WATER & WASTEWATER ASSET MANAGEMENT

Completed	In Progress
Initial Workshops	**Risk Mitigation Plans**
• Kickoff meeting	• Water Treatment Plant
• Initial findings workshop	**Tracking Levels of Service**
Asset Register	**Asset Register**
• Water Distribution System	• Water Treatment Plant
• Wastewater Collection System	
Risk Analysis	
• Water Distribution System	
• Wastewater Collection System	
Setting Levels of Service	
• Water Utility	
• Wastewater Utility	

LEVELS OF SERVICE (LOS) DOCUMENT

Levels of Service | Sets the minimum acceptable levels that the
Water & Wastewater Utilities should strive to maintain in areas
such as:
- Regulatory Compliance
- Quantity
- Availability & Capacity
- Reliability
- Responsiveness
- Aesthetics & Quality

LOS • WATER REGULATORY COMPLIANCE

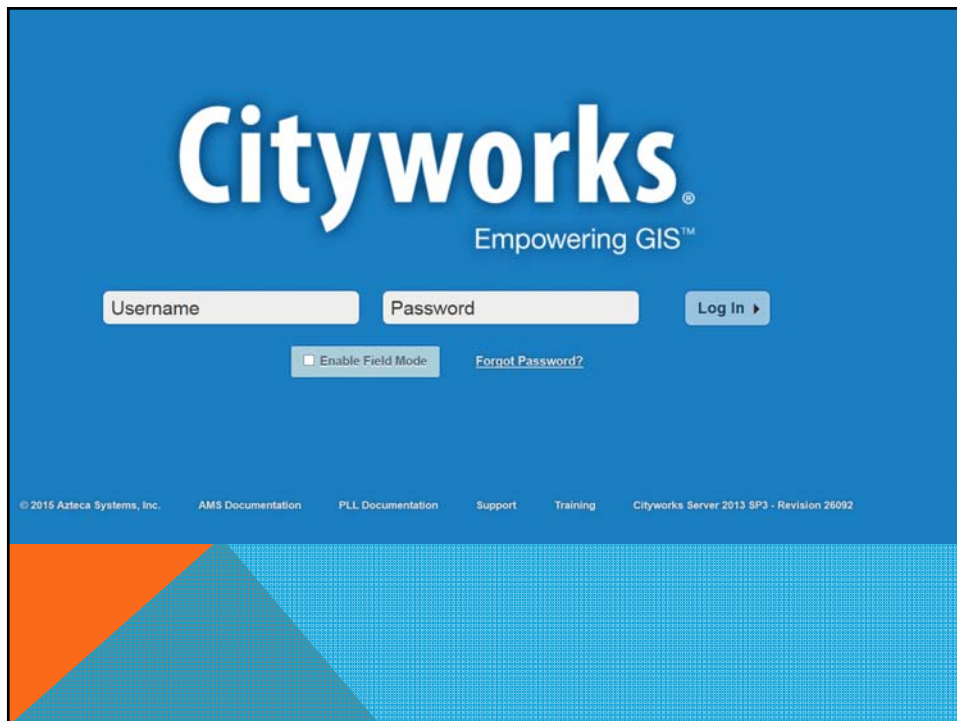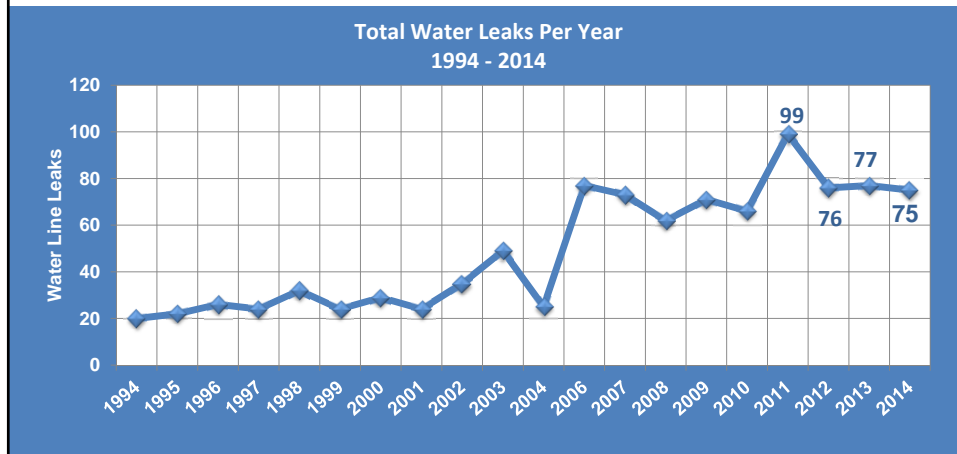| Target Performance per Year	2009	2010	2011	2012	2013	2014
Safe Potable Water: Compliance with Drinking Water Standards and all requirements of the Safe Drinking Water Act						
100% Compliant	✓	✓	✓	✗	✓	✓
No Tier Notifications	✓	✓	✓	✓	✗	✓
Fluoride: Optimally fluoridate water						
Number of months fluoride did not meet the optimally fluoridated requirements set by the state.	✓ 0	✗ 2	✗ 7	✗ 12	✗ 12	✗ 4

