Village of Bellaire, Michigan

Water Rate Review

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Background

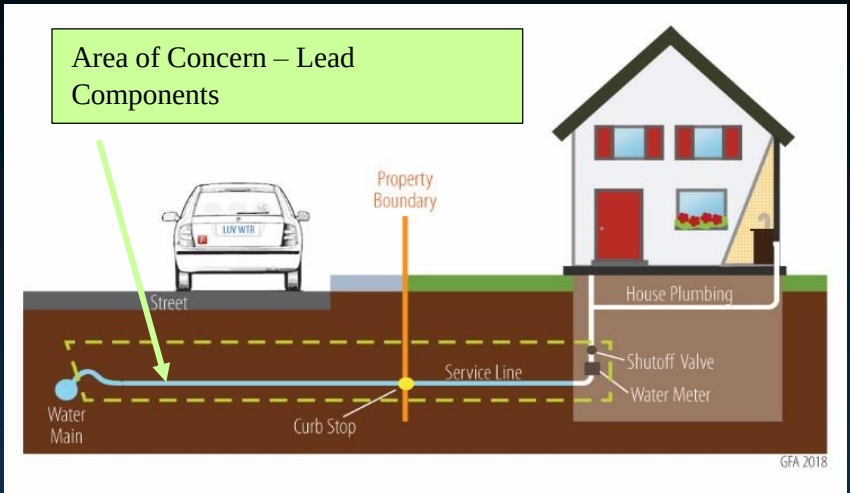
The Village of Bellaire as an owner and operator of municipal water system must adhere to the Michigan Safe Drinking Water Act (SDWA) Part 399 - enforced by the Michigan Department of Environment, Great Lakes and Energy (EGLE).

To comply the Village is required to regularly monitor, sample, and report to the State on essential items, including:

- Water Reliability Study and Capital Improvement Plan: **a multi-year schedule of projects and funding to plan and track infrastructure needs. Due every 5 years.**
  - ✓ Completed by GFA in October 2019
- Asset Management and Rate Studies: Assessment of existing infrastructure conditions and evaluation of rates. Required for communities with 1,000+ population.
  - ✓ Completed by Michigan Rural Water, December 2017 and January 2020
- Lead and Copper Rules: Implemented by the State of Michigan in June 2018 to protect public health by minimizing lead and copper levels in drinking water.
  - ✓ Inventory Completed by DPW Staff January 1, 2020

PRIORITY #1 : Recent Lead and Copper Rule Changes

Recent EGLE rule changes EGLE require communities that provide municipal water to increase sampling protocols, inventory infrastructure for lead materials, increase public awareness if present, and begin implementing the replacement of known or suspected lead components over the next 20 years.



This includes:

- Complete Replacement of service lines to within the home. Limits in the home are 18” inside or 1st shutoff valve
- Galvanized lines (Steel with zinc coating) once connected to lead must also be replaced

PRIORITY #1 : Recent Lead and Copper Rule Changes

	Status	Results
Completion of a Preliminary Material Inventory by January 1, 2020	Completed	80% of the leads in the system with lead or suspected to contain lead (galvanized) (460 out of 572 leads)
Final Inventory / Site Inspection to Confirm by January 1, 2025.	In process	
Sampling protocol changes, including location and amounts.	In process	2 ppb < MCL (15 ppb)
Lead Service Line Replacement (LSR) shall be implemented effective January 1, 2021. Minimum of 5% per year over 20 years (23 leads per year)	In process	Village intends to complete 25 per year with own equipment / personnel
Change in MCL from 15 ppb to 12 ppb.	Effective January 1, 2025.	

Why is lead a concern?

What is lead? Lead is a natural metal that can be found in the ground. Over the years, it has been used in many things, including batteries, gasoline, make-up, paint, ceramics, solder, water pipes, and faucets. You likely would not be able to smell or taste lead in your water.

Why is lead a concern?

How could lead get into my drinking water?

Lead water pipes can sometimes be found in older homes. Galvanized service lines were typically installed to supply water to homes and businesses prior to the 1970's and were typically connected to a 1 to 2 feet long piece of lead pipe (referred to as a lead gooseneck) at the water main in the right of way.

