeronautics Environmental Specialist was not contacted.

7. Facility Discharge Permit

The proposed project does not require an NPDES Permit.

8. Farmland and Open Space Preservation

A map of the Land Use in the project location is provided on the Special Conservation Areas map. Eaton Rapids is surrounded by agricultural land, prime farmland and farmland of local importance. It is not anticipated that the proposed project would involve converting farmlands to nonagricultural uses. Construction will be limited to previously disturbed areas.

9. Health Department Permits

The proposed project does not involve the construction, alteration, extension, or replacement of onsite septic systems or wells. Thus, the local health department was not contacted.

10. Lagoon Berm Permits

The proposed project will not impact a lagoon as defined where the berm encloses more than five acres. Thus, the EGLE WRD Dam staff were not contacted.

11. National Natural Landmarks

A list of national natural landmarks was reviewed, the following nine designated National Natural Landmarks in the Lower Peninsula of Michigan were found. None of which are near the vicinity of the project location:

- Tobico Marsh (Bay County): 1,019 acres in the Tobico Marsh State Game area, about 7 miles north of Bay City.
- Grand Mere Lakes (Berrien County): 1,281 acres off the eastern shore of Lake Michigan, about 8 miles south St Joseph and about 10 miles south of Benton Harbor.
- Warren Woods Natural Area (Berrien County): 328 acres, about 8 miles northeast of New Buffalo.
- Newton Woods (Cass County): 43 acres, about 9 miles northeast of Dowagiac.
- Toumey Woodlot (Ingham County): 27 acres on Michigan State University's campus, about 4 miles south of East Lansing.
- Black Spruce Bog Natural Area (Jackson County): 130 acres, about 20 miles northeast of Jackson.
- Dead Stream Swamp (Missaukee and Roscommon County): 12,403 acres in Houghton Lake State Forest, in between Higgins Lake and Houghton Lake on the west side of US 127.

- Haven Hill State Natural Area (Oakland County): 587 acres in Highland State Recreation area, about 15 miles west of Pontiac.
- Roscommon Virgin Pine Stand (Roscommon County): 170 acres, about 11 miles east of Roscommon.

12. Project Site Contamination

The EGLE RIDE Mapper was used to examine potential areas with contamination. The possible and/or confirmed contamination sites and sites with underground storage tanks are shown in the map of Special Conservation Areas. When individual projects are designated, contaminated areas will be avoided via utility routing where possible. Hydrocarbon resistant materials are specified in areas of contamination and contract documents specify worker protections. 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:

Compliance with all applicable health and safety regulations, use of properly trained personnel in accordance with OSHA requirements, preparation of a Site Health and Safety Plan in accordance with OSHA requirements, monitoring of hydrocarbon levels in the work area, proper material segregation, storage and backfill of affected soils, and use of hydrocarbon resistant gaskets (Nitrile or Viton) on the utility being installed.

Furthermore, the EGLE Remediation and Investigation website will be reviewed and the appropriate RRD District Office will be contacted, if necessary.

13. Stormwater Discharge Permit

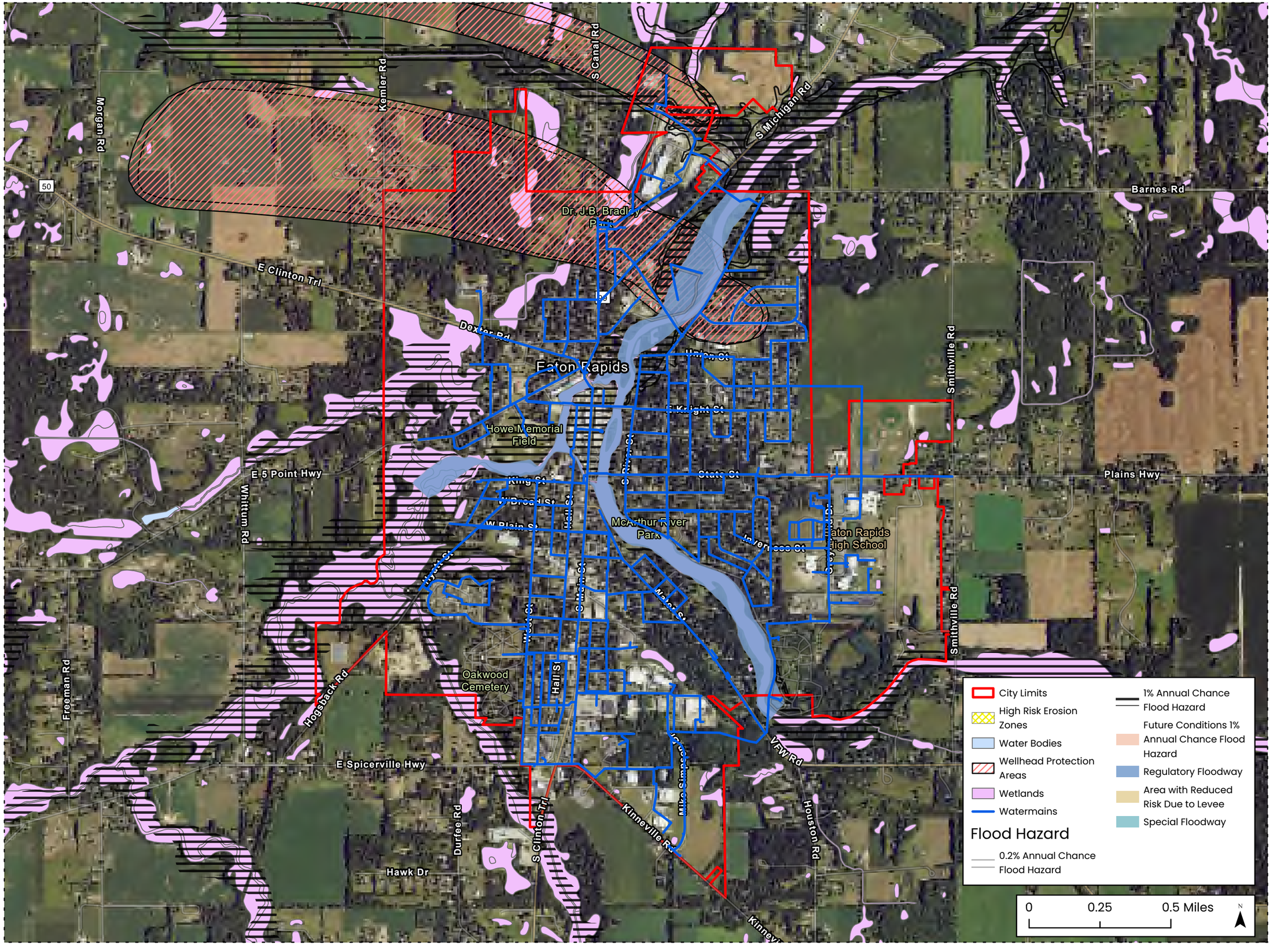
The proposed project does not involve additional stormwater discharges, nor does it include separation of combined sewer system. Construction activity will be limited to the minimum area required. Disturbance during construction will most likely be greater than one acre. Therefore, a Part 91 SESC permit, and Notice of Coverage shall be required for this project. An SESC plan will be prepared to minimize soil erosion and sedimentation leaving the site during construction. Best Management Practices will be incorporated for review and approval by ELGE.

14. Water Withdrawal and Dewatering

The proposed project will not require consumptive uses or diversions that would result in significant impacts to the water and water dependent natural resources. There is some dewatering that may be needed temporarily during construction. Construction is not anticipated to exceed depths more than eight feet.

15. Wild and Scenic Rivers

The proposed project will not impact a wild, scenic, or natural river or tributary. Maps illustrating the proximity of the project location to these rivers are shown on the Land/Water Interface map.



