

KAUKAUNA WATER

Michael Avanzi
General Manager
Kaukauna Utilities

April 12, 2024



AGENDA

1. Water System Study
2. Water System – Current State
3. Main Filter Plant Alternatives
4. Treatment Options
5. Project Timeline & Community Engagement

WATER SYSTEM STUDY

STUDY OVERVIEW

- Water system modeling for expansion and fire flows
- Evaluation of current water supply capacity and storage systems
- Evaluation of condition of existing water treatment plants
- Analysis of current and future water demand
- Analysis of Main Filter Plant alternatives
- Analysis of water treatment process, including options to reduce water hardness
- Water supply sources (groundwater and surface water)
- Asset management plan, including options for aging infrastructure

KAUKAUNA UTILITIES

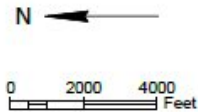
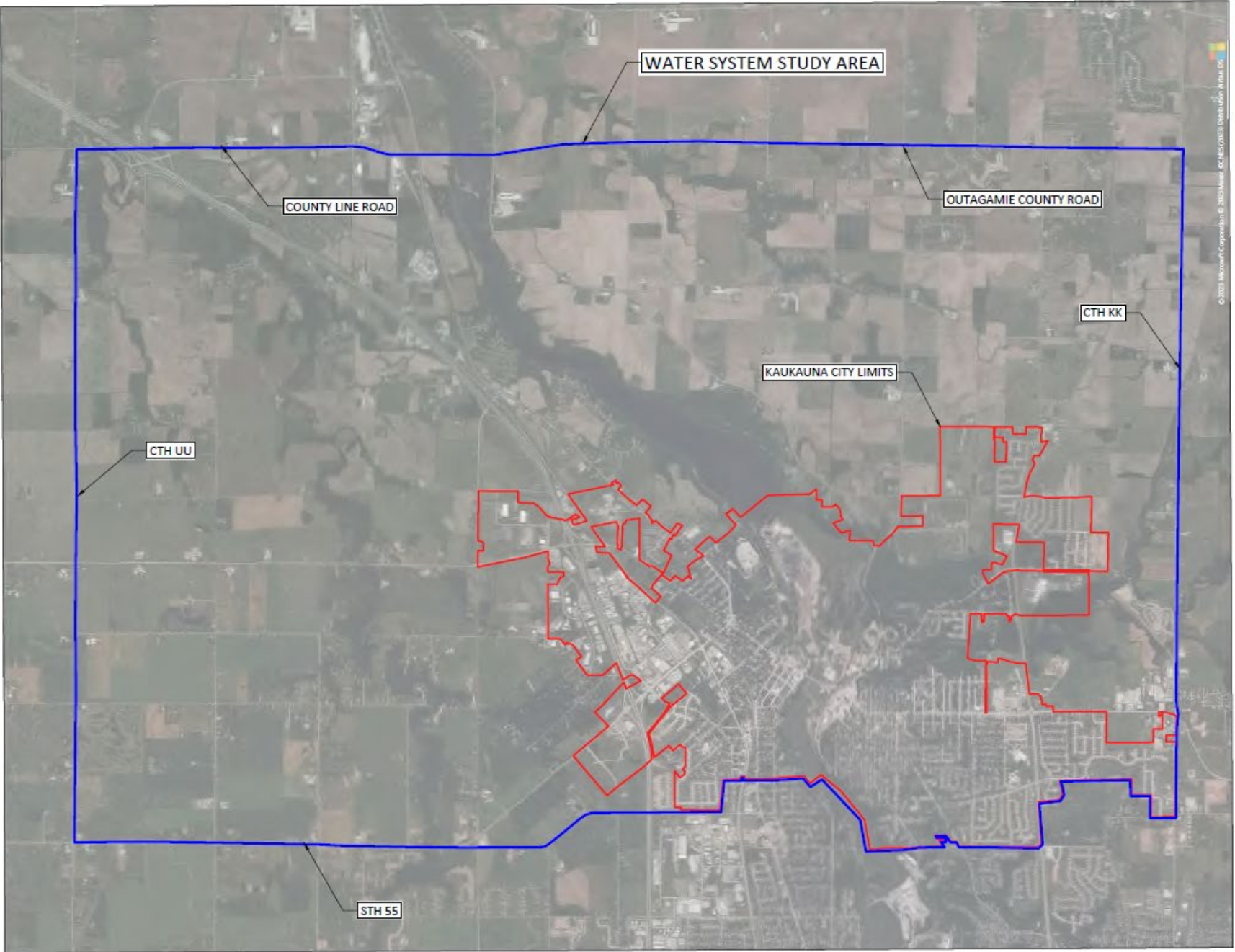


