



# 2023 Water Engineering & Operations Report and Water Environmental Update

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# 2023 Water E&O/Environmental Outline

1. Water System Overview
2. Water Accomplishments
3. Well House #42 Construction
4. Water Conservation
5. Water Quality
6. PFAS





# 2023 Water System Overview

## 32 Wells

- Wells pump from a total of 5 aquifers
- 400 to 1,000 feet deep

## Total Annual Pumpage 4.98 billion gallons

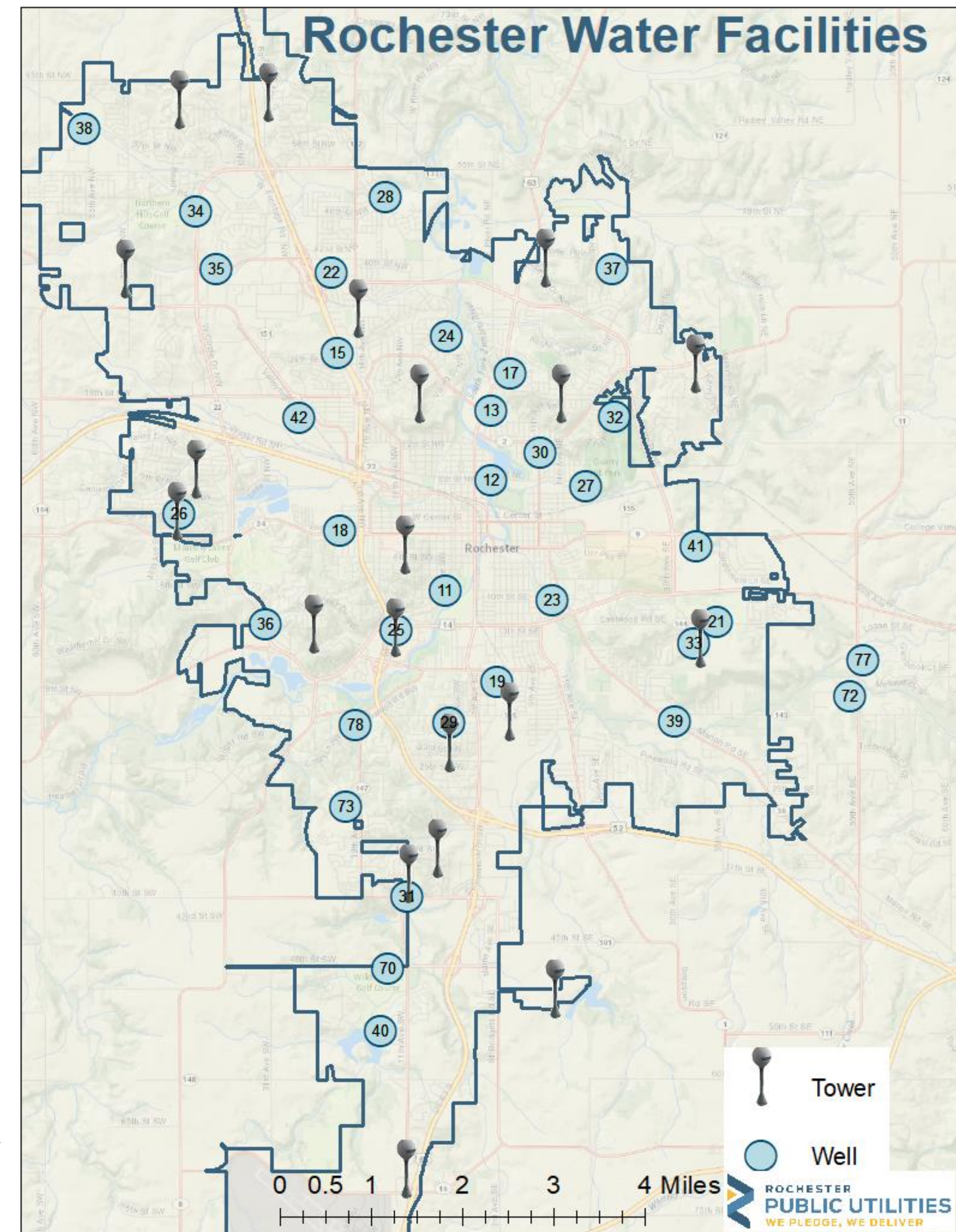
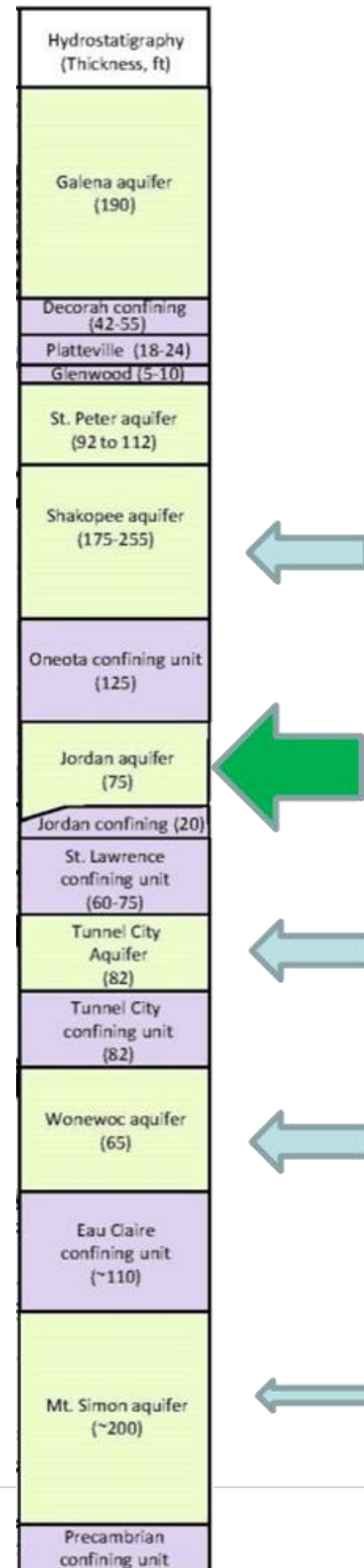
- DNR Appropriations is currently 5.7 BG/YR
- Peak day pumpage ~ 26.9 mgd (June 21st)
- Average day pumpage ~ 13.6 mgd
- Historic Peak Day is 30.2 mgd (2007)
- Historic Peak Year is 5.1 BG (2007)

