

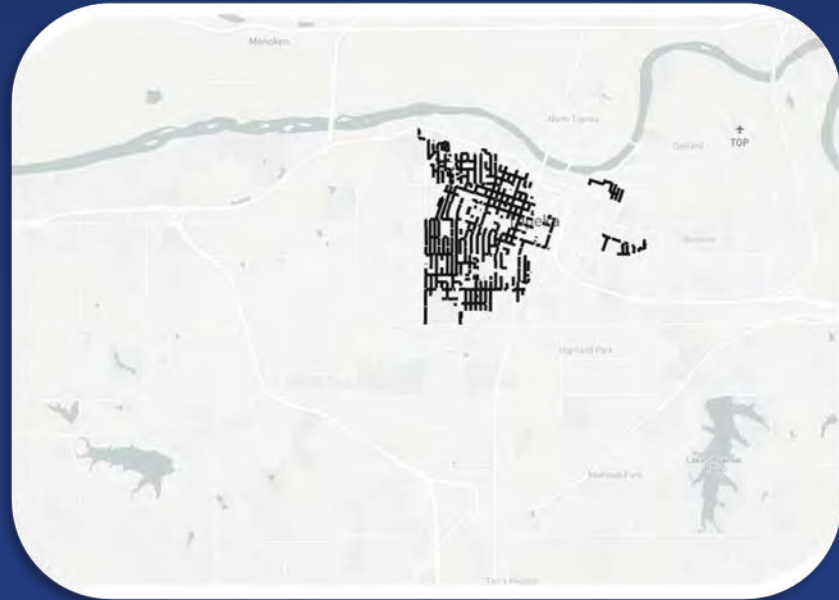


Annual Water Main Replacement Program

- 890 miles of water main
- Target replacement cycle – 100 yrs.
- 2021 funding level
 - \$6,500,000
 - 150 year replacement cycle
 - Rates provided increase from \$4.0M