FIGURE 2:
WATER STUDY LIMITS



Engineers—Surveyors—Architects
2500 E. Enterprise Avenue
Suite A
Appleton, WI 54913
Phone: 920.574.3135
www.cbssquaredinc.com

WATER SYSTEM – CURRENT STATE

CURRENT TREATMENT METHOD

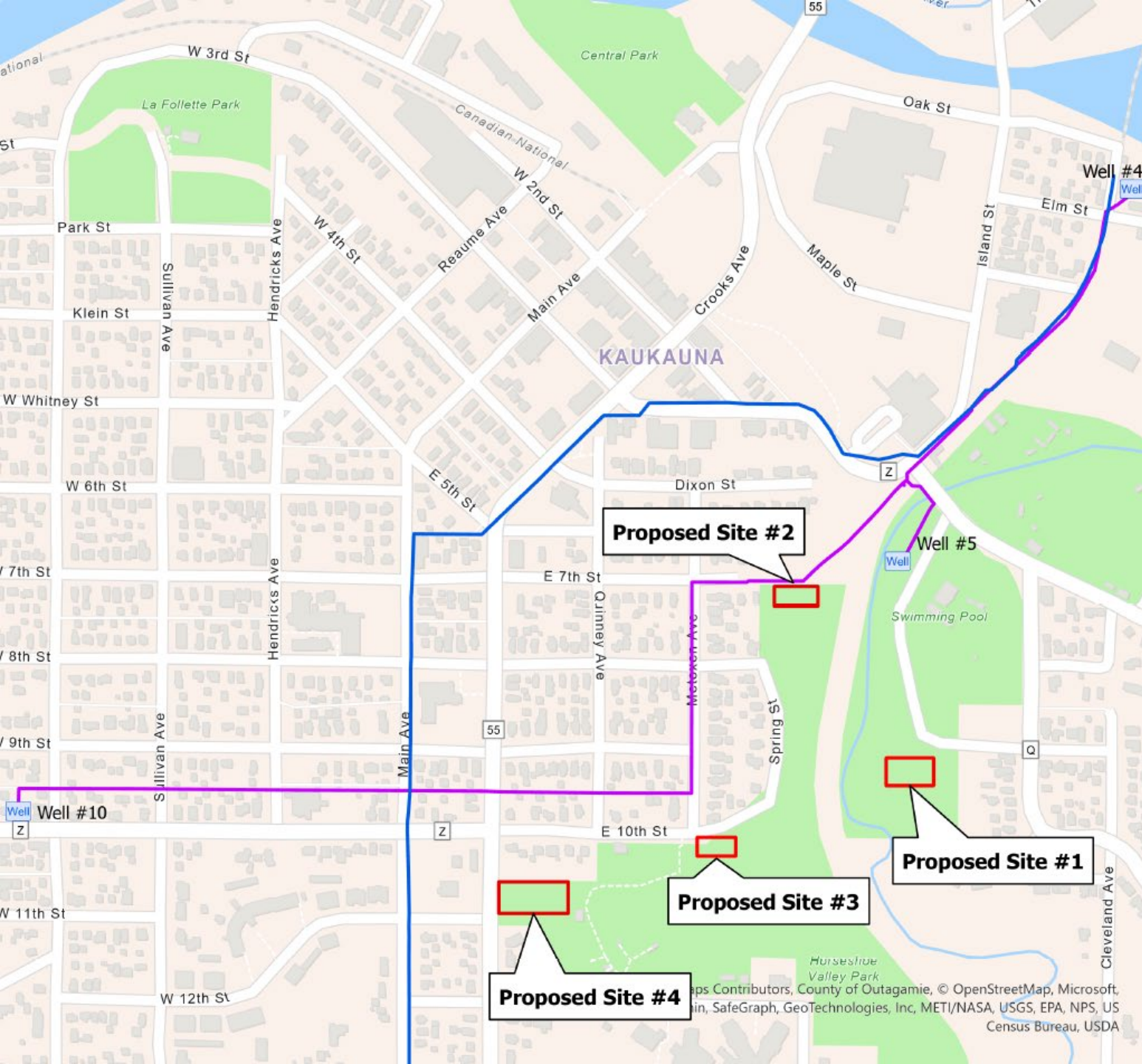
- HMO chemical addition (manganese sulfate and potassium permanganate) for radium removal
- Filtration for iron, manganese, and radionuclide removal
- Poly/Ortho 50/50 blend addition for corrosion control
- Sodium hypochlorite addition for disinfection
- **No hardness removal currently.** Customers still need to treat for hardness