WE RECYCLE

BLACK

THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID

WHITE

THE BAR BELOW SHOWS PRIMARY COLORS

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c2ae
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(866) 454-3923 | WWW.C2AE.COM

DWSRF PROJECT PLAN
LAND WATER INTERFACES

CITY OF EATON RAPIDS
EATON COUNTY, MI

PROJECT #: 24-0049

C-001

Common Name	Scientific Name	ESA Listing Status
Whooping crane	Grus americana	Experimental Population, Non-Essential
Indiana bat	Myotis sodalis	Endangered
Eastern Massasauga (=rattlesnake)	Sistrurus catenatus	Threatened
Monarch butterfly	Danaus plexippus	Proposed Threatened
Salamander mussel	Simpsonaias ambigua	Proposed Endangered

USA Soils Map

- Alfisols
- Andisols
- Aridisols
- Entisols
- Gelisols
- Histosols
- Inceptisols
- Mollisols
- Oxisols
- Spodosols
- Ultisols
- Vertisols
- Bodies of Water
- No Soil
- Data Not Available

National Register of Historic Places Points

- Building
- Structure
- District
- Site
- Object
- Watermains

0 0.5 1 Miles

N

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FY 2027 DWSRF PROJECT PLAN
NATURAL RESOURCES

CITY OF EATON RAPIDS
EATON COUNTY, MI

PROJECT #: 24-0049

C-002

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THE BAR BELOW SHOWS PRIMARY COLORS

THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID BLACK

WE RECYCLE

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DWSRF PROJECT PLAN
SPECIAL CONSERVATION AREAS

CITY OF EATON RAPIDS
EATON COUNTY, MI

Morgan Rd
Kemler Rd
S Canal Rd
S Michigan Rd
Barnes Rd
50
E Clinton Trl
Dr. J.B. Bradley Park
99
Dexter Rd
Eaton Rapids
Union St
E Knight St
Howe Memorial Field
Smithville Rd
E 5 Point Hwy
Whittum Rd
King St
W Broad St
Hall St
Grand St
State St
Plains Hwy
McArthur River Park
Hyatt St
Waverly St
Eaton Rapids High School
Maple St
West St
Oakwood Cemetery
Hogsback Rd
Freeman Rd
E Spicerville Hwy
S Clinton Trl
Kinneville Rd
VFW Rd
Houston Rd
188
Durfee Rd
Hawk Dr

Part 201 Environmental Contamination Sites
Watermains
Underground Storage Tanks

Farmland Class
- Prime Farmland
- Farmland of Local Importance
- Farmland of Statewide Importance
- Farmland of Unique Importance

0 0.5 1 Miles N

PROJECT #: 24-0049

C-003

DATE PRINTED: 3/24/2026 4:51 PM
COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE MICHIGAN SOUTH FIPS 2113 FT INTL
T:\COMMON_CLIENT STD_GIS\PROJECTS\TMF_PROJECTPLANS_2026\GIS DATA INVENTORY

Appendix D
Previous Studies

Create ahead.

Water System Reliability Study and General Plan Update

City of Eaton Rapids

December 28, 2023

C2AE
106 W. Allegan St. Suite 500
Lansing, MI 48933

Table of Contents

1. General

The City of Eaton Rapid has completed a Water System Reliability Study and General Plan update in accordance with Part 12 Water System Reliability Study and Part 16 General Plans of the Safe Drinking Water Act, Act 399, P.A. 1976 (Act 399), as amended. Existing population and water system data were evaluated, population and water demand projections were developed, the existing water system model was updated, existing and future water demands were simulated, improvement alternatives were identified, corresponding project cost opinions were prepared, and the water system map was updated.

The City of Eaton of Rapids water system consists of the following:

- seven (7) groundwater supply wells, which are situated in the northern part of the City in two separate wellfields;
- a conventional iron removal Water Treatment Plant (WTP) equipped with aerators/detention tank, high service pumps, and pressure filters;
- two elevated water storage tanks with mixers; and
- approximately 40 miles of 4" to 16" diameter water main.

Figure 1: Existing Water System Map and Service Area Map illustrates the general layout of the existing water system, including water main sizes and rated capacities of the water system components.

The water system currently services approximately 2,114 customers, including residential, commercial, industrial, and public/institutional. Meters at each well totalize daily pumpage to the WTP, while a master meter at the WTP totalizes daily pumpage to the water distribution system. Customer water meters are read/billed monthly.

2. Service Area

The water system service area generally corresponds to the corporation limits. Refer to Figure 1: Existing Water System Map and Service Area Map, which shows the corporation limits/service area relative to the existing water system.

3. Existing Water System Demand

Table A: Summary of Water Pumped from the Water Supply Wells to the WTP provides a tabulation of the monthly water data for year 2018 through year 2022 as well as the derivation of the 2023 Ave Day Demand, the Max Day to Ave Day Ratio, and the 2023 Max Day Demand.

Table B: Summary of Unmetered/Unaccounted for Water (for 2018-2022) provides a summary of the unmetered/unaccounted for water for years 2018 through 2022. Unmetered uses include miscellaneous City facilities, elevated water storage tank maintenance, hydrant flushing, water main breaks, and

firefighting; bulk water, which is metered, is also sold to contractors. The City continues to improve its efforts to estimate and/or meter and subsequently track annual water usage.

Table C: Summary of Existing Water Customers (for 2022) presents a summary of the existing water system customers. For each customer classification, the number of customers and the corresponding average annual consumption are noted. The Residential classification is the largest customer group and also has the largest average annual consumption.

Additionally, refer to Table D: Summary of Existing Residential Equivalent Units (REUs) (for 2022) for the calculated residential units (REUs) based on meter size.

4. Population and Water Demand Projections

Table E: Population Projections includes the U.S. Census population data for the City of Eaton Rapids and the population projections for the twenty-year planning period. The population and projected average day, maximum day, and maximum hourly water demands, including the basis for development, are included in Table F: Population/Water Demand Projections. The firm capacity of the water supply wells and WTP are also noted for comparison to the 2043 Max Day Demand.

5. Water System Infrastructure

Figure 1: Existing Water System Map and Service Area Map and Table G: Summary of Water System Facilities illustrate and summarize the general layout and components of the existing water system, including total, firm, and standby power capacities. The Safe Drinking Water Act 399, Part 12 Reliability rules require that a municipal water supply system be capable of providing the maximum day demand with the largest well out of service, which is referred to as “firm capacity”. The current firm capacity of the existing water supply wells is 3.28 million gallons per day (mgd), which is more than 2.5 times the projected year 2043 maximum day demand of 1.154 mgd. The firm capacity of the WTP, which is dependent of the high service pumps, is approximately 1.44 mgd.

The water supply wells are sequenced based on operator setup to pump water to the aerators/detention tank at the WTP. The high service pumps take suction from the detention tank and discharge water through the pressure filters into the water distribution system. The water level in either of the two elevated water storage tanks is used to control the high service pumps.

Table H: Existing Water Distribution System Inventories presents a summary of the water mains by size, material, and age. Additionally, Figure 1: Existing Water System Map and Service Area Map, Figure 2: Existing Water System Water Main Material Map, and Figure 3: Existing Water System Water Main Age Map provide map summaries of the water main size, material, and age. The City utilizes its GIS to manage the water system information and continues to update the data via improvement projects and field work. The GIS is also integral to the City’s EGLE approved, Water System Asset Management

Program and a valuable tool for managing the Distribution System Materials Inventory (DSMI), including tracking field investigations.

The Insurance Services Offices (ISO), an independent insurance rating company, defines fire flow recommendations for communities; however, many communities choose not to provide the full ISO recommended flow (i.e., 3,000 to 6,000 gpm for up to six hours) to industrial and commercial/central business district areas because of the significant infrastructure investment required to construct storage/water main to support this flow. Instead, communities adopt reasonably attainable fire flow levels to be provided (i.e., target fire flow) with individual industrial/commercial customers providing additional volumes, as required. The recommended water storage may be calculated by adding the target fire flow to the maximum day demand and subtracting the firm water supply. Assuming a target fire flow of 3,000 gpm for 3 hours for commercial and industrial areas and 1,000 gpm for 2 hours for residential areas, the City has sufficient storage capacity via the existing elevated storage tanks and wells with permanent generators/standby power for year 2043 Max Day Demand conditions; refer to Table I: Water Storage Volume Calculations.

