

# City of Asheville

## Comprehensive NRW Program



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**Water Resources**



# Learning Objectives

- Key drivers for Asheville's NRW Program
- How we approached implementing the program
- Outcomes of our NRW Program to date



# Agenda

- City of Asheville – System Info for Context
- What led us to a NRW Program
- Structure of our teams & projects
- NRW Program results





# City of Asheville Water System Overview

- Mountainous terrain, high quality water
- Regional System
  - 183 square miles
  - 1,660 miles of pipe
- 125,000 population served
- 20 million gallons per day
- 3 treatment plants
- 34 storage tanks
- 40 pump stations
- 55 Pressure Zones



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# Asheville – Buncombe Regional Water Authority

- Dates: 1981 – 2005
- Governance by a representative Water Authority Board
- Operation of the water system through the City of Asheville
- Budget approval required passage by all entities represented
- Competing needs created political friction and distrust
- Asheville withdrew from the Authority in 2005 and it dissolved
- The City of Asheville retained operation of the potable water system and became responsible for maintenance and repairs



# What Led Us to a NRW Program?

- News Headlines:
  - Millions spent on leaky Asheville water system
  - An audit of the system's water use in 2002-03 found the city produced 21.5 million gallons of treated water a day but lost 6.4 million gallons a day.
- Leaks, leaks, & more leaks:
- Lack of meter maintenance:
- The Perfect environment and perfect need for a NRW program



# A Team Based Approach

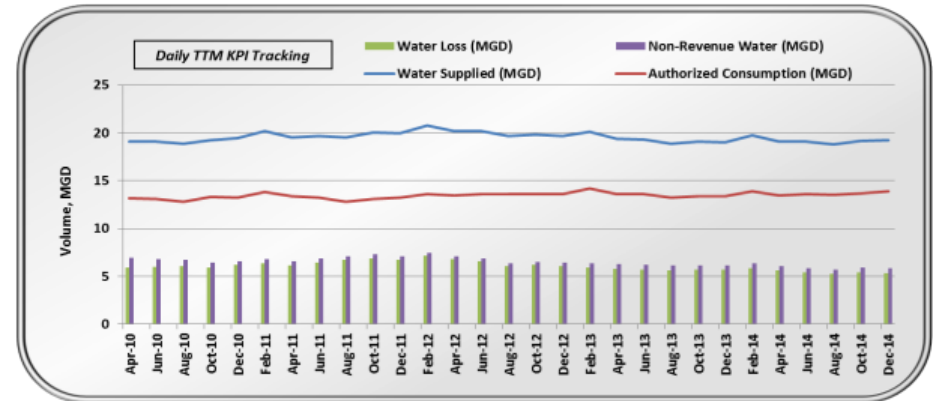
- Audit Input Team
- Valve & Leak Team
- Unbilled Customer Team
- Customer Service Team
- Metering Team
- Pressure Management Team





# Audit Input Team

- Assist in Gathering Data
- Partner with a Consultant
- Master Meter Testing
- Water Theft Tracking
- Reporting from Internal & External sources
- KPI Tracker
- Policy Relation & Review
- CIP Recommendations