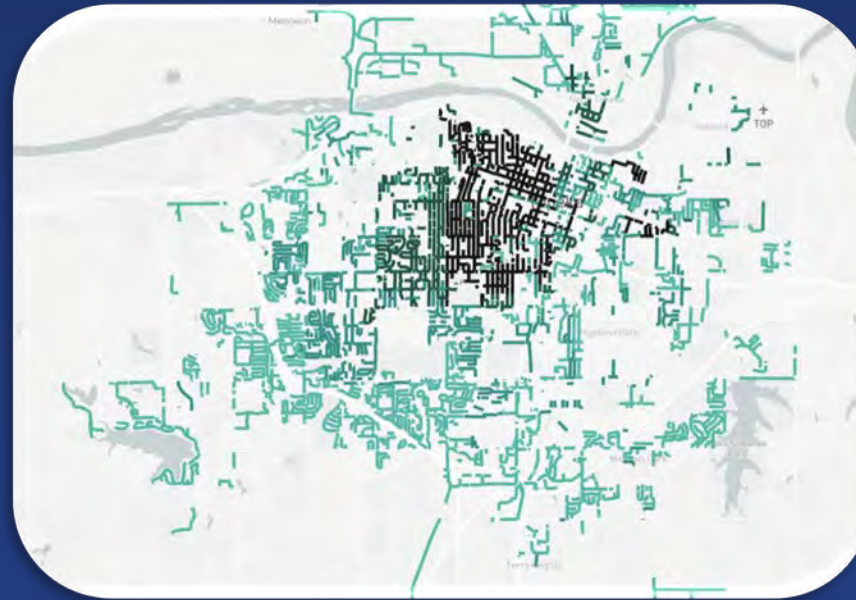


Age of Mains



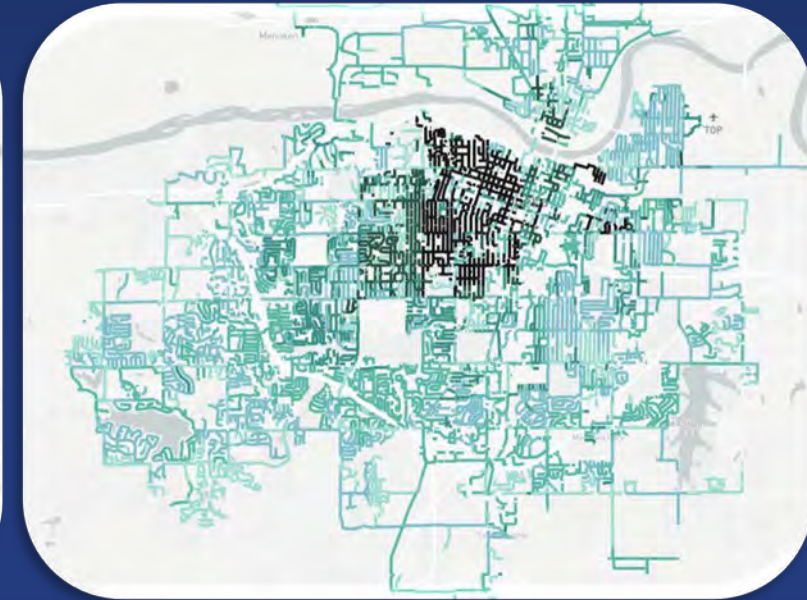
Pre – 1920

- 57.8 Miles



1960 – 1979

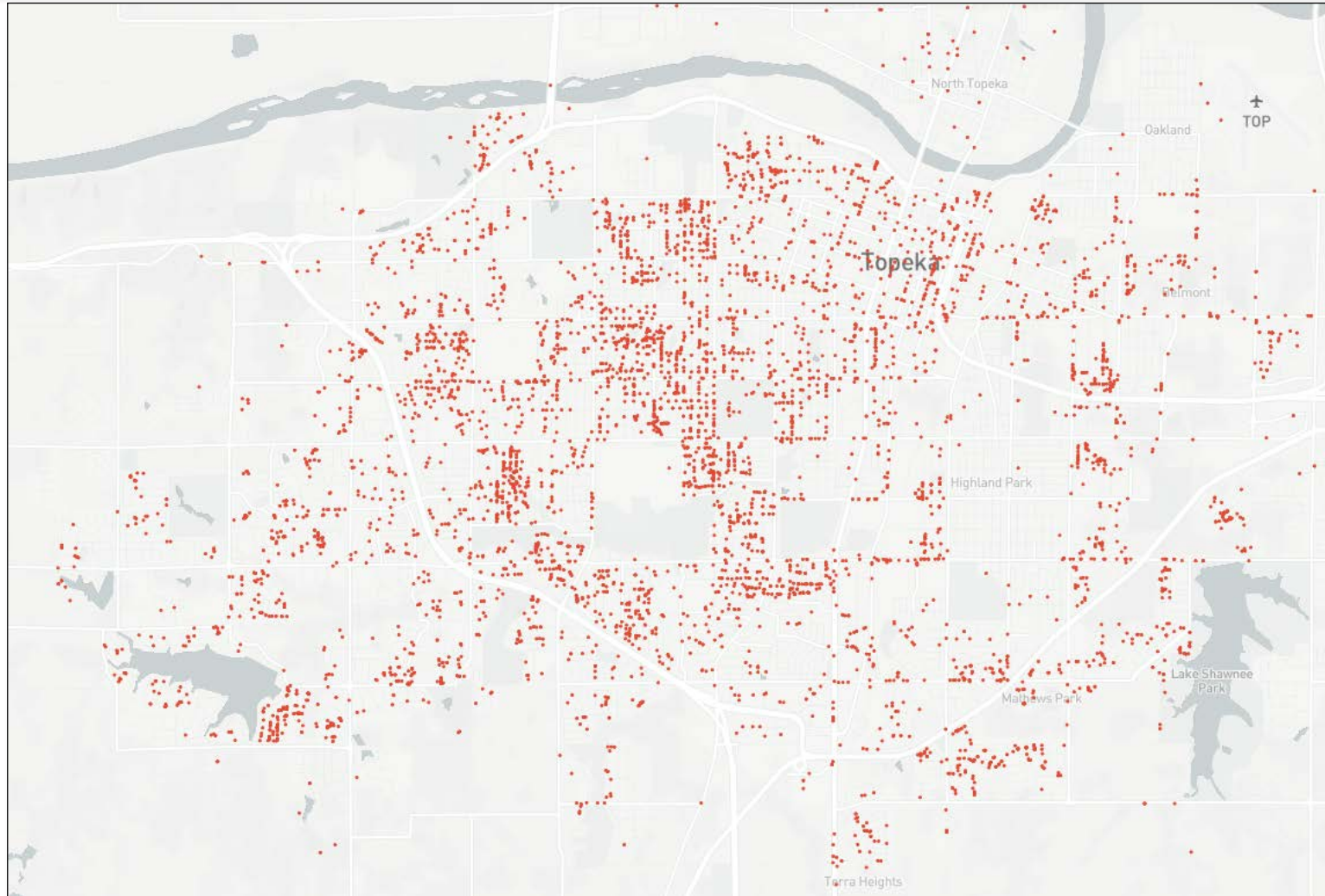
- 228.5 Miles