The existing water system GIS data were reviewed and revised as required and provided the basis for updating the City's computer model of the supply, treatment, storage, and distribution system. The GIS/model was updated to include construction projects that have been completed since the 2010 Water System Reliability Study Update and Capital Improvement Plan; Table J: Summary of Water System Improvements (2011 to Present) includes a summary of the completed construction projects. The hydraulic network analysis was completed using GIS-based WaterGEMS software, which allows for water system simulation under various average and maximum day demands and fire flow conditions. The existing average day and maximum day demands were evaluated and demands for the largest users were assigned to junction nodes nearest the source, while the remainder of the demand was evenly distributed amongst the junction nodes throughout the model; the largest 25 users account for approximately 20 percent of the average day demand.

The existing year 2023 and projected year 2043 average day and maximum day water demands were simulated. Figure 4: 2023 Max Day Demand Minimum Pressure and Figure 6: 2043 Max Day Demand Minimum Pressure illustrate the modeling results. EGLE requires a minimum normal system pressure of 35 psi and recommends a normal operation range of 55-60 psi. Figure 5: 2023 Max Day Demand Available Fire Flow and Figure 7: 2043 Max Day Demand Available Fire Flow illustrate the fire flow analysis; the water distribution system can provide the recommended fire flows at 20 psi to the majority of the system with some deficiencies at dead end pipes and 4-inch water mains.

In 2001, the City teamed with C2AE and Peerless-Midwest, Inc. to prepare a Wellhead Protection Program (WHPP) in conjunction with the EGLE WHPP grant program, which was subsequently approved by EGLE. A second WHPP grant was secured and the team updated the WHPP after water supply Well 8 was installed (and Well 6 was abandoned). The City recently initiated another WHPP update.

6. Water System Improvements/Capital Improvement Plan

Table K: Capital Improvement Plan summarizes the improvements for the water system, which the City of Eaton Rapids proposes to implement; a Project Description and corresponding Project Cost Opinion are included for the 5-Year and 20-Year Capital Improvement Plans. Also refer to the excerpt from the City of Eaton Rapids Water System Capital Improvement Plan, which is attached to Table K: Capital Improvement Plan, for addition details.

The City previously submitted a DWSRF Project Planning Document, which included the proposed improvements outlined in the 5- and 20-Year Capital Improvement Plans, but was not included within the fundable range on EGLE's Final Intended Use Plan for FY24. However, the City continues to pursue funding via the EGLE DWSRF program and, as such, submitted an Intent to Apply for FY25 and recently met with EGLE representatives to discuss the City's proposed project(s), Project Planning Document and scoring criteria.

Table G
Summary of Water System Facilities
Water System Reliability Study and General Plan Update
City of Eaton Rapids, Eaton County, MI

Description		Capacity			Standby Power
		gpm	mgd	mg	
Supply	Well #1 - Drift well installed 1930	1,000	1.44		Right Angle Drive Engine/Propane
	Well #2 - Drift well installed 1950	350	0.50		
	Well #3 - Rock well installed 1958	250	0.36		
	Well #4 - Rock well installed 1958	250	0.36		
	Well #5 - Rock well installed 1959	300	0.43		
	Well #6 - Abandoned				
	Well #7 - Drift well installed 2001	700	1.01		Natural Gas Standby Generator (will run Well #1, Well #7, and WTP)
	Well #8 - Drift well installed 2005	430	0.62		Portable Diesel Generator
	Total Capacity	3,280	4.72		
	Firm Capacity	2,280	3.28		
	Capacity with Permanent Generator/Standby Power	2,130	3.07		
Treatment	Iron Removal Water Treatment Facility				Natural Gas Standby Generator (will run Well #1, Well #7, and WTP)
	Two Tray Type Aerators with Two Compartment Detention Tank	1,500 (each)			
	Two High Service/Filter Feed Pumps	1,000 (each)			
	Three Dual Cell Horizontal Pressure Filters	585 (each)			
	Firm Capacity	1,000	1.44		Two gas powered generators located on the north side of town will power the entire north side of town.
Storage	Tank 1 - West, West St, on Westside of Grand River			0.25	
	Tank 2 - East, S Greyhound Dr, on Eastside of Grand River			0.75	
	Total Storage			1.00	

Notes:
1. gpm = gallons per minute
2. mgd = million gallons per day; mg = million gallons
3. Water well supply capacity information obtained from EGLE 2022 Sanitary Survey and is EGLE approved/permitted capacity.
4. Water well supply firm capacity is the capacity with the largest water supply well out of service.
5. Water well supply capacity with Permanent Generator/Standby Power is the capacity of the wells with permanent generators equipped with automatic transfer switches.

Table H
Existing Water Distribution System Inventories
Water System Reliability Study and General Plan Update
City of Eaton Rapids, Eaton County, MI

Water Main Size		
Size	Length, ft	% of Total
≤4"	43,016	20%
6"	54,916	26%
8"	58,816	28%
10"	27,351	13%
12"	27,633	13%
16"	963	≤ 1%
Totals	212,695 (Approx 40 Miles)	100%

Water Main Material		
Material	Length, ft	% of Total
PVC	10,434	5%
HDPE	324	≤ 1%
Cast Iron	87,314	41%
Ductile Iron	114,623	54%
Totals	212,695 (Approx 40 Miles)	100%

Water Main Age		
Age	Length, ft	% of Total
1950-1959	76,550	36%
1960-1969	44,131	21%
1970-1979	19,220	9%
1980-1989	3,314	2%
1990-1999	41,663	20%
2000-2009	21,029	10%
2010-2019	3,380	2%
2020-2023	3,408	2%
Totals	212,695 (Approx 40 Miles)	100%

Note:
1. Data obtained from updated GIS/Water System Model.

Table J
Summary of Water System Improvements (2011 to Present)
Water System Reliability Study and General Plan Update
City of Eaton Rapids, Eaton County, MI

Year Constructed	Street	From - To	Description
2020	State St State St Improvements (C2AE JN 20-0038)	From M-99/Main St to John B Davidson Dr	Replaced approx 1,650' of ex 4" WM w/8" PVCO C-909 WM; replaced LSL.
2021	Brook St and W Knight St MDOT LAP Brook St, Knight St Improvements (C2AE JN 20-0058)	From West of Vaughn St to M-99/Main St	Replaced approx 1,950' of ex 4" WM w/8" C-909 WM.
2021	Eaton Rapids WTP Site Piping Water Main Emergency Repair (C2AE JN 21-0164.02)	In/under and adjacent to northside of WTP Bldg	Replaced approx 100' of failed ex 10" WM from WTP to ex 12" distribution system WM w/12" WM, including a 12x12 tee with gate valve for future redundant connection to Canal St WM.

Table K
Water System Capital Improvement Plan
Water System Reliability Study and General Plan Update
City of Eaton Rapids, Eaton County, MI

Item No.	Project Description	Project Cost Opinion
5-Year Capital Improvement Plan		
1	WTP Filter Replacement	$ 2,600,000
2	WTP High Service Pump Replacement	$ 850,000
3	WTP Redundant Connection to Canal St, 1000ft	$ 800,000
4	Lead Service Line Replacement	$ 750,000
5	State St Water Main across Grand River Replacement	$ 200,000
Total 5-Year Capital Improvement Plan		$ 5,200,000
20-Year Capital Improvement Plan		
6	Undersized 4-inch Water Main Replacement - Priority 1	$ 3,600,000
7	Undersized 4-inch Water Main Replacement - Priority 2	$ 8,000,000
Total 20-Year Capital Improvement Plan		$ 11,600,000

Notes:

1. Refer to attached excerpt, including table titled 2021 Project Improvements, Water CIP and map titled 4-inch Water Main Replacement from the City of Eaton Rapids Water System Capital Improvement Plan

1.6 Summary of Capital Improvement Needs

These improvements consist of the replacement of the WTP Filters which have reached their useful life, lead service line replacements, and replacement of undersized 4-inch water main throughout the city for improved reliability and fire flows. A table of planned improvements and map of improvement areas follows:

CITY OF EATON RAPIDS 2021 WATER SYSTEM CIP

Mar-21

City of Eaton Rapids - 2021 Project Improvements List
Water - CIP

PROJECT	COST EST.	PRIORITY
WTP Filter Replacement	$2,600,000	1
Lead Service Line Replacement	$750,000	1
REPLACEMENT OF UNDERSIZED 4-INCH WATER MAIN		
11. Water - City Limit to Blake & South to Broad, 3300ft	$1,000,000	1
14. Broad - Hall to Jennie, 1700ft	$510,000	1
16. Plains - Hyatt to deadend, 775ft	$250,000	1
17. Jennie - Plains to King, 920ft	$300,000	1
30. Center - Union to State, 2300ft	$725,000	1
34. Forest - Leonard to McArther, 950ft	$300,000	1
35. Exeter - Forest to Cumberland, 330ft	$105,000	1
36. Cumberland (backlot) Carlisle to Exeter, 1100ft	$350,000	1
1. Spicerville, 640ft	$200,000	2
2. Williams - Montgomery to Main, 450ft	$150,000	2
3. Hall (backlot) - Williams to Grand, 1500ft	$450,000	2
4. West (backlot) - Rancho to Grand, 1000ft	$320,000	2
5. Veroy - Marlin to Haven, 1325ft	$400,000	2
6. Lindy - Veroy to Jackson, 370ft	$120,000	2
7. Lee - West to Hall, 600ft	$210,000	2
8. Haven - West to Jackson, 1500ft	$460,000	2
9. Jackson - Haven to South, 2000ft	$625,000	2
10. South - Main to Water, 675ft	$210,000	2
12. Blake, Chester, Lewis, Hale, Osborn, 2300ft	$700,000	2
13. Montgomery - Plains to Broad, 480ft	$150,000	2
15. West - Plains to King, 880ft	$275,000	2
18. Vaughn, Munn, 1000ft	$325,000	2
19. Frost - Brook to Lake, 930ft	$310,000	2

20. Lake - Tompins to deadend, 800ft	$250,000	2
21. Backlot from Lake to Dexter, 600ft	$200,000	2
22. Division - Minerva to North, 500ft	$140,000	2
23. Canal - Lansing to Alley, 500ft	$140,000	2
24. Bently - M99 to Wood, 600ft	$200,000	2
25. Union - East to River, 470ft	$150,000	2
26. Diana - East to River, 475ft	$150,000	2
27. Holmes - East to River, 720ft	$225,000	2
28. River - Union to Diana, 330ft	$110,000	2
29. S. East - Knight to Holmes, 880ft	$260,000	2
31. Dutton - River to Gould, 1800ft	$550,000	2
32. Gould - Dutton to State, 285ft	$100,000	2
33. East - Leonard to McArther, 470ft	$150,000	2
37. Well 4&5, 1400ft	$300,000	2
38. Raymerville - N. East to deadend, 550ft	$170,000	2
TOTAL COST OF 2021 DWSRF PROJECTS	**$14,890,000**	

THE BAR BELOW PROVES ACTUAL MEASUREMENT ON BLACK
IF NOT TRUE ON YOUR PRINT ADJUST ACCORDINGLY

RECYCLE

WATER TREATMENT PLANT
PRESSURE FILTER REPLACEMENT

AIR RELEASE VALVES

WELL # 7

8" DRAIN WATER
8" TREATED WATER
8" INJECTED WATER

BARNES HWY.

MICHIGAN (M-99)

KEMLER ROAD

HALLAMOOD

(M-50)

2" SERVICE

DEXTER ROAD

LANSING

NORTH

MINERVA

CLARK

CANAL

BENTLEY

WOOD

MARKET

GRAND RIVER

N. EAST

RAYMERVILLE CT.

DRAHNER DR.

NATHAN DR.

HASTAY BLVD.

MILLER DR.

FEASAL

DIVISION

N. MAIN

LAKE

LINE

OAK

CHURCH

CHERRY

BROOK

TOMPKINS

FROST

W. KNIGHT

MILL

DIANA

CRANE

EAST

CENTER

ALBERS

ALBERS

UNION

KERRY

DONEGAL

MILLER

TARA

FERN

CONNEMARA

KNIGHT

E. KNIGHT

N. RIVER

HOME

HUMS

MUNN

VAUGHN

BROOK

HAMLIN

WICKLOW

MEATH

KILKELLY

CARLOW

McLAUGHLIN

HALL

SPIDER

S. MAIN

S. RIVER

S. EAST

HOLMES

STATE

PLAINS HWY

SPRING

RIVER

KING

IONIA

BROAD

WEST

MONTGOMERY

W. PLAINS

HYATT

DUTTON

A.C.

GOULD

DAVIDSON

LEONARD

EAST

McARTHUR

FOREST

CUMBERLAND

EXETER

MICHALEL

DEVON

RATHBURN

INVERNESS

GREYHOUND

WATER

GOODRICH

JACKSON

SOUTH

ELIZABETH

LEWIS

CHESTER

OSBORN

HALL

BLAKE

MAPLE

GROVE

PARK

ALICE

HAVEN

HEILMAN

KIMBARK

LEE

GRAND

LINDY

MARLIN

RANCHO

WILLIAMS

KYLE

GATE

GREEN (BAY)

FIRE PROTECTION

VFW

GRASS DR.

OUTER DRIVE

ANTRIM

CAMAN

N. TABERNACLE

S. TABERNACLE

WESLEY

EPWORTH

EMMANUS

CHAPEL

GRACE

GRAND RIVER DRIVE

ART DR.

N. GALLERY DR.

S. GALLERY DR.

HARTWOOD CT.

TYLER DR.

TROY CT.

EATON PINES BLVD.

SPICERVILLE

HAMMAN

(M-118)

LEGEND

PRIORITY 1

PRIORITY 2

NO SCALE

Internet only

c2ae architecture - engineering
www.c2ae.com

CITY OF EATON RAPIDS
2021 WATER SYSTEM IMPROVEMENTS
EATON COUNTY, MI

4-INCH WATER MAIN
REPLACEMENT

REVISIONS

REV	DESCRIPTION	DATE

PROJ.#: 2041185

DATE: 5/15/21

SHEET
1

EXHIBIT

FEDERAL CLASSIFICATION

Lead

1,288

Non-Lead

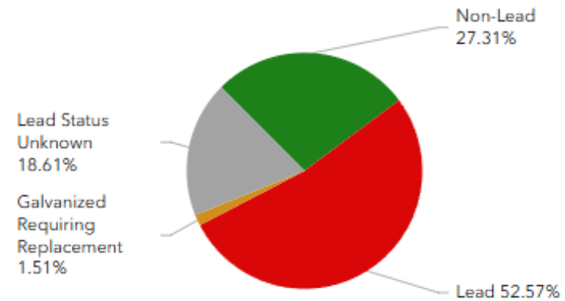
669

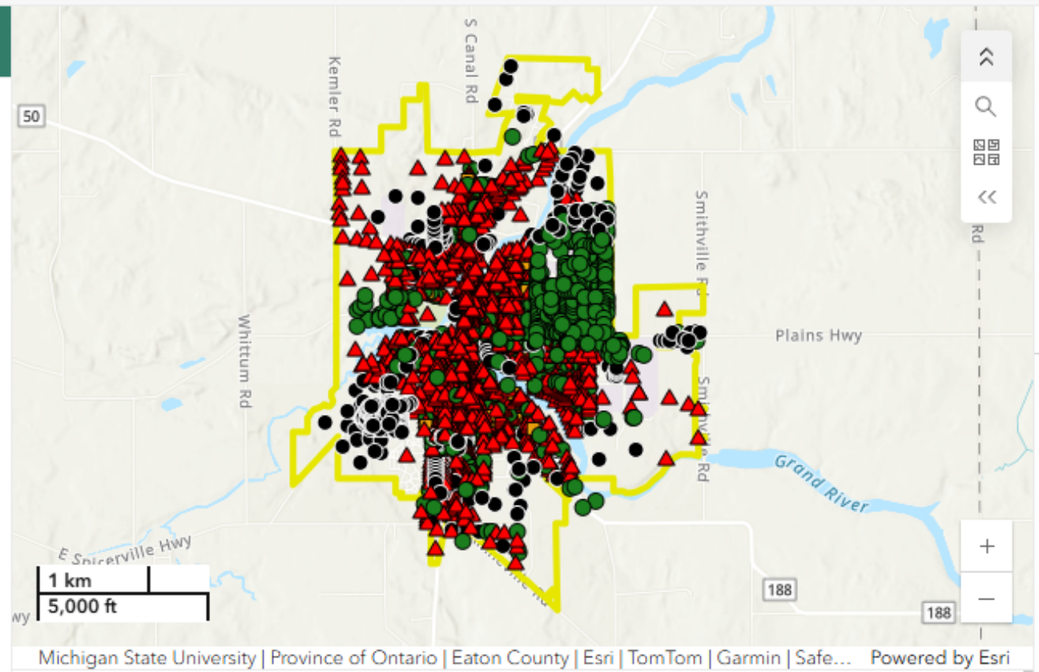
GRR

37

Lead Status Unknown

456





DATA DISCLAIMER: The Cioty of Eaton Rapids makes no warranty expressed or implied, regarding the accuracy, completeness, or usefulness of the information presented. Users of this information assume all liability of its fitness for a particular use.