## 20 Water Storage Facilities

- 16.95 million gallons

Serves a population of ~ 125,000

Water customers ~ 42,000





# Water Distribution System Accomplishments

- 282 new water meters were added in 2023 for a total of 41,800
- Crews washed the interiors of 7 towers and exteriors of 3 towers
- Replaced over 6,047 lineal feet of old water main
- Performed 2,867 hydrant operations and 4,759 valve operations for 78.5% and 136% of goal, respectively



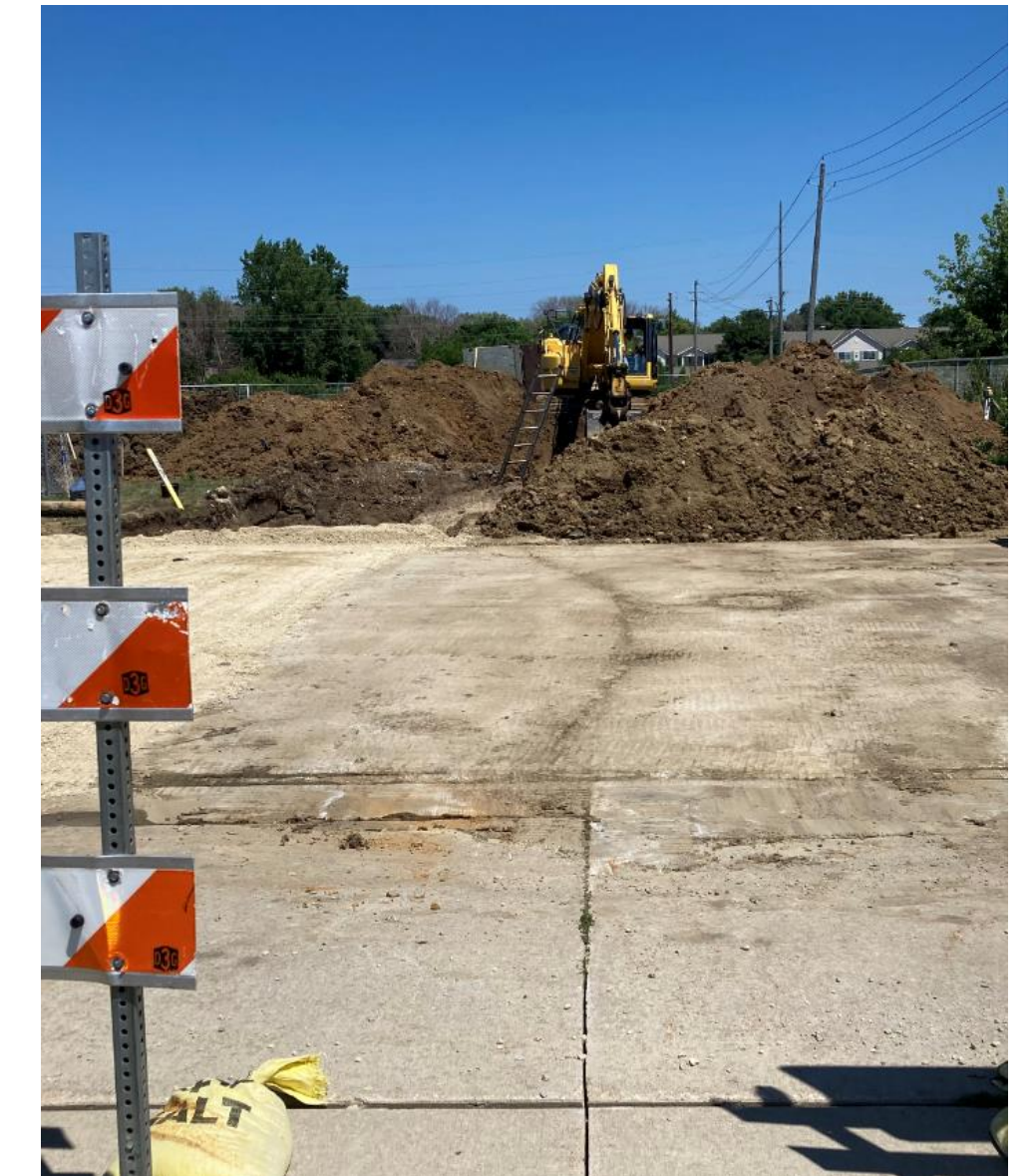






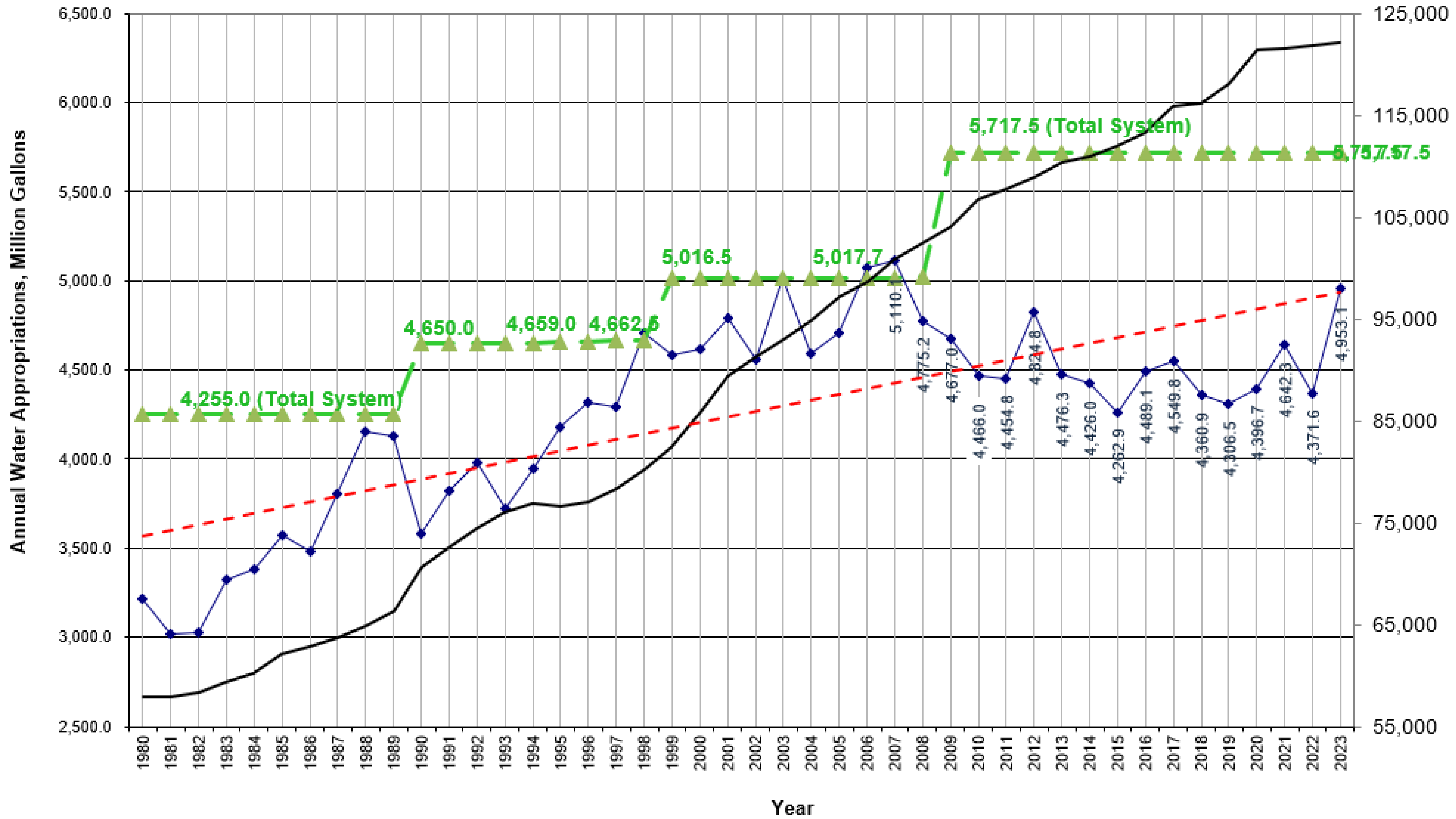
# Well House #42 Construction

- 460’ deep Jordan well located adjacent to the Lourdes soccer field to serve the Main Level System
- Architecture is complimentary to that of the high school
- Key Builders selected for construction – finalizing punchlist items this spring
- Total Construction Cost of \$1.3 Million
- New Well to be online in summer 2024