Even drinking water faucets manufactured before 2014 were allowed to contain up to eight percent (8%) lead. The lead is soluble (dissolved in water) or particulate and can get into drinking water when materials begin to break down or dissolve.

What health problems can lead cause? In large amounts when ingested it can cause problems with learning, behavior, speech, hearing, growth rates, and nervous system development.

Village Rate Structure

The Village has an established user rate (to include ready-to-serve) based upon meter size and consumption (per 1,000 gallons used).

COST PER	CURRENT RATES
1,000 GAL.	$2.76

	READY TO SERVE (RTS) CHARGES
METER SIZE IN INCHES	CURRENT RATES
3/4	$12.22
1	$18.08
1 1/2	$34.20
2	$57.65
3	$122.14
4	$215.95
6	$473.92

Village Rate Structure

The rate structure needs to ensure an adequate revenue stream to maintain the system and cover expenses, including:

- Annual Operations & Maintenance – materials, chemicals, labor, admin, engineering, etc
- Short-Lived Asset Replacement - 25 years or less
- Outstanding Debt – vehicle / large equipment, loans, etc
- Capital Improvement Fund
- NEW: State Regulation Changes – Lead Service Line Replacement Fund

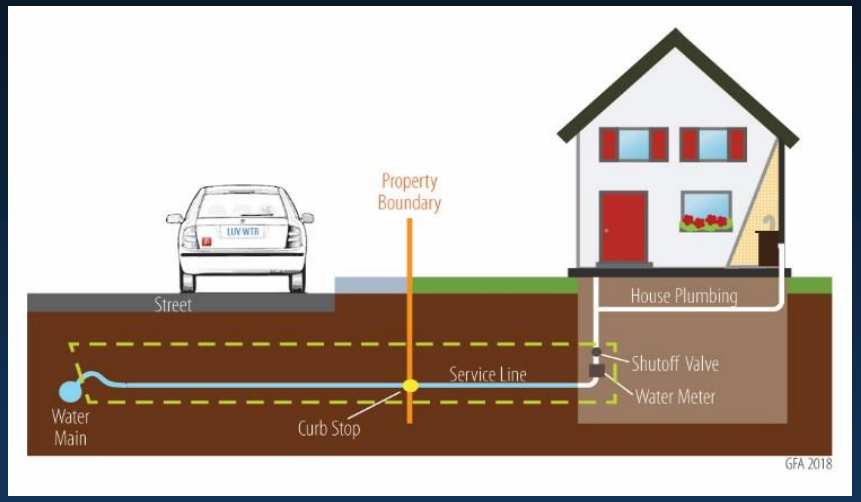
FINAL ANALYSIS RATE CALCULATION - CURRENT FISCAL YEAR	2020				2020
BELLAIRE WATER	ANNUAL BUDGET	BASE RATE FIXED EXPENSES	COST PER REU	CONSUMPTION VARIABLE EXPENSES	VOLUME COST PER UNIT
EXPENSES	$98,572	$46,627	$5.73	$51,945	$1.724
EXPENSES PG 2	$79,470	$37,592	$4.62	$41,878	$1.390
LEAD SERVICE LINE REPLACEMENT	$50,000	$23,651	$2.91	$26,349	$0.875
OPERATION & MAINTENANCE EXPENSES	$228,042	$107,870	$13.26	$120,172	$3.989
LOAN FOR VACTOR & EQUIPMENT	$22,000	$22,000	$2.70	$0	$0.00
EQUIPMENT REPLACEMENT SHORT LIVED ASSETS	$17,000	$8,041	$0.99	$8,959	$0.30
CAPITAL IMPROVEMENT	$0	$0	$0.00	$0	$0.00
ADOPTED BUDGET	$267,042	$137,912		$129,130	
CALCULATED RATE PER PER REU	PER	MONTH	$16.95	1,000 GAL.	$4.29

Here is a sampling of what other neighboring communities currently charge:

	Monthly Ready-to-Serve	Consumption Charge per 1,000 gallons	# of Customers	Typical Monthly Bill (4,500 gal usage)
East Jordan	$30.00	$4.08	1,200	$48.35
Ellsworth	$20.00	$3.50	330	$35.75
Petoskey	$16.00	$3.40	3,311	$31.30
Kalkaska	$13.50	$1.60	935	$20.70
Elk Rapids	$36.00	$4.36	1,700	$51.87
Mancelona Water Util	$30.00	$2.15	1,500	$39.68
Charlevoix	$21.00	$3.45	3,000	$29.88
Harbor Springs	$43.70	$2.05	1,300	$52.93
Bellaire	**$12.22**	**$2.76**	**548**	**$24.64**
Bellaire - Updated	**$16.95**	**$4.29**	**548**	**$36.25**

What to Expect during your Lead Service Line Replacement (LSR) – If you need one!

In accordance with Michigan's new Lead and Copper Rule, if your service line contains lead and/or galvanized, the Village must provide a complete replacement with a new CTS CPVC (plastic) water service line.



The limits of this replacement will be from the main in street to within your home/structure. The Village will either connect to your existing interior plumbing at the first shut-off valve or 18 inches inside the building, whichever is shorter.

What to Expect during your Lead Service Line Replacement (LSR) – If you need one!

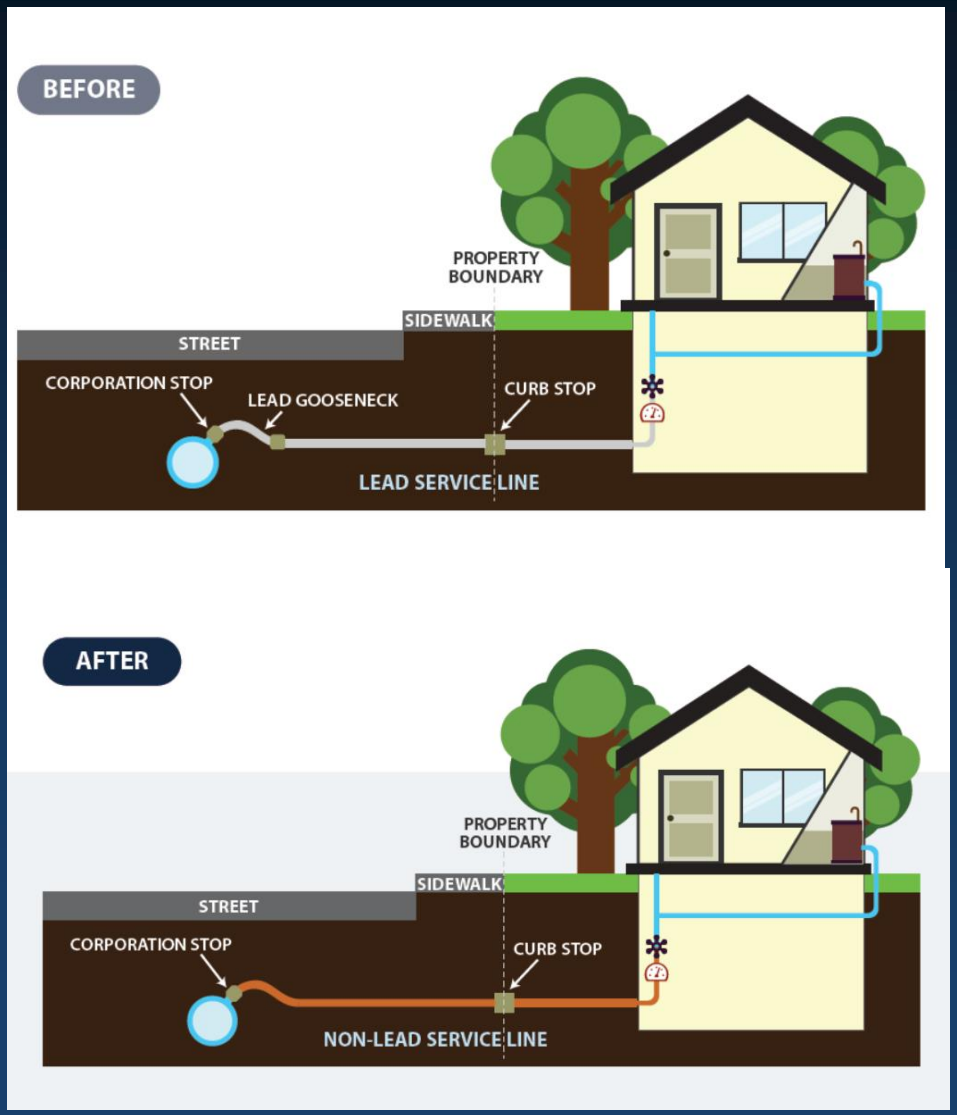
<u>Village responsibility includes</u>:

- Provide written letter notice and advance notice before doing any work
- Minimal water service disruption (to occur only during lead transfer)
- Provide installation of new line with vac truck / trencher to provide least disruption to property
- Use a licensed plumber to make any needed home connections
- Restore any damage on property

What to Expect during your Lead Service Line Replacement (LSR) – If you need one!

Property owner responsibility:

- Sign a waiver granting permission to access property and enter home
- Provide access to property to allow for connection



What to Expect during your Lead Service Line Replacement (LSR) – If you need one!

Precautionary measures after replacement:

- Clean your faucet aerator regularly. The aerator on the end of your faucet is a screen that will catch debris.
- Flush your pipes before drinking. The longer water sits in your home piping, the more lead may leach from lead-containing pipes, solder or brass fixtures. Anytime a faucet used for drinking or food prep has not been used for six hours or longer, the tap should be “flushed”. Turn on the cold water and let it run until it is as cold as possible. Then run for 30 seconds before using.
- Do not boil water to remove lead. Boiling will not remove the lead.
- Use a filter. You may wish to use a home filter for water to be used for drinking and cooking, particularly if you have household members who are pregnant or under age six.

PRIORITY #2 : Capital Improvement Plan

A significant amount of pipe that services the Village is aged, deteriorated, and inadequately sized (as recommended by the industry-standard 10-State Standards for Recommended Water Systems). The following noted deficiencies were prioritized in the CIP:

- Significantly undersized (2, 4and 6-inch) lines impact the available fire flow capacity of the system
- Aged and/or deteriorating and have the potential to leak and/or break due, increasing Bellaire's annual operating budget to provide emergency repair/ maintenance
- Constructed of lead/galvanized components and/or are connected to service leads constructed with galvanized, lead, or lead components.

Village Water System Mains in Need of Replacement		
Diameter	Qty	Reason
2" water main	4,000 lf	Undersized for proper fire protection
4" water main	7,350 lf	Undersized for proper fire protection
2" water main	350 lf	1936 install, nearing end of life span
4" water main	600 lf	1936 install, nearing end of life span
6" water main	3,000 lf	1936 install, nearing end of life span
8" water main	2,100 lf	1936 install, nearing end of life span