LOS • WATER QUANTITY

Target Performance per Year	2009	2010	2011	2012	2013	2014
Pressure: Minimum Pressure at Meter						
All properties receive at least 40 PSI static pressure where not prevented due to high property elevations.	?	?	?	?	?	✗ 2
Flow: Percentage of system hydrants that supply adequate fire flows						
All properties receive adequate fire flow (1,500 gallons/minute between 2 fire hydrants located within 1000' of property).	✓	✓	✓	✓	✓	✓

LOS • WATER AVAILABILITY

Target Performance per Year	2009	2010	2011	2012	2013	2014
Drought Storage: System to endure a 100-year drought event without mandatory watering restrictions						
Did not implement mandatory watering restrictions.	✓	✓	✓	✓	✓	✓
Did not consider implementing mandatory watering restrictions.	✓	✓	✓	✗	✓	✓
System Capacity: Treatment capacity and system storage						
Capacity to supply peak demand to all customers utilizing interconnects if necessary	✓	✓	✓	✓	✓	✓

LOS • WATER RELIABILITY

Target Performance per Year	2009	2010	2011	2012	2013	2014
Unplanned Interruptions: Number of un-notified system interruptions						
No more than 2 un-notified interruptions on any 1000' of waterlines	✖ 7	✖ 6	✖ 11	✖ 9	✖ 12	✖ 9

Total Water Leaks Per Year
1994 - 2014

Cityworks®
Empowering GIS™

Username   Password   Log In ▶

☐ Enable Field Mode   Forgot Password?

© 2015 Azteca Systems, Inc.   AMS Documentation   PLL Documentation   Support   Training   Cityworks Server 2013 SP3 - Revision 26092

LOS • WATER RESPONSIVENESS

Target Performance per Year	2009	2010	2011	2012	2013	2014
Response to Unplanned Water Outages: Time to respond to unplanned water outages						
Respond on-site to all water outage complaints within 1 hour	?	?	?	?	?	✓

LOS • WATER AESTHETICS

Target Performance per Year	2009	2010	2011	2012	2013	2014
Water Quality Complaints: Number of water quality complaints						
Water quality complaints do not exceed more than 1% of the number of active water meters.	✓	✓	✓	✓	✓	✓

LOS • WASTEWATER REGULATORY COMPLIANCE

Target Performance per Year	2009	2010	2011	2012	2013	2014
Compliance with Wastewater Permit Limits & Requirements: Compliance with all regulatory and permit requirements						
Zero exceedances and zero violations to all regulatory and permit requirements	✓	✓	✓	✗ 2	✓	✗ 1

LOS • WASTEWATER AVAILABILITY

Target Performance per Year	2009	2010	2011	2012	2013	2014
System Capacity: Collection, treatment, and lift station capacity and performance even during a 25-year rain storm event						
0% exceedance of collection system and treatment plant capacity	✓	✓	✓	✓	✓	✓
No sanitary sewer overflows	✘ 1	✓	✓	✓	✘ 2	✘ 4