MAIN FILTER PLANT ALTERNATIVES

MAIN FILTER PLANT ALTERNATIVES

1. No Changes – React When Failure Occurs
2. Replace Iron Filter at Current Location
3. Rebuild Water Treatment Plant Building and Reservoirs at Current Locations
4. New Water Treatment Plant Building at New Location

Main Filter Plant Location Alternatives



- Proposed Filter Plants
- Well
- 16" Water Main
- Raw Water

0 250 500 Feet
Scale is approximate and is not based on legally recorded or surveyed data.



MAIN FILTER PLANT

Map Contributors, County of Outagamie, © OpenStreetMap, Microsoft, Esri, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

TREATMENT OPTIONS

TREATMENT OPTIONS

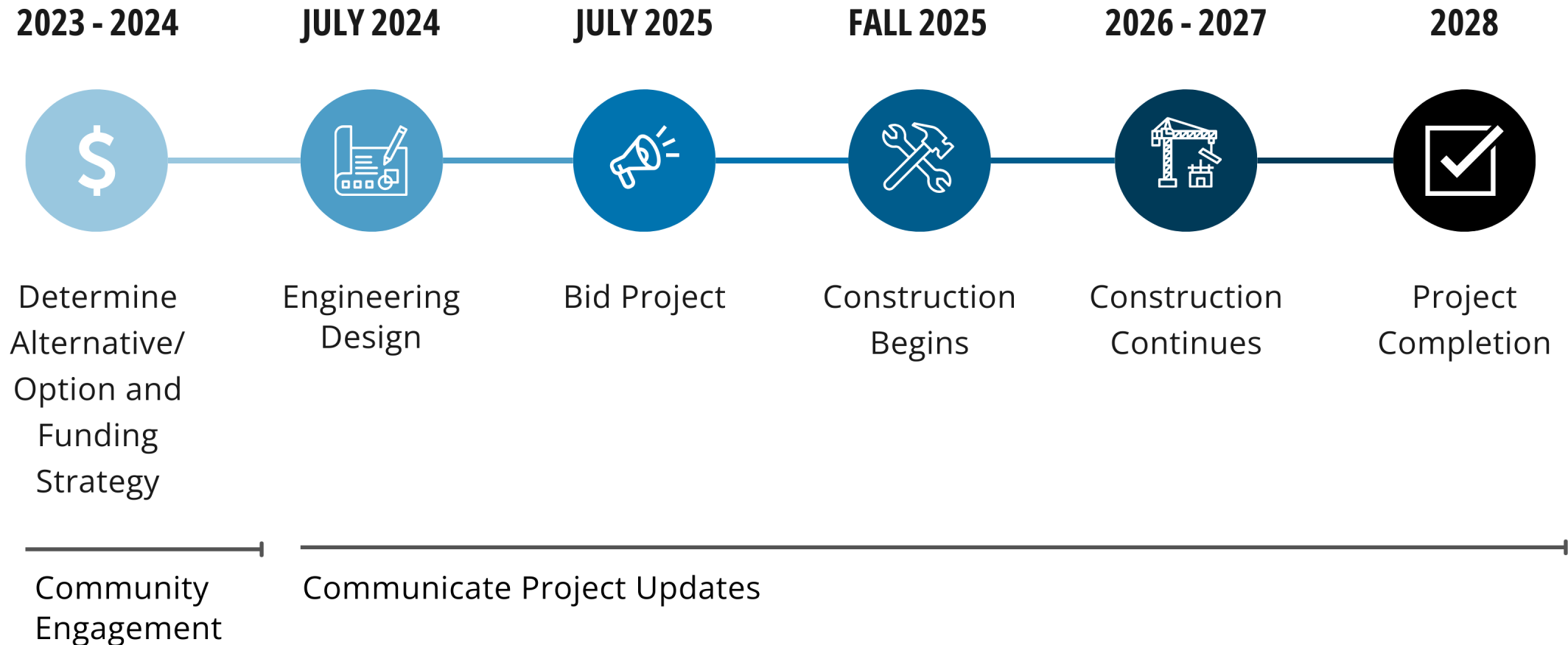
1. Maintain Status Quo - No Hardness Removal
2. Ion Exchange
3. Reverse Osmosis (RO) or Nanofiltration
4. Pellet Softening
5. Purchase Surface Water