PRIORITY #2 : Capital Improvement Plan

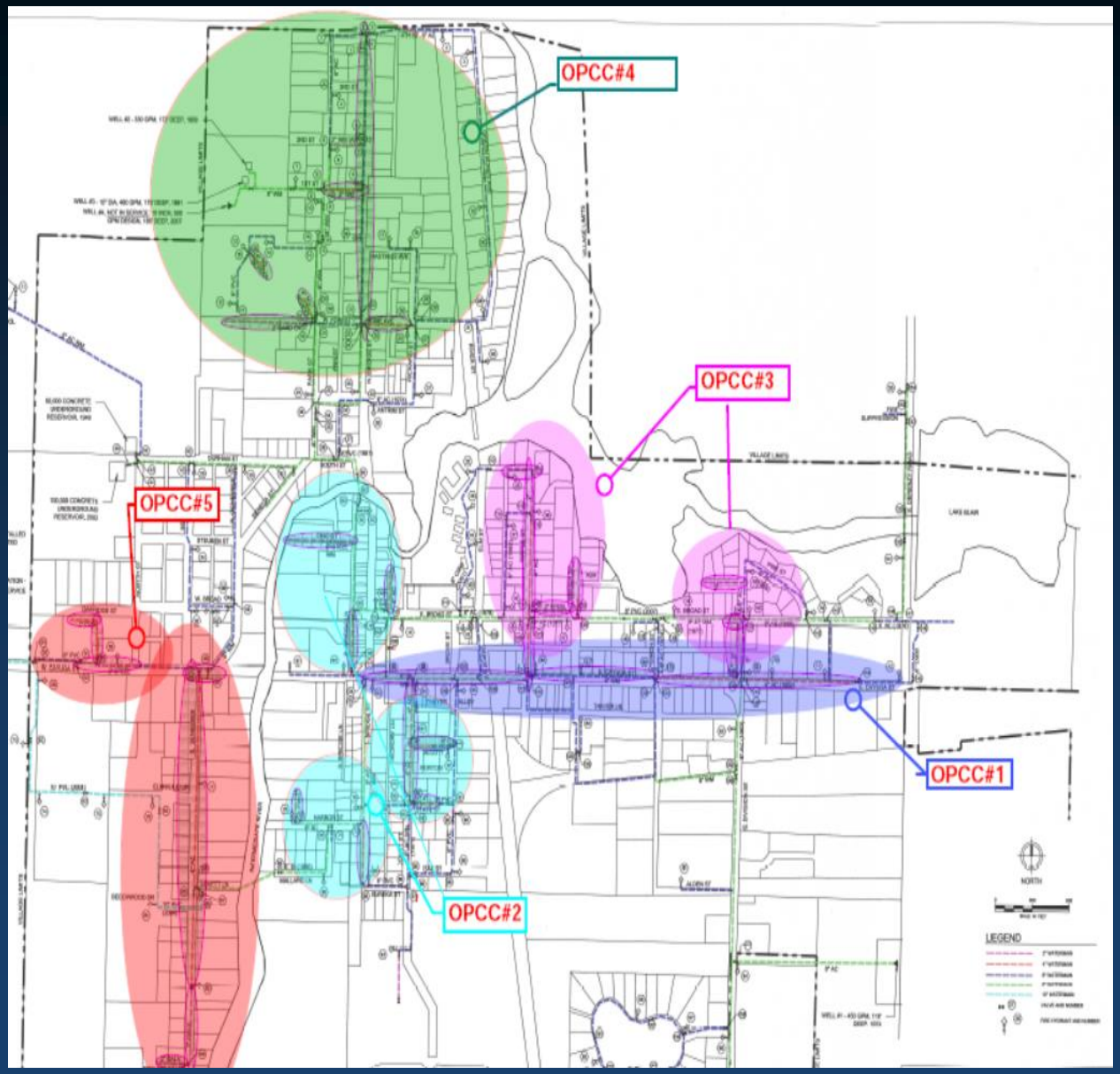
The CIP categorized five (5) separate replacement areas based on the AMP report plus the need to implement a water service lead replacement program.

These areas were prioritized #1 through #5 (#1 being the most important). The basis for defining the priorities:

- Mains that included the highest number of lead service lines/serviced the most amount of customers
- Critical asset ranking identified in the AMI
- Condition, age and size of the main
- Importance in the system (such as primary trunklines)

PRIORITY #2 : Capital Improvement Plan

OPPC	Estimate
#1	$1,330,593
#2	$1,317,005
#3	$681,065
#4	$1,146,115
#5	$1,259,039
Total Estimate	**$5,776,317**



Funding Considerations

	Option 1 USDA Rural Development Loan	Option 2 Drinking Water Revolving Fund (DWRF)	Option 3 Low Interest Loan / Bonding
Term	40 Years	25 Years	20 Years
Interest	1.625%	2.5%	3.5%
Notes	Est. Loan Payment $50,00/yr independent areas $200,00/yr for entire project		
	Potential need for rate increase (Possible grant funding if user rates are $45+ a month)	Potential need for rate increase	Potential need for rate increase