LOS • WASTEWATER RELIABILITY

Target Performance per Year	2009	2010	2011	2012	2013	2014
Unplanned Interruptions: Number of sewer main backups						
No more than 2 sewer main backups.	✘ 13	✘ 2	✘ 7	✘ 8	✘ 4	✘ 14

LOS • WASTEWATER RESPONSIVENESS

Target Performance per Year	2009	2010	2011	2012	2013	2014
Response to Unplanned Blockages: Time to respond to blockage complaints						
Respond to all blockage complaints on-site within 1 hour.	?	?	?	?	?	✓

LOS • WATER AESTHETICS

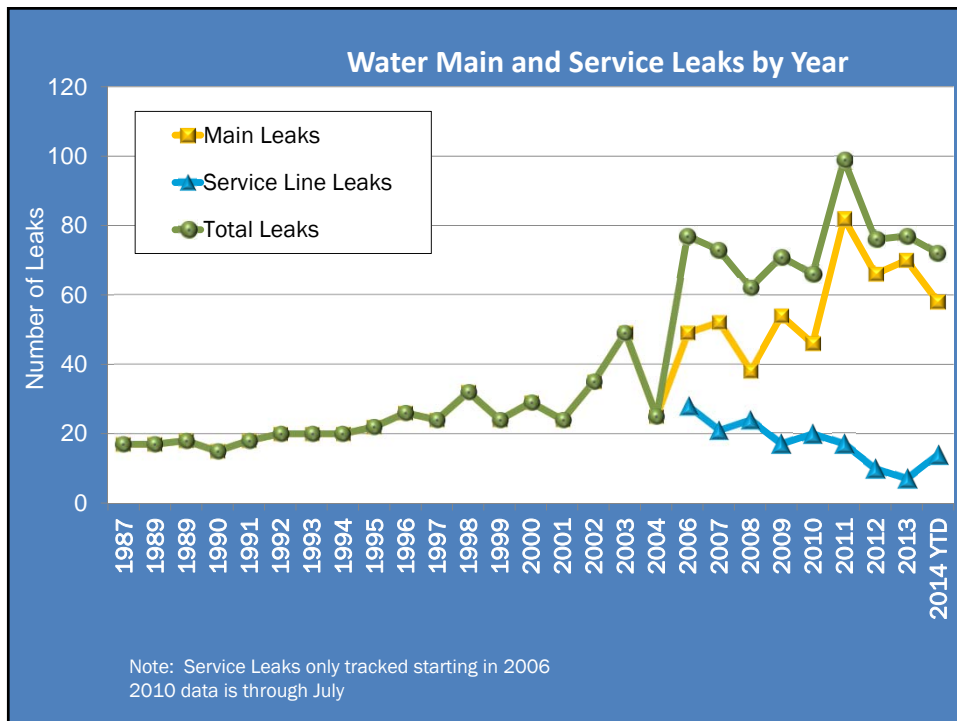| Target Performance per Year	2009	2010	2011	2012	2013	2014
Wastewater Odor Complaints: *Number of odor complaints related to the wastewater system*						
No more than 10 odor complaints	✓	✓	✓	✓	✓	✓

- **Narrow the Focus:** Helps narrow the focus to areas in which we are not meeting the minimum Levels of Service

- **Project Identification:** Helps identify areas where we may look at doing repair, replacement or risk mitigation projects

- **Communication Tool:** Ties results to funding and provides justification for decision-making and resource allocation

- **Trending:** Measures and documents actual performance against defined performance criteria which leads to greater understanding of trends and allows benchmarking against other utilities