# Historical Annual Water Pumpage and Permitted Appropriations (1980-2023)





# 2023 – RPU's Water Conservation Program

## Water Rebates

- 1,419 Rebates Processed - \$33,158
- Resulting in 3.3 MG Saved

## Education & Community Outreach

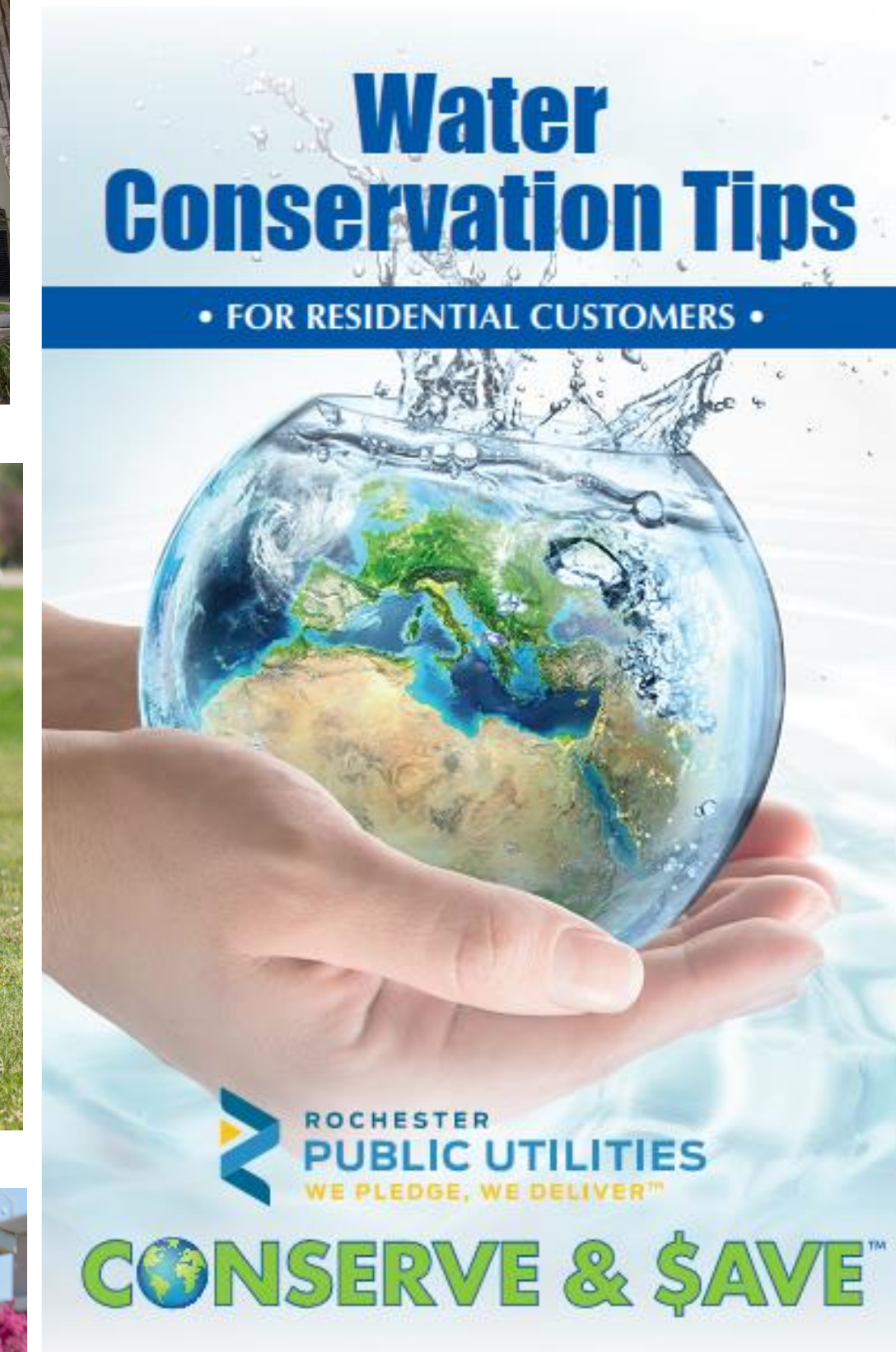
- Drinking Water Week, Water Quality Report, RPU Plugged In, School Presentations, Service Groups

## Leak Detection Evaluation

- 64% of the distribution system
- 1 leak detected (~350,000 gal lost – estimated cost \$100)
- 4.7% Unaccounted Water Loss (DNR Goal <10%)

## 2023 Water Conservation Rates

- 3 Tiers – Increasing Block Rates (residential)
  - \$0.95 = 0 – 7 CCF
  - \$1.04 = 7.01 to 12 CCF
  - \$1.18 = 12.01 and over CCF





# 2023 Water Quality Testing

## Distribution System (RPU Lab)

- 3,124 Fluoride
- 1,220 Bacteria & Total Chlorine
- Misc. Testing for Customers

## Municipal Wells (MDH Lab)

- Nitrate
- Radionuclides
- Radon
- Inorganic Compounds (IOC's) – metals, salts, minerals
