



# Infrastructure Condition Assessment for Capital Improvements Committee

September 2, 2015

**Milwaukee**  
**Water Works**

*Safe, Abundant Drinking Water.*

# Today's Presentation

- Projects completed and in progress
- Condition assessments for plants, pumping and storage
- Distribution system and water main replacements

# Water Treatment Plants

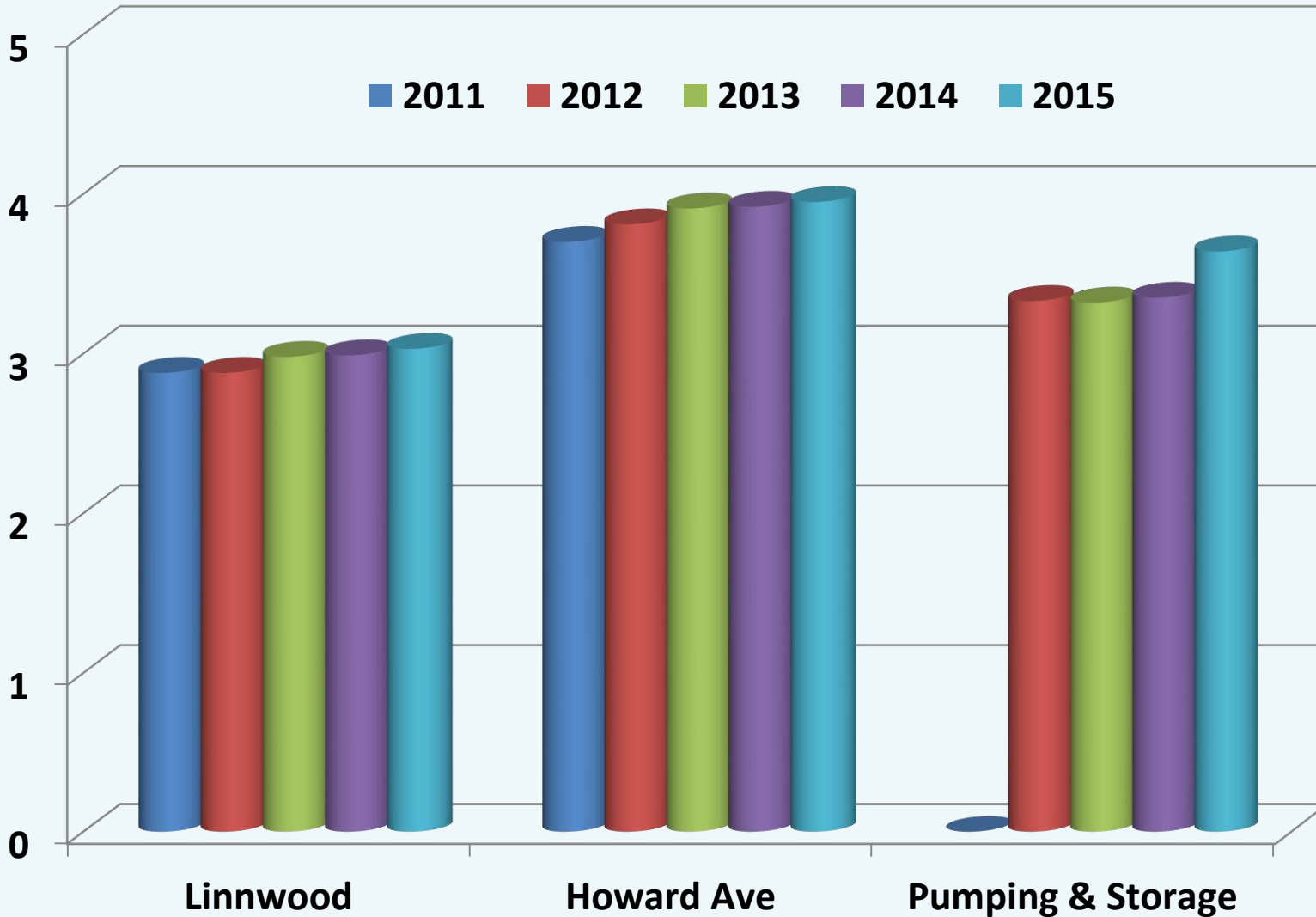
- Individual ratings of 5 aspects
  - Building in which asset is located
  - Physical structure of the asset
  - Pipes and valves leading to the asset
  - Electrical
  - SCADA
- Of 43 assets at both plants = 210 attributes rated