- **Prioritization Tool:** Use as an additional tool to help prioritize capital improvement projects in conjunction with other tools such as:
    - Leak frequency and blockage maps
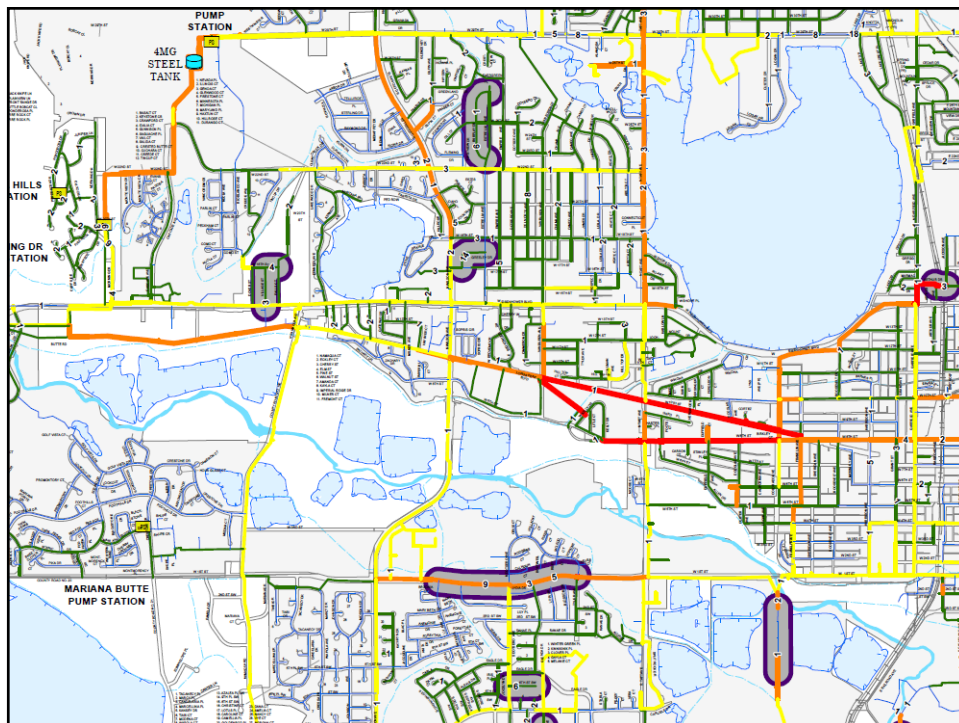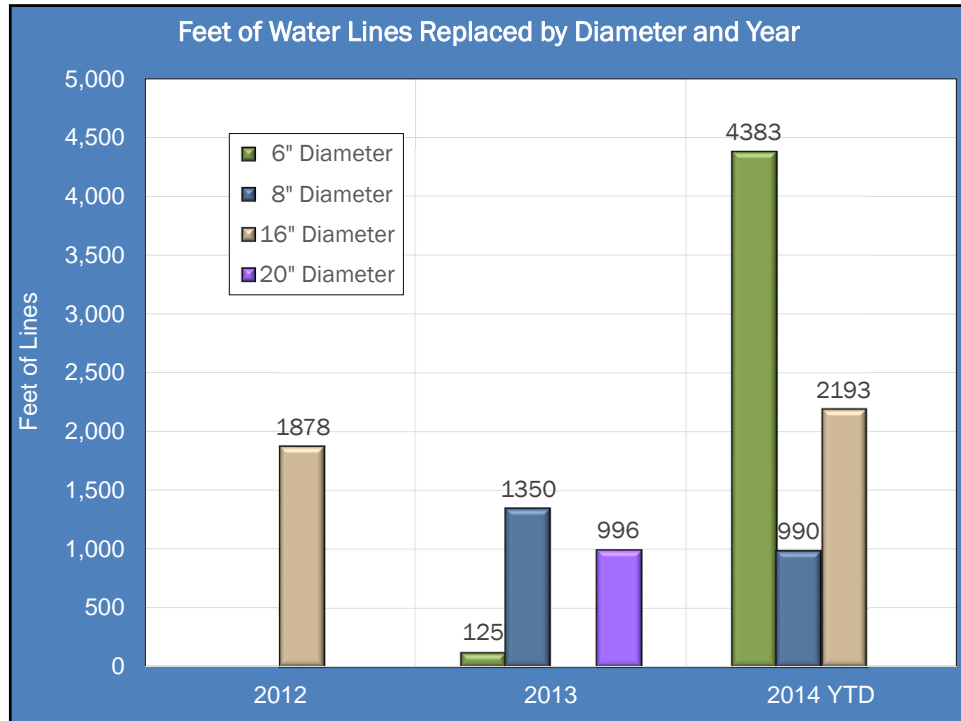   - Budget projections
    - Project cost projections
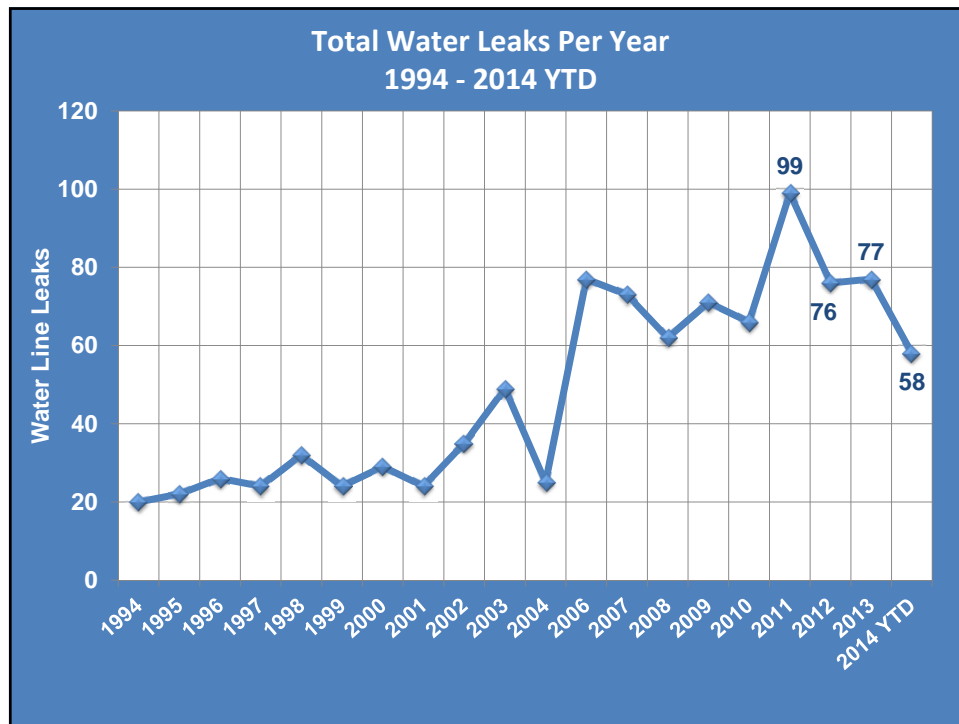
BENEFITS OF LEVELS OF SERVICE