- Total on map: 414 miles



2000-2020

- 163 Miles
- Total on map: 833 miles

Break History in Topeka



Legend

Break Year

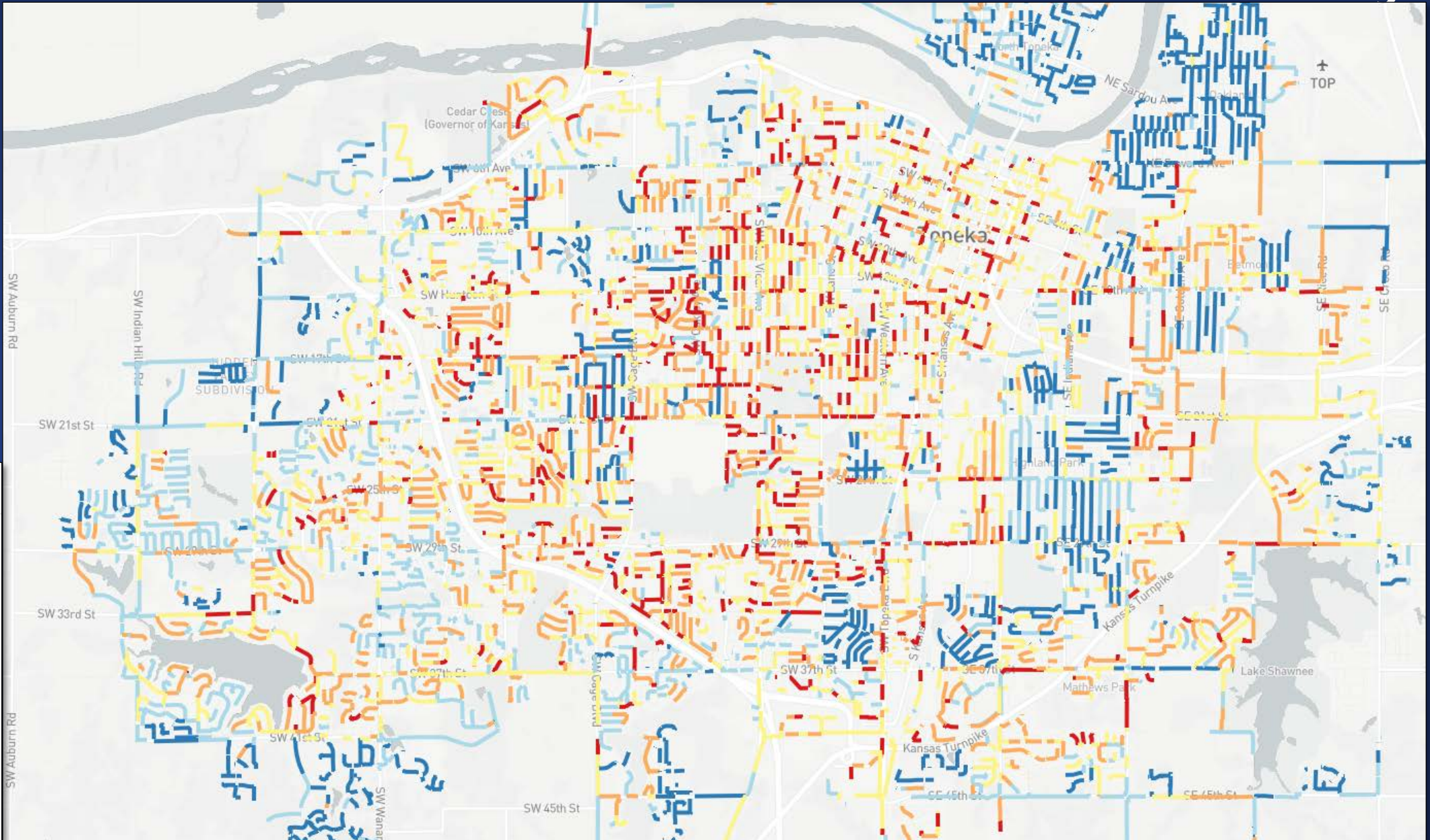
- pre-1980
- 1980-1999
- 2000-2019
- 2020-2020