# Pumping and Storage Facilities

- Ratings in 15 facilities
  - Structure
  - Electrical
  - Pipes and Valves
  - Individual Pumps
- Total of 117 attributes rated

# Overall Ratings

Scale 0 (out of service) to 5 (best condition)



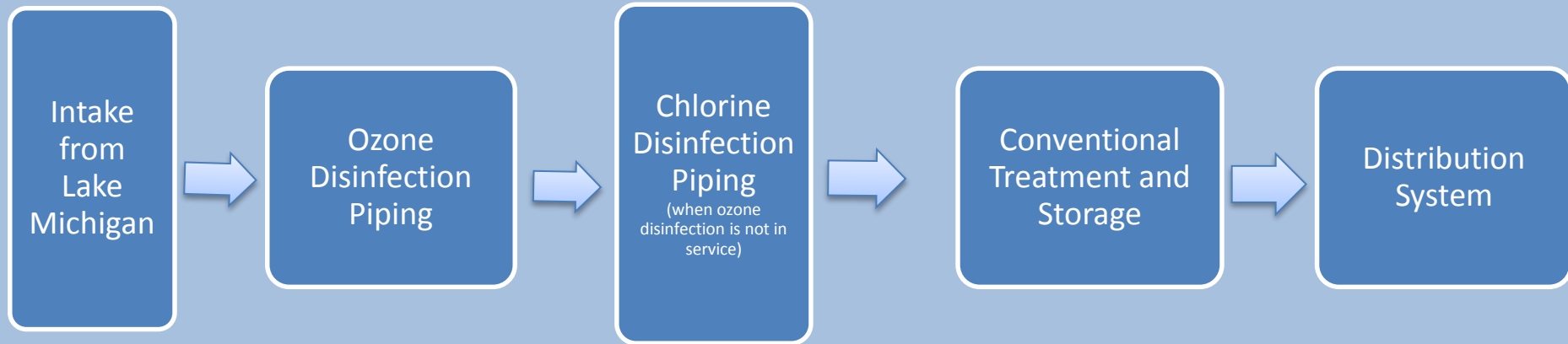
# Linnwood Ozone Bypass Valves



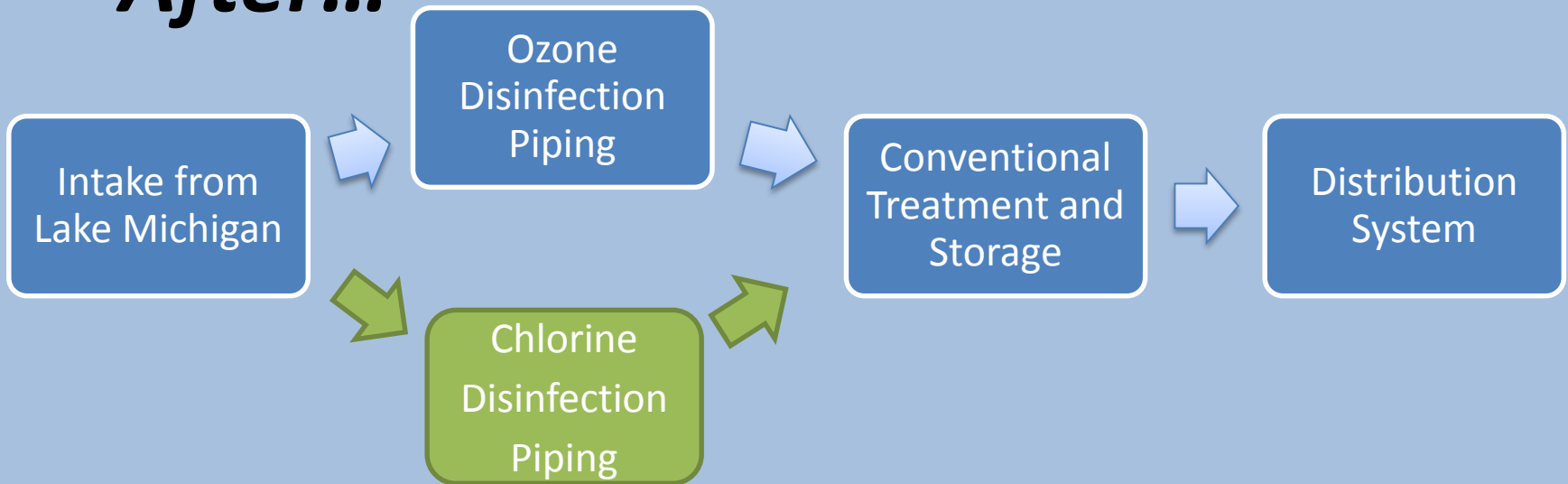