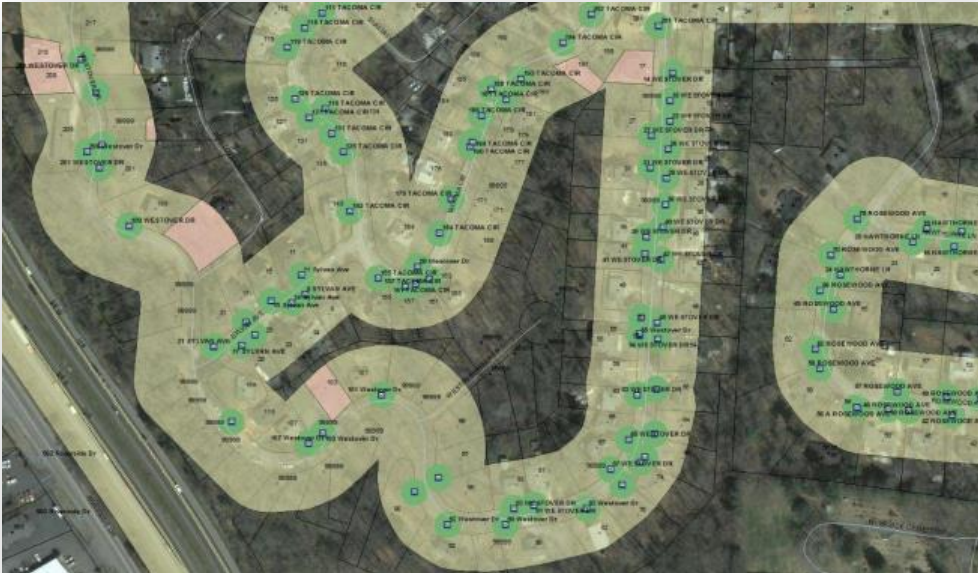
# Valve & Leak Team

- Leak Detection
- Leak Repair
- Valve Program
- PRV Maintenance



# Unbilled Customers Team

- Fire Lines
- Data Boundary Searches



# Customer Services Team

- Overall Account Coding Clean Up
- Software Transition for Billing
- Revenue Recovery Calculations
- Old Meter Route Searches



READING AND CONSUMPTION RECORD		METER	
MONTH	READING	CONSUMPTION	
JUNE			
MAY			
APR			
MAR			
FEB			
JAN			
DEC			
NOV			
OCT			
SEPT			
AUG			
JULY			
JUNE			
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NOV			
OCT			
SEPT			
AUG			
JULY			
FWD			

METER LOCATION

OLD SERVICE NUMBER

61-28-12-1-1-6

WTRK WRT WTRK SIZE

400 30 416LS

WAKE CO OPTIC METER NO. 67871097

DATE FROM	DATE	NO	DEPT. NO.	AMOUNT	TRANS. NO.
CAROLINA POWER & LIGHT	3-2	111587		5.00	
LOUISIANA					

1970-1979



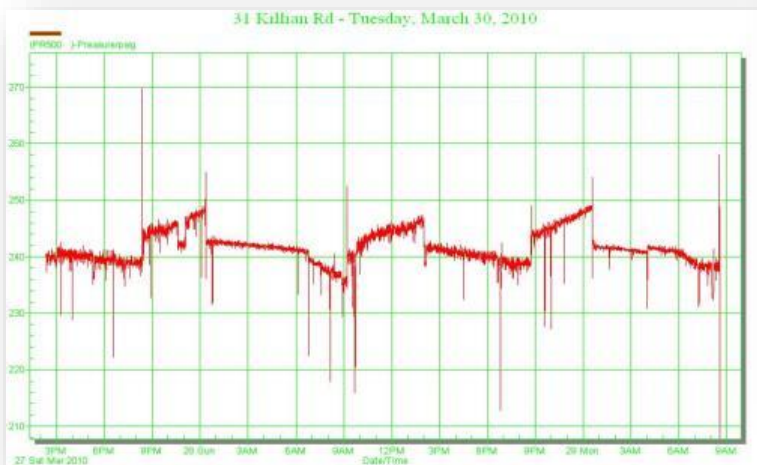
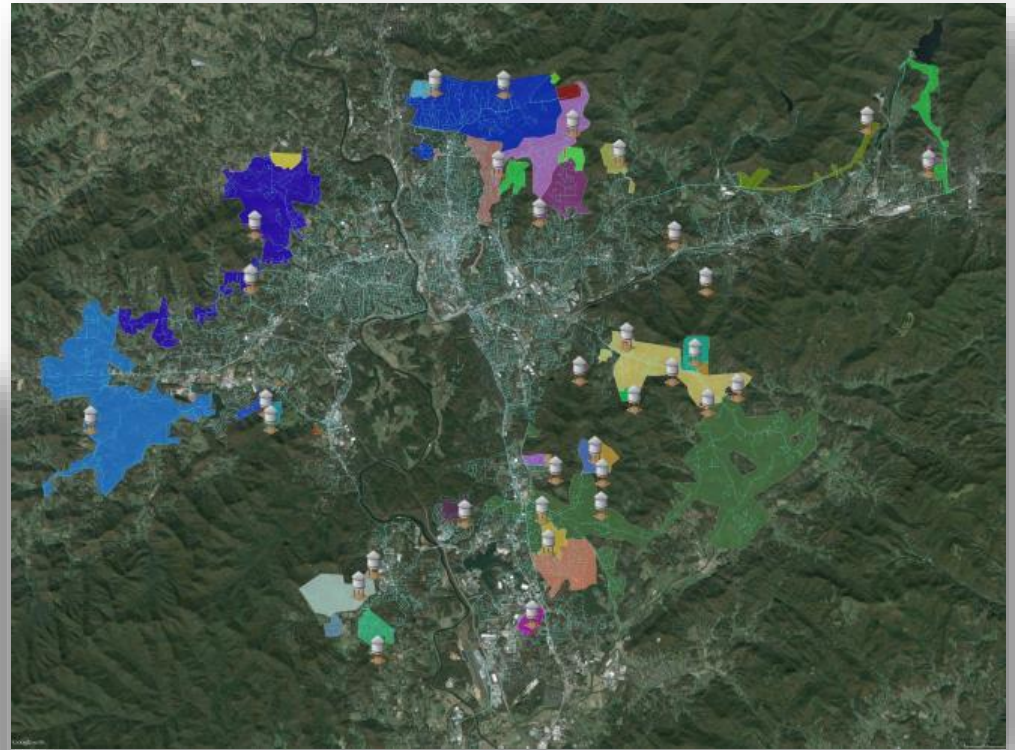
# Metering Team