2011	-	792
2012	-	961
2013	-	622
2014	-	572
2015	-	447
2016	-	409
2017	-	444
2018	-	847
2019	-	388
2020	-	420

Total: 5,902
Average: 590

- 66 Breaks per 100 miles of main
- National average is 14

Main Assessments - Analytics



Business Risk Exposure

BioGas & Solids Handling (In Progress)

Installation of centrifuges –

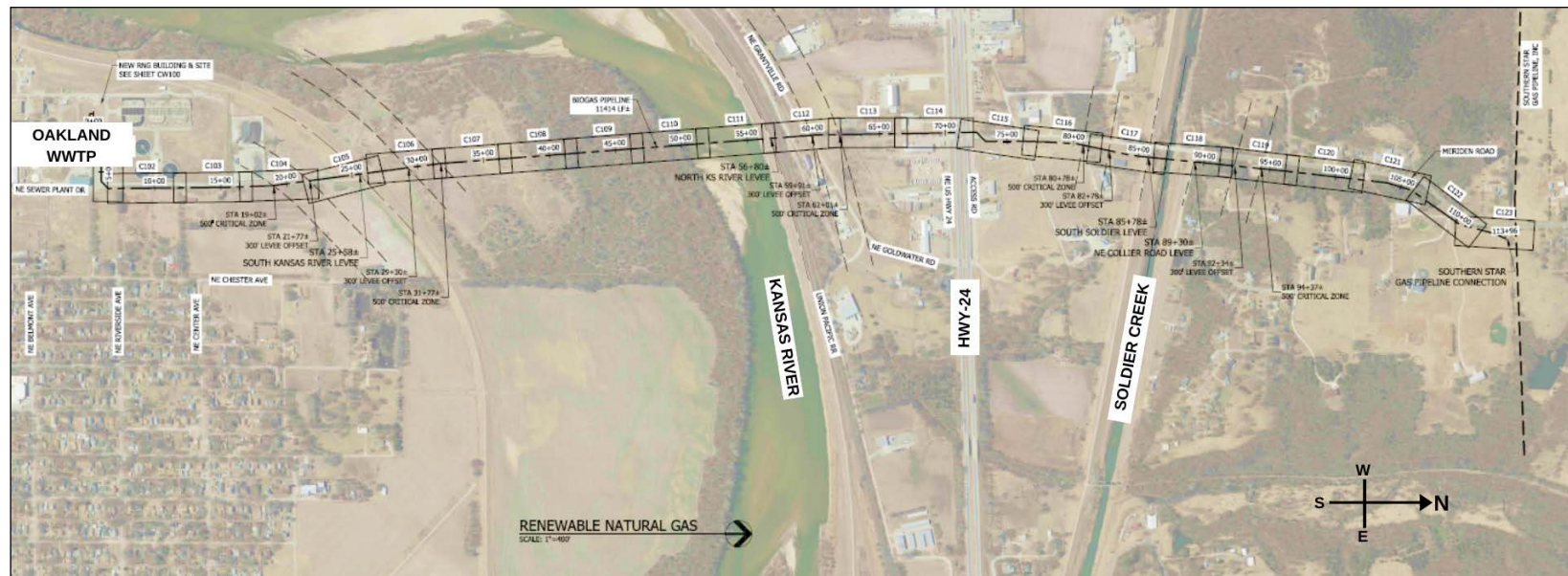
- mechanical and electrical controls needed to improve the process of removing and dewatering of solid matter, in the treatment of wastewater.
- 2019 – 2020
- CIB – \$26,000,000