# ***Before...***



# ***After...***





# Linnwood Back-up Power Generation





# **Riverside Tunnel Inspection and Repair**





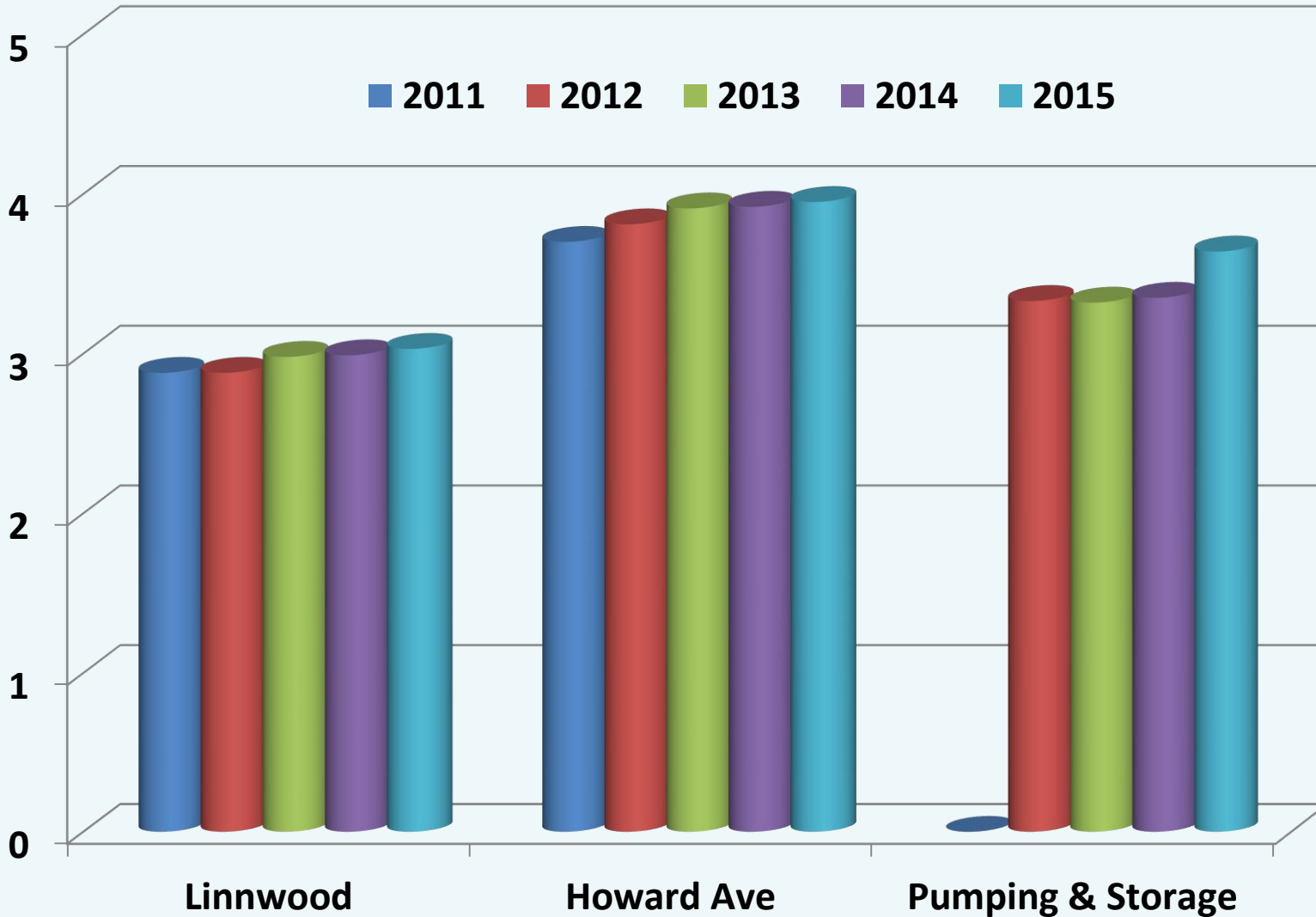






# Overall Ratings

Scale 0 (out of service) to 5 (best condition)





# Riverside Pump 5 - Before



# New Riverside Pump 5







# Adler Pumping Station (before)





# New Adler Pumping Station











# Projects In Progress

- Linnwood
  - South reservoir ceiling sealing
  - Building roofs
  - Steel pipe assessments/remediation
  - Motor control centers
- Howard Ave pump soft starts
- Riverside flood protection
- Lincoln Tank painting