- Volatile Organic Compounds (VOC's) – petroleum, dry-cleaning
- Synthetic Organic Compounds (SOC's) – man-made, pesticides
- Unregulated Contaminant Monitoring Rule (UCMR's)
  - PFAS, Pharmaceuticals, Lithium





# EPA's PFAS in Drinking Water Standards

CHEMICAL	MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)	MAXIMUM CONTAMINANT LEVEL (MCL)
PFOA	0	4.0 PPT
PFOS	0	4.0 PPT
PFNA	10 PPT	10 PPT
PFHXS	10 PPT	10 PPT
HFPO-DA (GENX CHEMICALS)	10 PPT	10 PPT
MIXTURE OF TWO OR MORE: PFNA, PFHXS, HFPO-DA, AND PFBS	HAZARD INDEX OF 1	HAZARD INDEX OF 1

\* ppt (parts per trillion)

\* Hazard Index – Any mixture containing two or more of PFNA, PFHxS, PFBS, and HFPO-DA (known as Gen X chemicals)



## RPU's PFAS Testing History

- RPU has completed 5 rounds of PFAS Testing
  - 2009, 2014, 2021, 2023 & 2024
- Well 27
  - PFOS – 1.7 ppt
  - PFHxS – 3.5 ppt
- Well 20 (Emergency Back-up Well)
  - **PFOS – 8 ppt**
  - **PFHxS – 12 ppt**





**QUESTIONS**