Water Service Locations - CDSMI

Federal Classification

- Lead
- Non-Lead
- Galvanized Requiring Replacement
- Lead Status Unknown

City Limits

WE RECYCLE

THE BAR BELOW SHOWS GRAYSCALE FROM WHITE TO SOLID BLACK

THE BAR BELOW SHOWS PRIMARY COLORS WHITE

ISSUED FOR BID PLANS FOR:

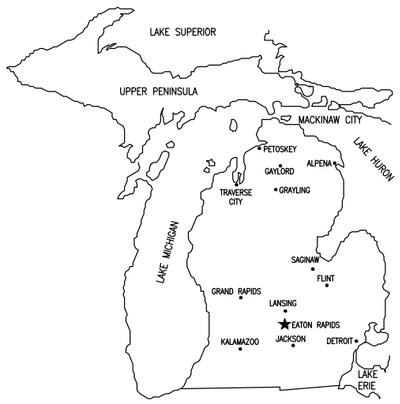
CITY OF EATON RAPIDS

WATER MAIN IMPROVEMENTS

EATON COUNTY, MI

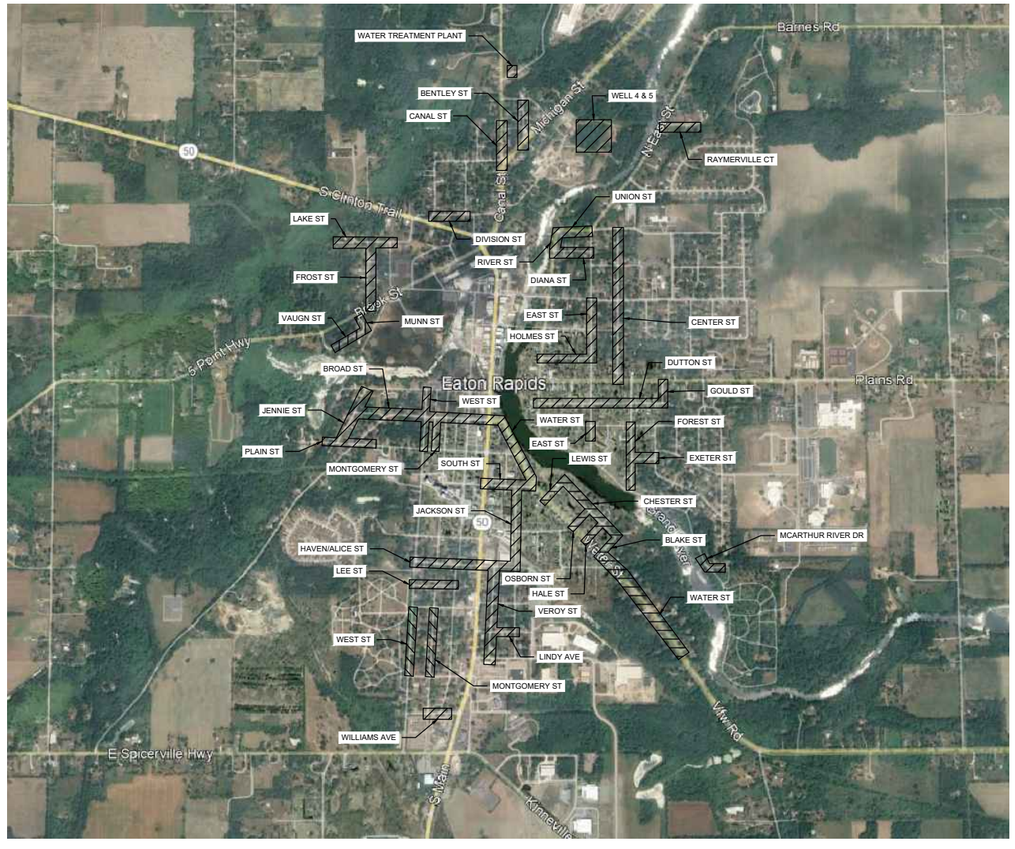
EGLE DWSRF PROJECT #7520-01

ISSUE DATE: 23MAY2025



MICHIGAN LOCATION MAP

SCALE: NTS



PROJECT MAP

SCALE: NTS

811 Know what's below. Call before you dig.

IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PERFORM ALL WORK UNDER THIS CONTRACT IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS, POLICIES, RULES AND STANDARDS OF THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MDSHA), BEING ACT 154 OF THE PUBLIC ACTS OF 1974 AND AS AMENDED.

EXCEPT WHERE OTHERWISE INDICATED ON THE PLANS OR IN THE PROPOSAL SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION, THE CURRENT SUPPLEMENTAL SPECIFICATIONS, AND ROAD STANDARD PLANS (AVAILABLE AT https://mdotjboss.state.mi.us/SpecProv/specBookHome.htm)

THROUGHOUT THE DRAWING SET, THE GRAYSCALE LEGEND ON THE EDGE OF TITLE BLOCKS SHOULD TRANSITION FROM WHITE THROUGH EIGHT SHADES OF GRAY TO SOLID BLACK. IF THE GRAYSCALE SHADES ARE NOT DISTINCT, THE DRAWING(S) HAVE NOT PRINTED CORRECTLY.

6/13/2025 9:13 AM
S:\2024\240386_EatonRapidsC_WaterSystem\13_Design\Drawings\03-240386_EatonRapidsC\13sheets\240386_Cover_Sheet.dwg - G-001
LEWIS, MATTHEW
DESIGNED BY: --
CHECKED BY: --
APPROVED BY: --

Sheet List Table

c2ae

(866) 454-3923 | WWW.C2AE.COM

COVER SHEET

EATON RAPIDS DWSRF

EATON COUNTY, MICHIGAN

PHASE

ISSUED FOR BID

ISSUANCES

#	DESCRIPTION	DATE
1	ISSUED FOR BID	23MAY2025
2	ADDENDUM 01	13JUN2025

PROJ. #: 24-0316

G-001

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to: Office of City Clerk, City of Eaton Rapids, 200 S. Main Street, Eaton Rapids, MI 48827.

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid Security;

B. Attachment A – Project References/Bidder Information;

C. Attachment B – Subcontractor Information;

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 *Unit Price Bids (AMD1)(ADM2)*

A. Bidder will perform the following Work at the indicated unit prices:

Item No.	*Description*	*Unit*	*Estimated Quantity*	*Bid Unit Price*	*Bid Amount*
1	*Mobilization, Max $530,000*	*LSUM*	*1*	*$*	*$*
2	*Tree, Rem, 19 inch to 36 inch*	*EA*	*10*	*$*	*$*
3	*Tree, Rem, 6 inch to 18 inch*	*EA*	*5*	*$*	*$*
4	*Pavt, Rem*	*SYD*	*2135*	*$*	*$*
5	*Sidewalk, Rem*	*SYD*	*1456*	*$*	*$*
6	*HMA Surface, Rem*	*SYD*	*53975*	*$*	*$*
7	*Corporation Stop, 1 inch*	*EA*	*436*	*$*	*$*
8	*Corporation Stop, 2 inch*	*EA*	*2*	*$*	*$*
9	*Curb Stop and Curb Box, 1 inch*	*EA*	*436*	*$*	*$*
10	*Curb Stop and Curb Box, 2 inch*	*EA*	*2*	*$*	*$*
11	*Water Service, Building Penetration Allowance, $500.00*	*EA*	*40*	*$*	*$*
12	*Water Service, Interior Plumbing Connection Allowance, $500.00*	*EA*	*40*	*$*	*$*