# Lincoln Tanks















# SERVICE AREA

## RETAIL

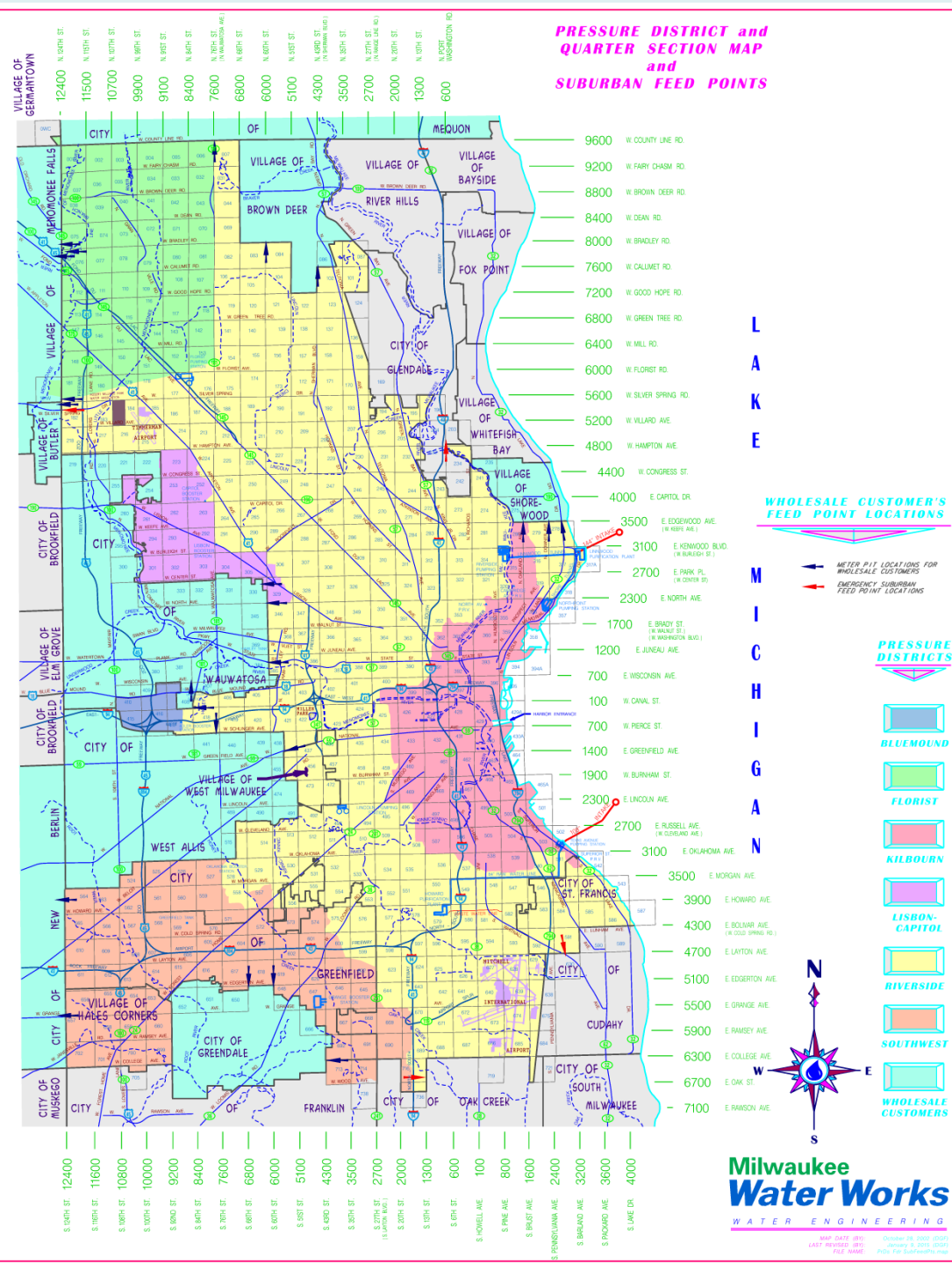
- CITY OF MILWAUKEE
- CITY OF ST. FRANCIS
- CITY OF GREENFIELD
- VILLAGE OF HALES CORNERS
- VILLAGE OF WEST MILWAUKEE
- CITY OF FRANKLIN (PORTION)

## WHOLESALE

- CITY OF MEQUON
- VILLAGE OF MENOMONEE FALLS
- VILLAGE OF BROWN DEER
- VILLAGE OF BUTLER
- VILLAGE OF SHOREWOOD
- CITY OF WAUWATOSA
- CITY OF WEST ALLIS
- CITY OF NEW BERLIN
- CITY OF GREENDALE
- MILWAUKEE COUNTY GROUNDS