TARGET HARDNESS

- The groundwater in Kaukauna has a total hardness level ranging from 563-838 mg/L (36-49 grains per gallon).
- The recommended hardness level for drinking water is 60-130 mg/L (3.5-7.5 grains per gallon).
- Appleton and Green Bay water have a hardness level of about 120-150 mg/L (7-9 grains per gallon) from the lakes. Appleton softens its water from Lake Winnebago (about 8 grains per gallon) to 4.7 grains per gallon.
- Little Chute, Kimberly and Darboy soften groundwater using ion exchange.

PROJECT TIMELINE & COMMUNITY ENGAGEMENT

POTENTIAL PROJECT TIMELINE

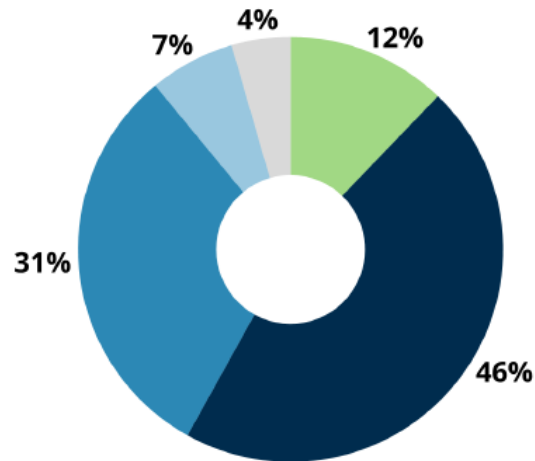


COMMUNITY ENGAGEMENT

- Water Ad Hoc Committee established in July 2023
- Published initial press release in November 2023
- Presentation to Common Council in December 2023
- Customer survey in January/February 2024
- Open House press release in March 2024
- Open House in April 2024
- Utility Commission presentation in May/June 2024

CUSTOMER SURVEY

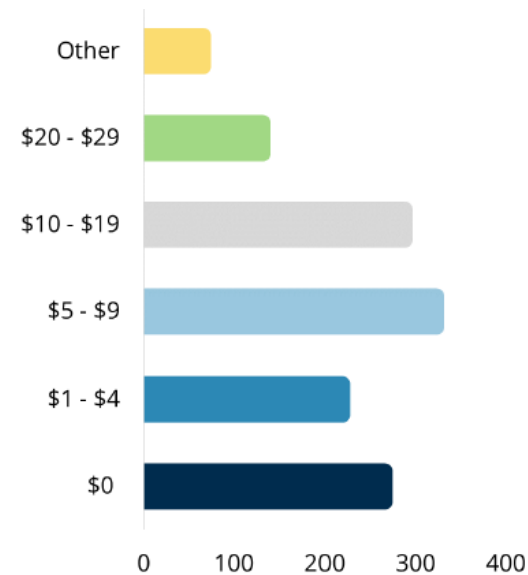
Over 1,300 responses



IMPROVEMENTS/CHANGES

- Purchase Surface Water
- Reverse Osmosis
- Ion Exchange
- No Improvements/Changes
- Other

87% indicated they currently soften their water



On average, customers are willing to spend **\$8.32** per month for KU to soften the water so they no longer have to do it at their home or business.

OPEN HOUSE

Tuesday, April 16th

3:30pm – 6:00pm

Main Water Filter Plant

304 Elm Street, Kaukauna



Join us for our

WATER DEPT OPEN HOUSE!

Tuesday, April 16th

3:30pm - 6:00pm

Main Water Filter Plant

304 Elm Street, Kaukauna

We encourage KU water customers to join us for this informative and engaging event.

- Gain insight into potential enhancement options to the KU water system
- Experience firsthand a look at the water filtration process and infrastructure
- Water taste-testing

Please note that the event venue has a gravel surface. Attendees are advised to wear appropriate footwear, considering the uneven terrain.

Customer Driven / Community Minded /
Environmentally Responsible

THANK YOU!