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
13	Water Service, Misc Site Restoration Allowance, $600.00	EA	95	$	$
14	Hydrant Assembly	EA	71	$	$
15	Gate Valve and Box, 4 inch, Modified	EA	9	$	$
16	Gate Valve and Box, 6 inch, Modified	EA	15	$	$
17	Gate Valve and Box, 8 inch, Modified	EA	134	$	$
18	Gate Valve and Box, 10 inch, Modified	EA	14	$	$
19	Gate Valve and Box, 12 inch, Modified	EA	1	$	$
20	Hydrant, Rem, Modified	EA	39	$	$
21	Water Service, 1 inch, Modified	FT	15309	$	$
22	Water Main, 4 inch, Tr Det F, Modified	FT	910	$	$
23	Water Main, 4 inch, Tr Det G, Modified	FT	835	$	$
24	Water Main, 8 inch, Tr Det F, Modified	FT	2813	$	$
25	Water Main, 8 inch, Tr Det G, Modified	FT	27608	$	$
26	Water Main, 10 inch, Tr Det G, Modified	FT	196	$	$
27	Temporary Water Service	EA	124	$	$
28	Connect to Existing Water Main	EA	84	$	$
29	Curb and Gutter, Rem	FT	7530	$	$
30	Machine Grading, Modified	STA	336	$	$
31	Subgrade Undercutting, Type II	CYD	110	$	$
32	Erosion Control, Inlet Protection, Fabric Drop	EA	297	$	$
33	Erosion Control, Silt Fence	FT	2630	$	$
34	Subbase, CIP	CYD	345	$	$
35	Aggregate Base, 6 inch	SYD	2552	$	$
36	Aggregate Base, 8 inch	SYD	60927	$	$
37	Aggregate Surface Cse, 6 inch	SYD	3408	$	$
38	Driveway Maintenance, Commercial	EA	24	$	$
39	Driveway Maintenance, Residential	EA	244	$	$
40	Intersection Maintenance	EA	222	$	$
41	Shld, Cl II, 4 inch	SYD	6276	$	$
42	Geotextile, Stabilization	SYD	10	$	$
43	Dr Structure Cover, Adj, Case 1	EA	171	$	$
44	Dr Structure Cover, Adj, Case 2	EA	14	$	$
45	Dr Structure Cover, Type B	EA	20	$	$
46	Dr Structure Cover, Type D	EA	20	$	$
47	Dr Structure Cover, Type E	EA	20	$	$
48	Dr Structure Cover, Type K	EA	20	$	$
49	Hand Patching	TON	514	$	$

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
50	HMA Approach	TON	1705	$	$
51	HMA, 4EL	TON	5698	$	$
52	HMA, 5EL	TON	4282	$	$
53	Driveway, Nonreinf Conc, 6 inch	SYD	1553	$	$
54	Driveway, Nonreinf Conc, 8 inch	SYD	285	$	$
55	Curb and Gutter, Conc, Det F4	FT	7010	$	$
56	Curb Ramp Opening, Conc	FT	774	$	$
57	Sidewalk, Conc, 4 inch	SFT	7997	$	$
58	Sidewalk, Conc, 6 inch	SFT	645	$	$
59	Curb Ramp, Conc, 6 inch	SFT	4200	$	$
60	Curb Slp, HMA	FT	410	$	$
61	Post, Mailbox	EA	246	$	$
62	Fence, Chain Link, Rem, Salv, and Reinstall	FT	310	$	$
63	Fence, Wood, Rem, Salv, and Reinstall	FT	280	$	$
64	Sign, Type III, Rem, Erect, Salv, Modified	EA	114	$	$
65	Pavt Mrkg, Polyurea, 6 inch, White	FT	1770	$	$
66	Pavt Mrkg, Polyurea, 6 inch, Yellow	FT	3254	$	$
67	Pavt Mrkg, Polyurea, 12 inch, Crosswalk	FT	20	$	$
68	Pavt Mrkg, Polyurea, 24 inch, Stop Bar	FT	10	$	$
69	Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	EA	30	$	$
70	Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	EA	30	$	$
71	Pedestrian Type II Barricade, Temp	EA	30	$	$
72	Channelizing Device, 42 inch, Fluorescent, Furn	EA	110	$	$
73	Channelizing Device, 42 inch, Fluorescent, Oper	EA	110	$	$
74	Dust Palliative, Applied	TON	10	$	$
75	Minor Traf Devices	LSUM	1	$	$
76	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp	FT	200	$	$
77	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp	FT	200	$	$
78	Sign, Type B, Temp, Prismatic, Furn	SFT	600	$	$
79	Sign, Type B, Temp, Prismatic, Oper	SFT	600	$	$
80	Sign, Type B, Temp, Prismatic, Spec, Furn	SFT	100	$	$
81	Sign, Type B, Temp, Prismatic, Spec, Oper	SFT	100	$	$
82	Traf Regulator Control	LSUM	1	$	$
83	Slope Restoration, Non-Freeway, Type A	SYD	20000	$	$

Item No.	*Description*	*Unit*	*Estimated Quantity*	*Bid Unit Price*	*Bid Amount*
84	*Monument Box*	*EA*	*10*	*$*	*$*
85	*Monument Box, Adj*	*EA*	*10*	*$*	*$*
86	*Monument Preservation*	*EA*	*10*	*$*	*$*
87	*Protect Corners*	*EA*	*75*	*$*	*$*
88	*Gate Box, Adj, Case 1*	*EA*	*80*	*$*	*$*
89	*Gate Valve and Box, Abn*	*EA*	*1*	*$*	*$*
90	*Gate Valve and Box, Rem*	*EA*	*5*	*$*	*$*
91	*Additional Water Main Fittings, Not Shown on Plans*	*LB*	*5000*	*$*	*$*
92	*Additional Water Main, Environmental Joint, 6 inch*	*EA*	*50*	*$*	*$*
93	*Additional Water Main, Environmental Joint, 8 inch*	*EA*	*50*	*$*	*$*
94	*Water Main, 6 inch, Tr Det F, Modified*	*FT*	*8*	*$*	*$*
95	*Water Main, 6 inch, Tr Det G, Modified*	*FT*	*1115*	*$*	*$*
96	*Water Service, 1 inch, Trenchless*	*FT*	*500*	*$*	*$*
97	*Water Service, 2 inch, Modified*	*FT*	*64*	*$*	*$*
98	*Water Service, 2 inch, Trenchless*	*FT*	*100*	*$*	*$*
99	*Water Shutoff, Adj, Case 1*	*EA*	*20*	*$*	*$*
100	*Detectable Warning Surface*	*FT*	*350*	*$*	*$*
101	*Witness, Log, $1,250.00*	*DLR*	*1250*	*$*	*$*
102	*Audio-Visual Record*	*LSUM*	*1*	*$*	*$*
103	*Exploratory Investigation*	*EA*	*100*	*$*	*$*
104	*Fence, Protective*	*FT*	*250*	*$*	*$*
105	*Project Sign*	*LSUM*	*1*	*$*	*$*
TOTAL OF ALL UNIT PRICE BID ITEMS					*$*

B. Bidder acknowledges that:

1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

Appendix E
Public Participation

An AtkinsRéalis Company

1211 Ludington St
Escanaba, MI 49829
906.233.9360
www.c2ae.com

Memo

To:	Yvonne Ridge, Eaton Rapids City Manager
From:	Rebecca Bender, C2AE
Date:	April 14, 2026
Re:	FY2027 DWSRF Project Plan Summary

During the Public Meeting for the FY2027 DWSRF Project Plan for the City of Eaton Rapids, C2AE will share the following project summary.

Recommended Public Advertisement

The City of Eaton Rapids will hold a public meeting on the proposed City Council Meeting on the proposed DWSRF Water Improvements Project for the purpose of receiving comments from interested persons.

The meeting will be held at 7:00 p.m. on May 11th, 2026 at Eaton Rapids City Hall.