## EMERGENCY CONNECTIONS

- VILLAGE OF BUTLER
- CITY OF GLENDALE
- CITY OF OAK CREEK
- CITY OF CUDAHY

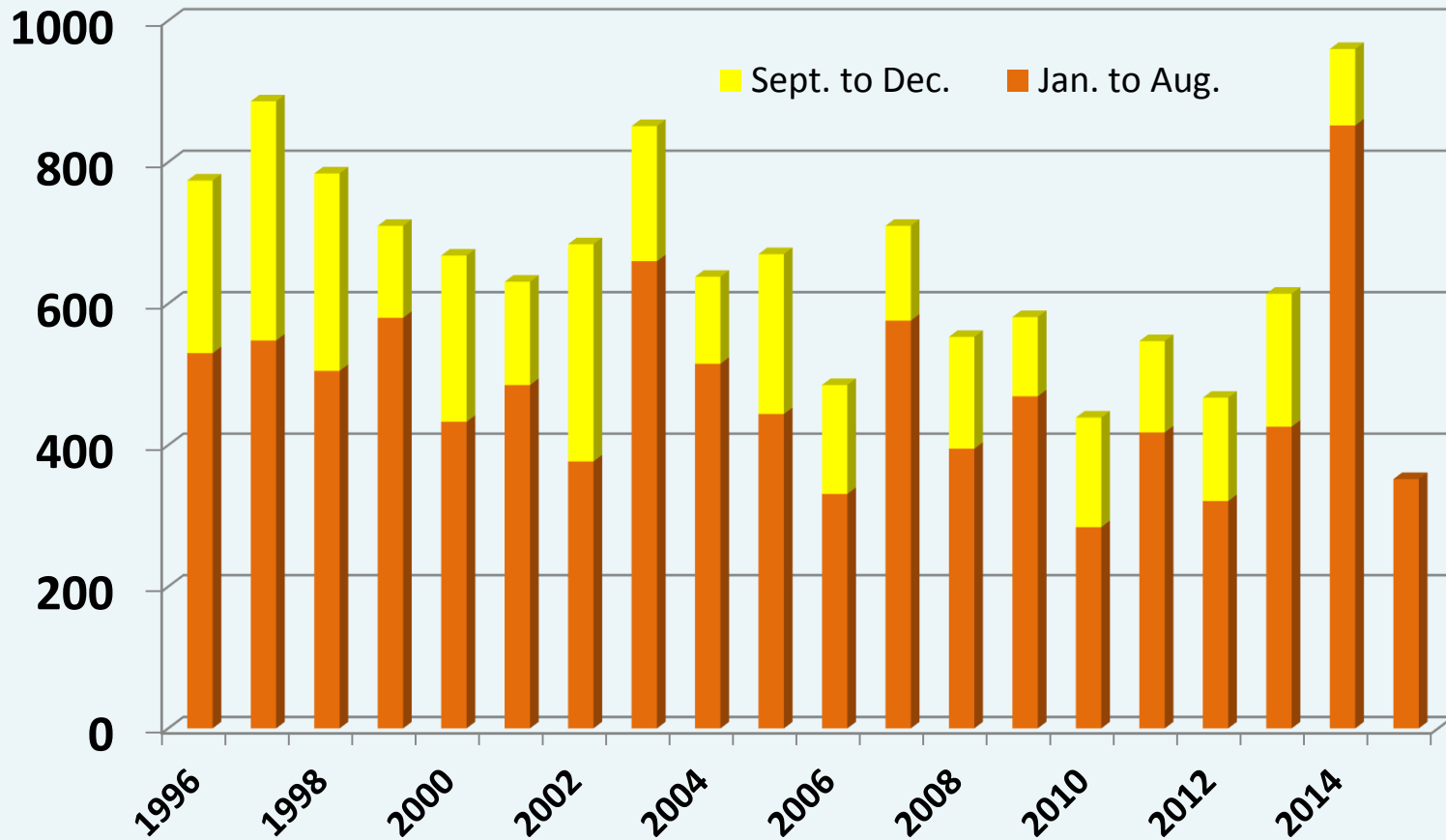




# Distribution System

- 1825 miles of “distribution” mains (6” to 16”)
- 137 miles of “feeder” mains (20” to 60”)
- 19,870 hydrants
- 49,838 valves
- 168,731 services

# Water Main Breaks





# Water Main Replacements 15 miles to be Installed in 2015

- Dedicated in-house staff of 12 to WMR projects plus 500+ hours of overtime
- Added one engineer and one drafting technician to permanent staff
- Utilized consultants to prepare plans for 5 miles of WMR

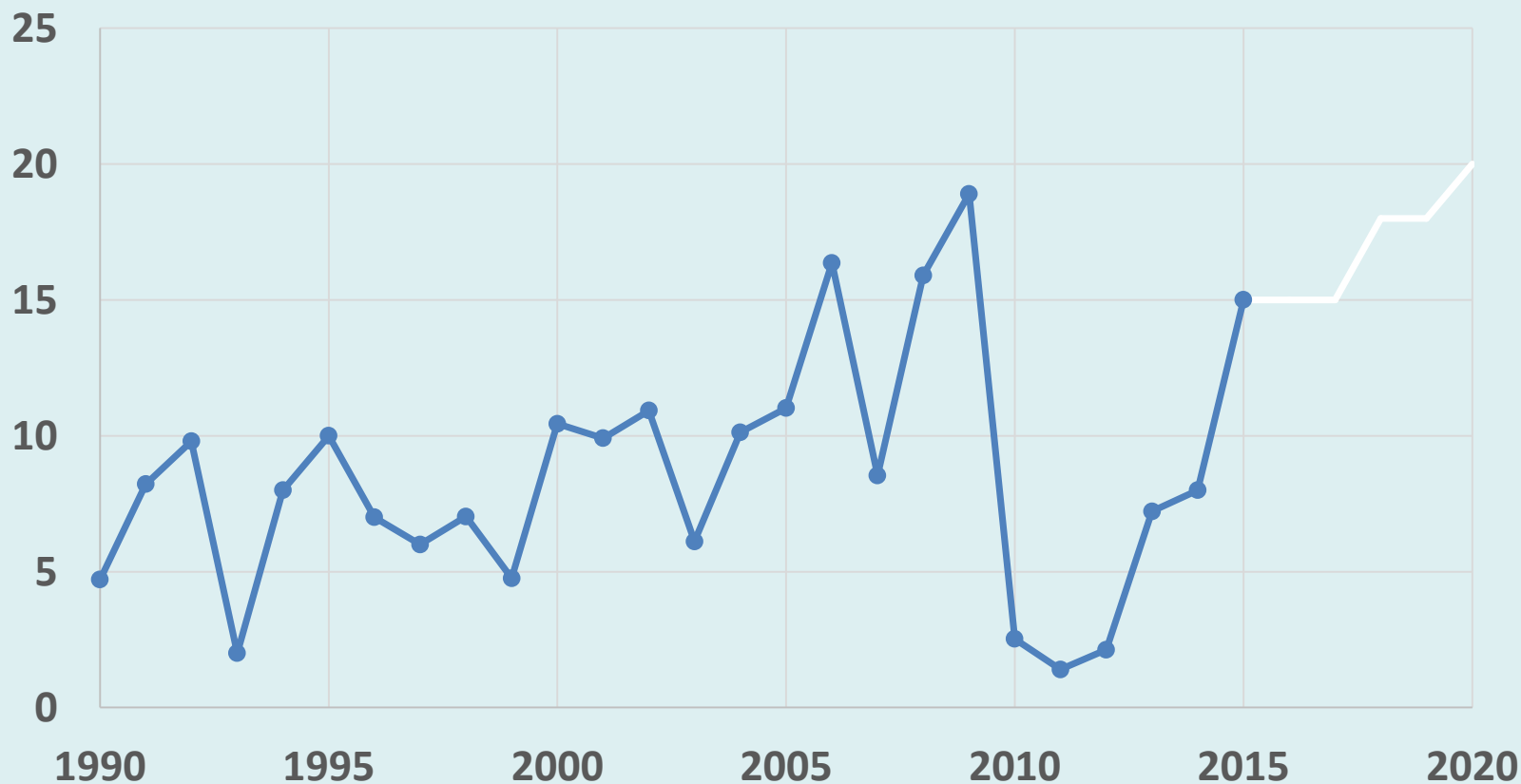
# Water Main Replacements Status

As of August 31, 2015

- 8 miles installed
- 6 miles under contract
- 1 mile will be under contract by October 31, 2015
- Completion: December 15, 2015



# Miles of Water Main Replaced





# Questions?

**Milwaukee**  
**Water Works**

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