Biogas & Solids Handling (Continued)

Installing all equipment needed to collect, scrub, compress and pump the methane gas to a third party pipeline.

- 2020-2021
- CIB - \$26,000,000



Sludge Thickening (Approved)

Project in design to thicken sludge prior to moving on to dewatering centrifuges at the Oakland WWTP.

- Currently in design
- Construction 2022-2023
- CIB - \$8,612,000



Mixer Replacement (Completed)



Rehab and replacement of gear boxes and mixing equipment for Oakland WWTP Plant Oxidation Ditch.



- Completed in 2019
- CIB - \$6,237,350

UV Expansion (Completed)

Installation of an advanced ultraviolet light (UV) system for waste water disinfection

- Increased capacity from 37.5 MGD to 75 MGD
- Completed in 2020
- CIB- \$5,486,362



Nutrient Removal Project (Approved)



- Rehabilitate and update treatment plant equipment and nutrient removal options
- Prompted by new NPDES Permit for NTWWTP
- Improvements will meet permit restrictions on phosphorus
- Slated for 2021
- CIB Amount - \$6,363,627

Original plan was for consultant to investigate four pump stations

- Analyze existing equipment
- Recommend new technologies
- Provide a total cost of each option.
- **Initial project budget - \$112,700** (will increase with modifications)
- **Plan has been modified to include all pump station locations**
- **Analysis will now also include odor control measures**



East Filter Rehab (In Progress)



Rehabilitation of East Filters and Filter Building at water treatment plant.

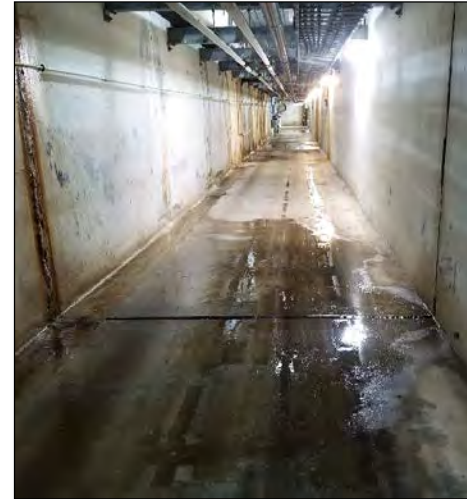
- Replacing under drains
- Replacing all filter media
- New calcium thiosulfate (de-chlorination) system
- Rehab air scour
- 2019-2020
- CIB – \$5,185,000

West Basin Rehab (approved)

- Complete rehab of 60+ year old basin
- Structural repairs
- Equipment replacement/upgrades

- Design slated for 2021
- Construction to begin in 2023

- CIB Amount - \$16,049,000



Treatment Modifications Phase III



- Improve water treatment processes
- Reduce HAA
- Treats taste and odor
- Effective against cyanotoxins

- Slated for 2021-2023
- CIB - \$20,700,000



Questions