The purpose of the proposed project is to address water service line replacements required by the 2018 Lead and Copper Rule. Alternate 1 details the self-funding option for investigating and replacing lead-impacted service lines directly from the water department's cash reserves. This process must be complete by the State deadline of 2040. Alternative 2 runs a funding scenario using Michigan Drinking Water State Revolving Fund loan (with potential loan forgiveness). This alternative has additional engineering and administrative costs but divides these construction costs over the life of a 30-year loan. Current estimates of service line materials indicate approximately 1628 out of 2450 water services are in need of replacement.

Project construction for lead service line replacement will include "potholing," a small excavation to expose service line materials, for investigation of unknown services. Galvanized materials previously or currently connected to lead and all lead pipe will be removed from the ground by excavation and replacement.

Impacts of the proposed project will likely include temporary water interruptions and traffic disruption. Safety is a priority, and boil water advisories or other precautions will be communicated to the public. All disturbed public and private property will be restored to existing grade and planted with grass seed. Services are expected to be replaced in the same or nearly the same location as the previously installed service. Some trees, mailboxes, and other obstacles may necessarily be removed during construction and will be coordinated with the service owner.

The estimated cost to users for the proposed project will be $27-$42 per month depending on self-funding from cash reserves or low-interest loan funding from DWSRF. Total project cost is expected to be up to $20,088,290 for replacing all lead-impacted service lines.

Copies of the plan detailing the proposed project are available for inspection at the following locations: Eaton Rapids City Hall and www.cityofeatonrapids.gov.

An AtkinsRéalis Company

Written comments received before the meeting record are closed on May 11th 7:00 p.m. will receive responses in the final project planning document. Written comments should be sent to rebecca.bender@c2ae.com.

Cc: Rob Pierce, Utilities Director
Jared Secor, C2AE Project Manager

Resolution XX-XX-2026-XX

A RESOLUTION ADOPTING A FINAL PROJECT PLANNING DOCUMENT FOR WATER SYSTEM IMPROVEMENTS AND DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE

WHEREAS, the CITY OF EATON RAPIDS, MI recognizes the need to make improvements to its existing water distribution system; and

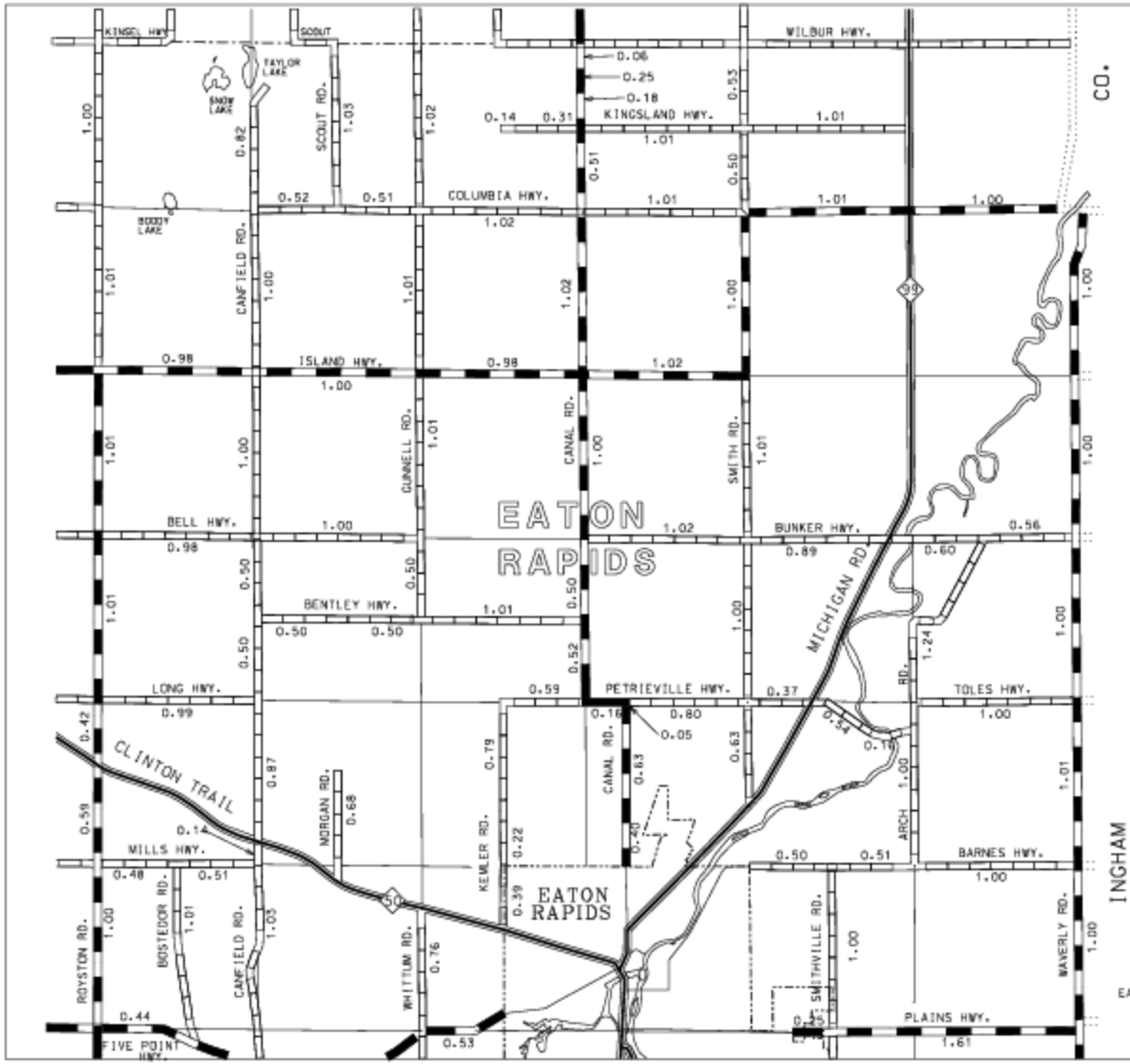
WHEREAS, the CITY OF EATON RAPIDS, MI authorized C2AE OF LANSING, MI to prepare a Project Planning Document, which recommends the replacement of lead-impacted water services.

WHEREAS, said Project Planning Document was presented at a Public Hearing held on Monday April 27th 2026 at 7:00pm and all public comments have been considered and addressed.

NOW THEREFORE BE IT RESOLVED that the CITY OF EATON RAPIDS, MI formally adopts said Project Planning Document and agrees to implement the selected alternative: Alternative 2: Replacement of Lead Impacted Water Service Lines.

BE IT FURTHER RESOLVED that the City Manager, a position currently held by Yvonne Ridge, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Planning Document as the first step in applying to the State of Michigan for a Drinking Water State Revolving Fund Loan to assist in the implementation of the selected alternative.

Appendix F
Full Size Maps



LEGEND

COUNTY LINE
CORPORATE LIMITS
STATE TRUNKLINE
COUNTY PRIMARY
COUNTY LOCAL
ADJACENT COUNTY
CITY OR VILLAGE
STREET

PRIMARY ROAD SYSTEM IS 24.09 MILES

LOCAL ROAD SYSTEM IS 43.29 MILES

I HEREBY CERTIFY THAT THE ROADS SHOWN HEREON BY SYMBOL AS PRIMARY ROADS AND THOSE SHOWN HEREON BY SYMBOL AS LOCAL ROADS ARE IN USE AND ARE UNDER THE JURISDICTION OF THE COUNTY ROAD COMMISSION

CHAIRMAN DATE

N
W E
S

SCALE
0 1/2 1
ONE INCH EQUALS 3200'