- AMR conversion
- Meter Testing
  - Untestable Meters
- Meter Management Tool
  - Payback Analysis



# Pressure Management Team

- Maintain Pressure Database
- Confirm Pressure Boundaries
- Pressure Optimization Pilot Project
- DMA Establishment



# NRW Related Projects and Capital Improvement Planning

- DMA Installations
- Pressure Optimization Pilot
- Fire Department Audit

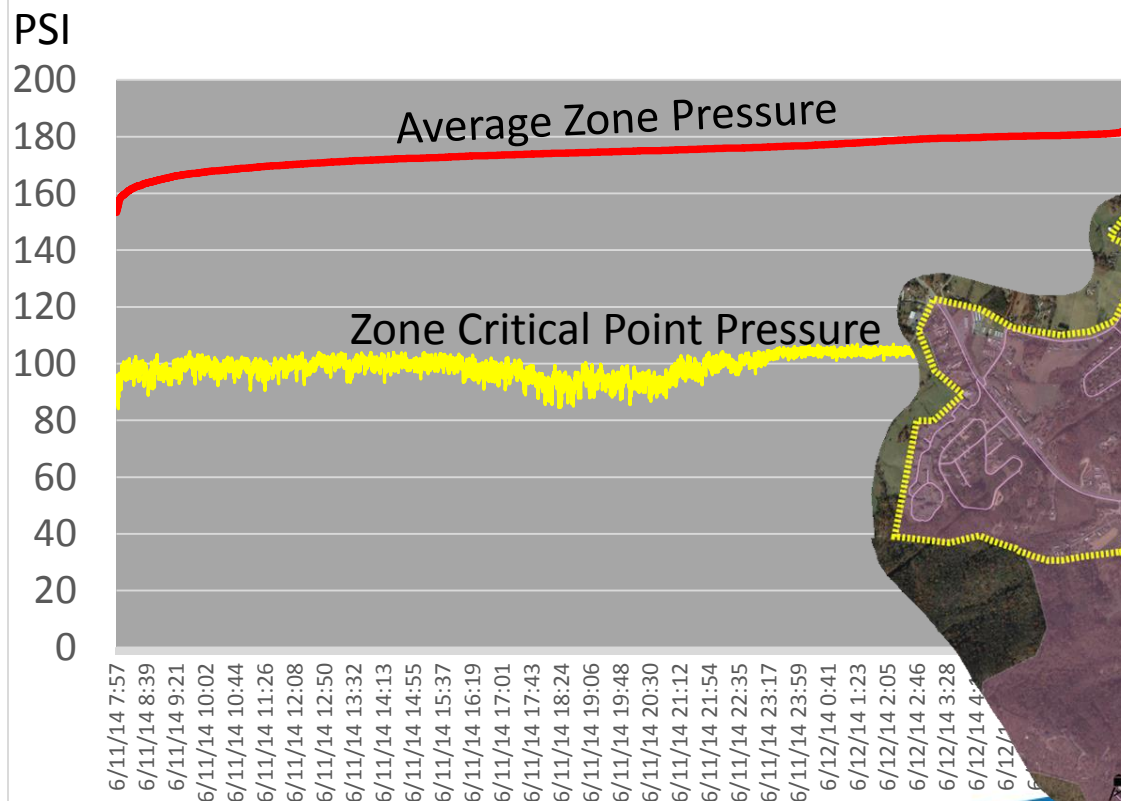






# Pressure Optimization Pilot

Haw Creek  
Pressure Logs



# Fire Department Audits

- Check for use of NRW
- Billing/Metering status
- Create Consistency
- Recommendations for Improvement
- Follow up



# NRW Program – Key Points

- Challenges
  - Change of Culture
    - In department and out of department
  - Relating NRW Projects to CIP
  - Keeping Staff Focused on NRW
- Advantages
  - Decrease in Water Loss
  - Team focus – Employee Engagement
  - Improved Communications
  - Improved Business Processes
  - Good Media Answer



# Summary

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- It takes a village
- It takes time
- Recognizing the Case for Action