- **Risk Assessments & Mitigation Plans**
  - Wastewater Treatment Plant
  - Pump/Lift Stations
- **Develop Systems for:**
  - Preventative Maintenance Work Order System
  - Replacement Plans for High Risk Systems
- **Asset Register**
  - Water/Wastewater Treatment Plants
- **Asset Policy Implementation (?)**
- **Annual Report with LOS Performance**

NEXT STEPS FOR THE WATER & WASTEWATER UTILITIES

QUESTIONS?

Water Main and Service Leaks by Year

Legend:
- Main Leaks
- Service Line Leaks
- Total Leaks

Y-axis: Number of Leaks (0 to 120)

X-axis: 1987, 1989, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 YTD

Note: Service Leaks only tracked starting in 2006
2010 data is through July

Total Water Leaks Per Year
1994 - 2014 YTD

- **Better Employee Engagement:** Field Operations and Engineering are working together to plan for the future

- **Additional Assessment:** Identifies high risk assets that need further field condition assessments

- **Narrow the Focus:** Helps narrow the focus from over 400 miles of lines to less than 50 miles of higher risk lines

- **Project Identification:** Helps identify areas where we may look at doing repair/replacement projects or projects to mitigate risks

- **Contingency Plans:** Staff can discuss contingency plans for reacting to high risk asset failure

- **Prioritization Tool:** Use as an additional tool to help prioritize capital improvement projects in conjunction with other tools such as:
  - Leak frequency maps
  - Budget projections
  - Project cost projections
  - Levels of service

BENEFITS OF THIS RISK ANALYSIS