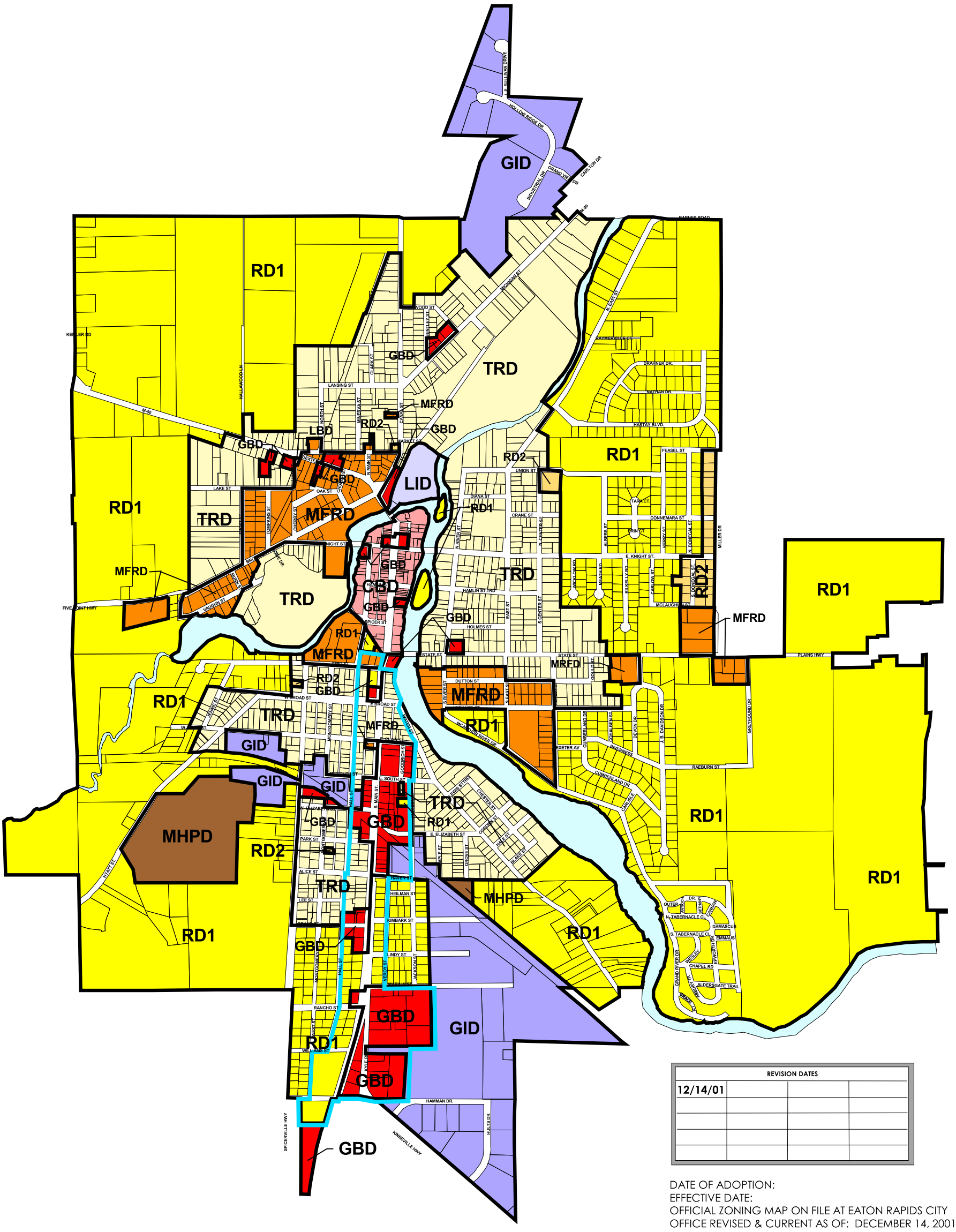
EATON COUNTY - 23

T 3 N R 3 W

EATON RAPIDS 60

McKenna Associates Incorporated

City of Eaton Rapids, Michigan



REVISION DATES			
12/14/01			

DATE OF ADOPTION:
EFFECTIVE DATE:
OFFICIAL ZONING MAP ON FILE AT EATON RAPIDS CITY OFFICE REVISED & CURRENT AS OF: DECEMBER 14, 2001

Zoning Districts

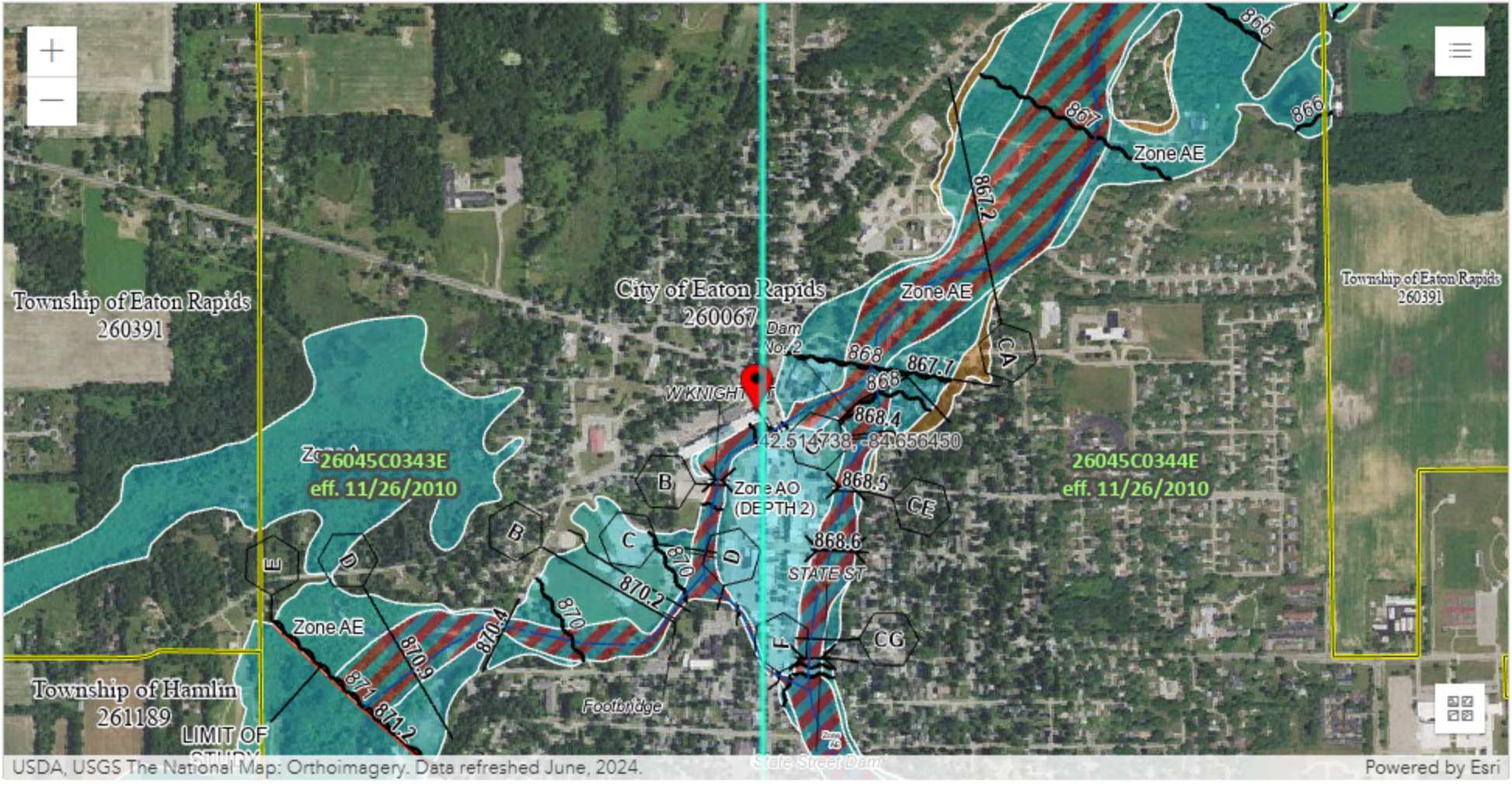
TRD	Traditional Residential District
RD1	Low Density Single Family Residential District
RD2	Single & Two Family Residential
MFRD	Multiple Family Residential District
MHPD	Manufactured Housing Park District
LBD	Local Business District
CBD	Central Business District
GBD	General Business District
LID	Limited Industrial District
GID	General Industrial District
MXD	Mixed Use District

Zoning Map

Basemap Source: Gove Associates, 8/98

0 Ft. 625 Ft. 1250 Ft.

12/14/01



PIN
- Approximate location based on user input and does not represent an authoritative property location

MAP PANELS
- Selected FloodMap Boundary
- Digital Data Available
- No Digital Data Available
- Unmapped

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone D
- Otherwise Protected Area
- Coastal Barrier Resource System Area

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, V, A99
- With BFE or Depth
- Regulatory Floodway Zone AE, AO, AH, VE, AR

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall