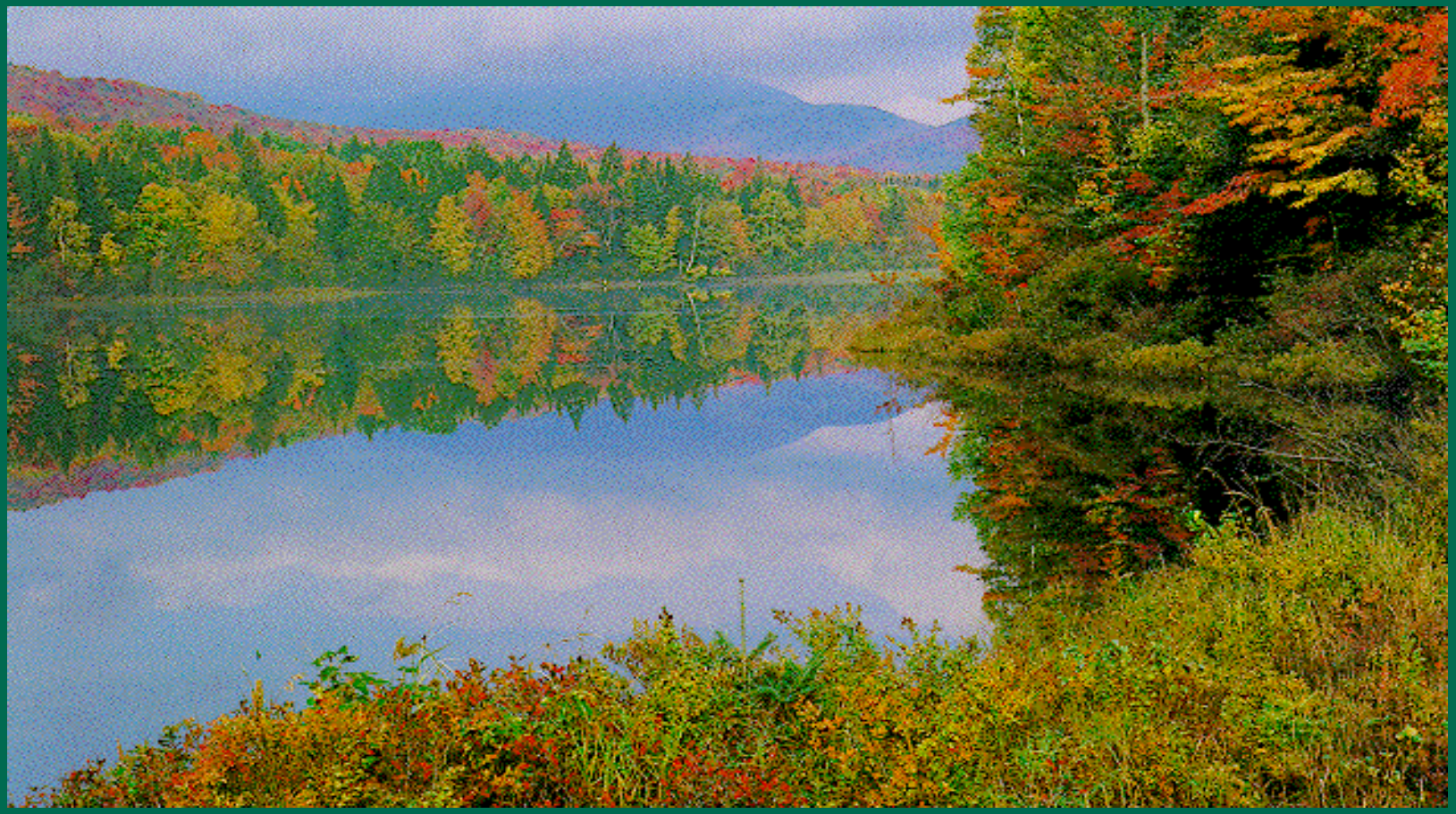
CHARLOTTE.
CHARLOTTE-MECKLENBURG UTILITIES

Catawba River
A Managed Resource

Charlotte-Mecklenburg Utilities

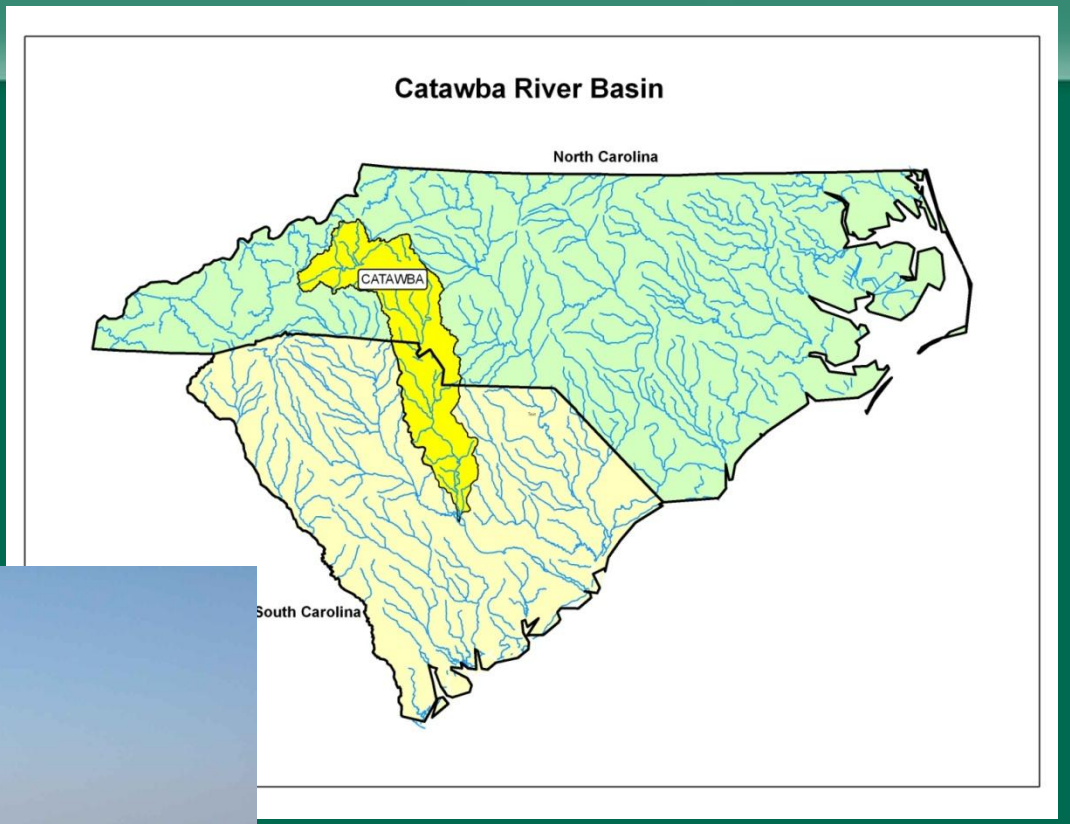
CHARMECK.ORG



THE SOURCE

Catawba River Basin

- 225 River Miles
- > 1.5 M Population
- 13 Dams
- 11 Reservoirs
- 9,000 Megawatts



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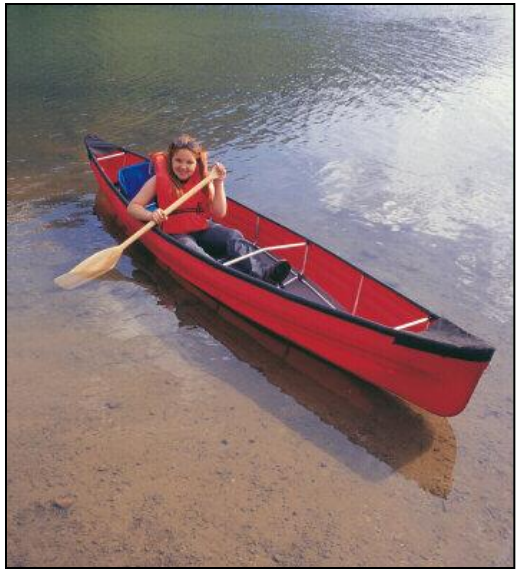
River Users

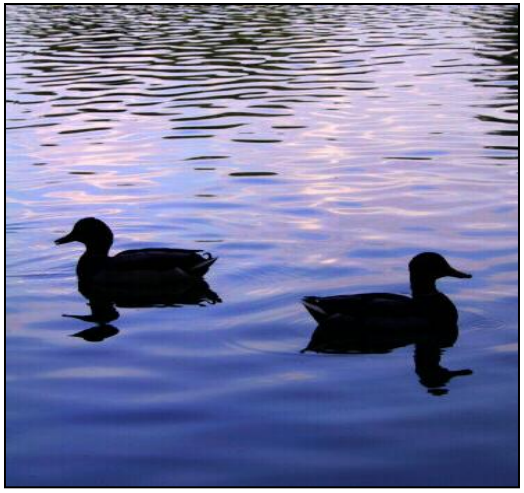
Power Generation

Water Supply

Aquatic Habitat

Recreation





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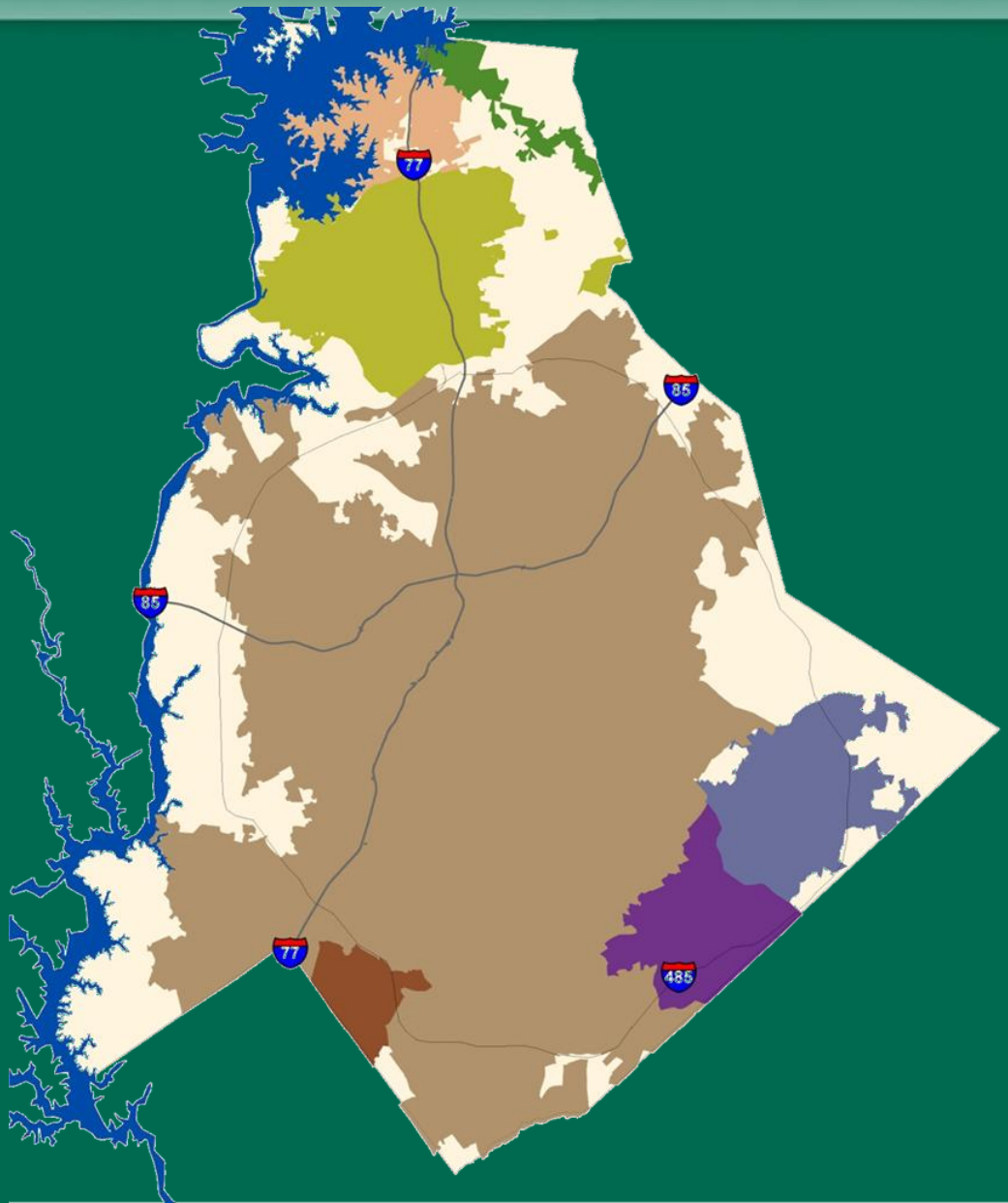
CHARLOTTE MECKLENBURG UTILITIES



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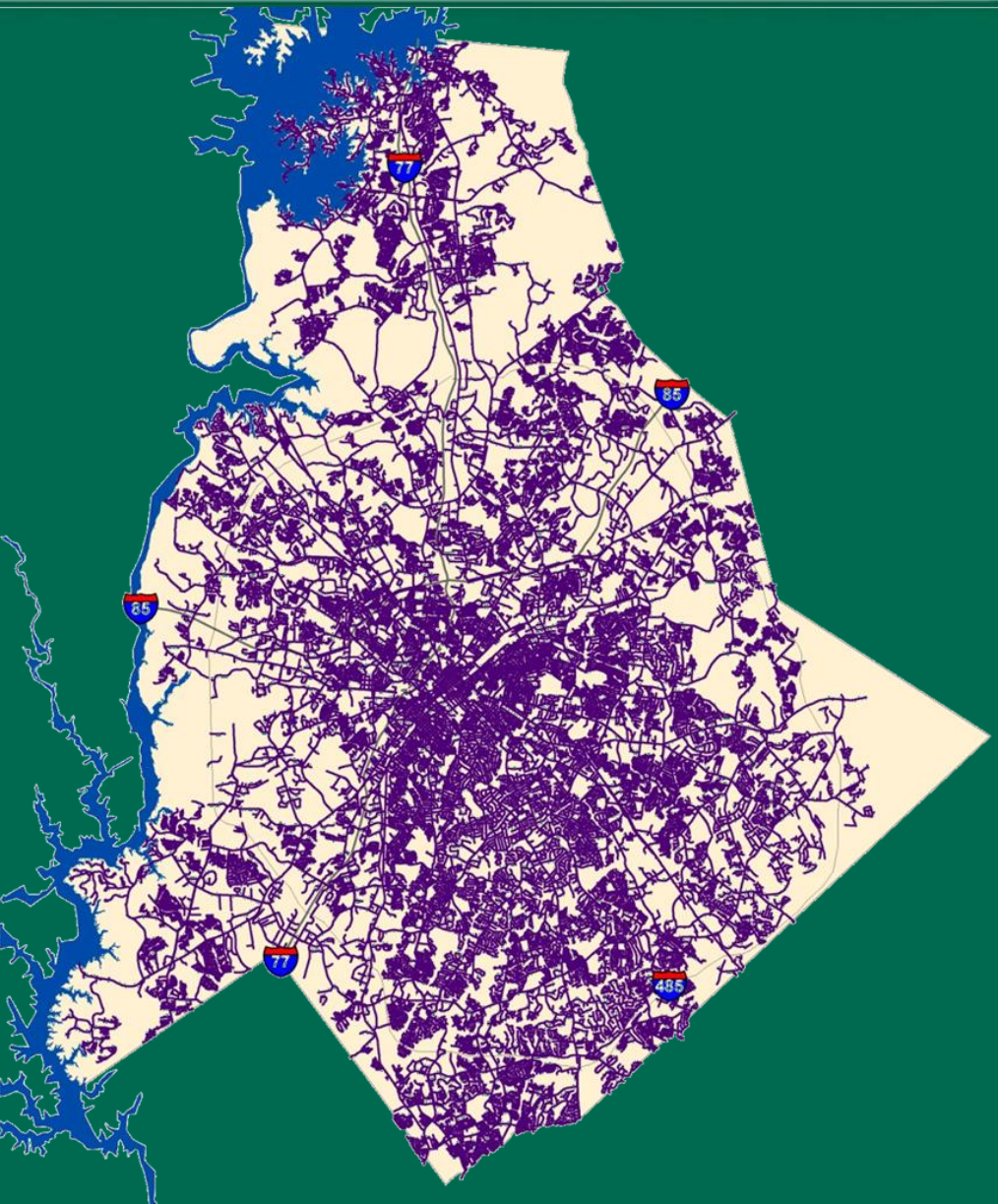
DELIVERY SYSTEM



- 4000 Miles of Pipe
- Diameters from 2”-72”

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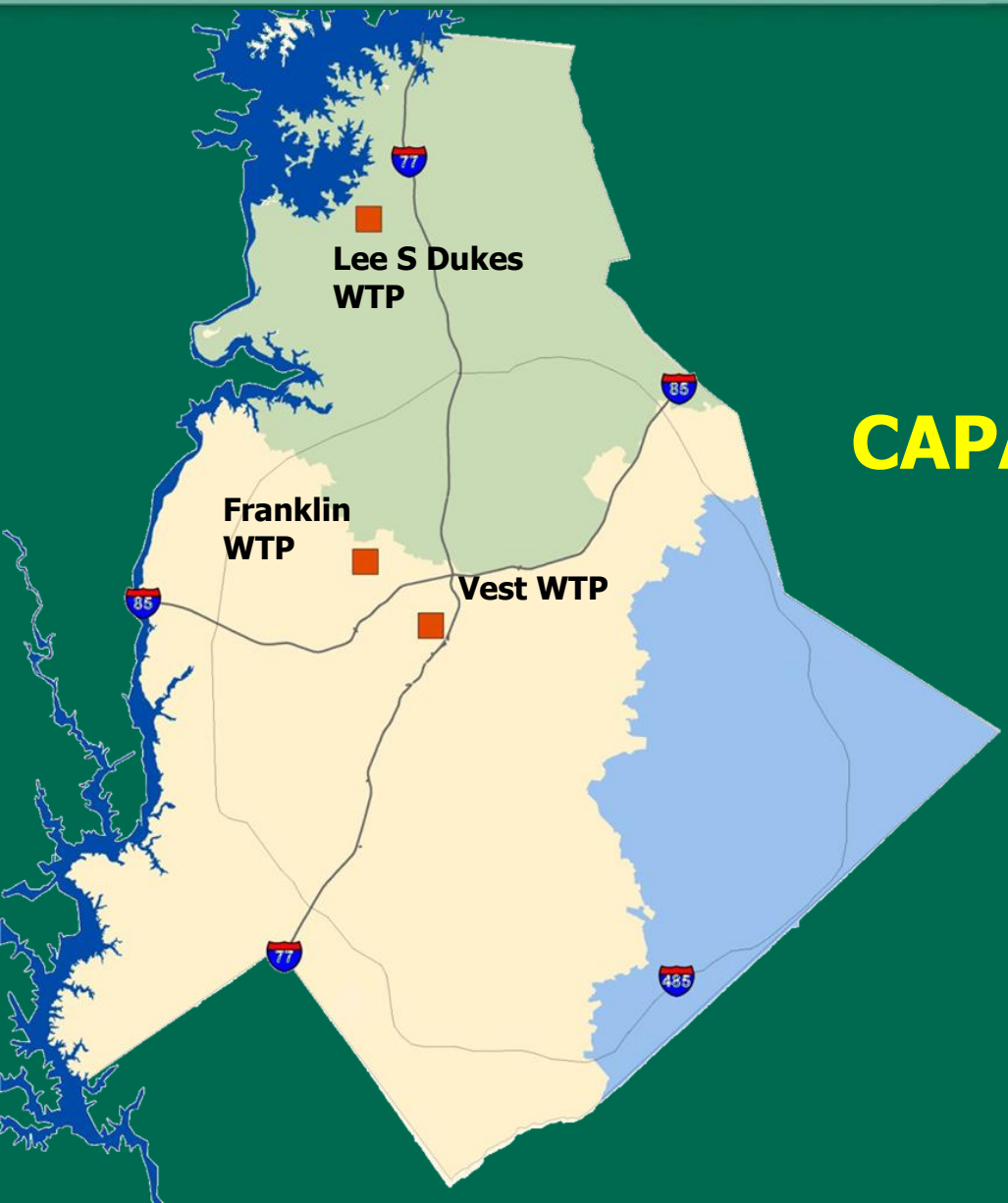
WATER PRODUCTION



CAPACITY: 242 MGD

Average Day: 110 MGD
Peak Day: 148 MGD

Water Management Efforts

- Conservation & Water Rate Structures
- Reuse
- Water System Modeling & Capital Planning
- Water Management Groups
  - Drought Management Advisory Group
  - Water Management Group
  - Bi-State Advisory Commission

Water Rate Structures

Conservation Rate

Conservation Rates

Charge Type	FY 2011
Water	
Fixed Charge (per account)	$2.40
Variable Charge (per Ccf)	
Residential	
- Tier 1 – *(0-4ccf)*	1.45
- Tier 2 – *(5-8ccf)*	1.64
- Tier 3 – *(9-16ccf)*	2.69
- Tier 4 – *(16+ ccf)*	5.32
Non-Residential	2.04
Bulk Water	2.69
Sewer	
Variable Charge (per Ccf)	4.31

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WATER REUSE

Reuse

- Current Projects
  - Traditions Golf Course
- Potential Customers
  - Huntersville farm
  - UNCC
- Food for Thought - Can reuse be counter productive to conservation??

Capital Improvement Program

- CIP Development Process
- Water System Modeling
- Water Projects

CIP Development Process – Input Sources

- Mecklenburg County Towns
- Public Meetings
- Advisory Group
- Other KBU's
- Divisions within Utilities

Proposed FY 12-16 CIP

- Water 5-YR total $252M
  - 57 projects
- Sewer 5-YR total $231M
  - 64 projects
- Water and Sewer 5-YR total $483M

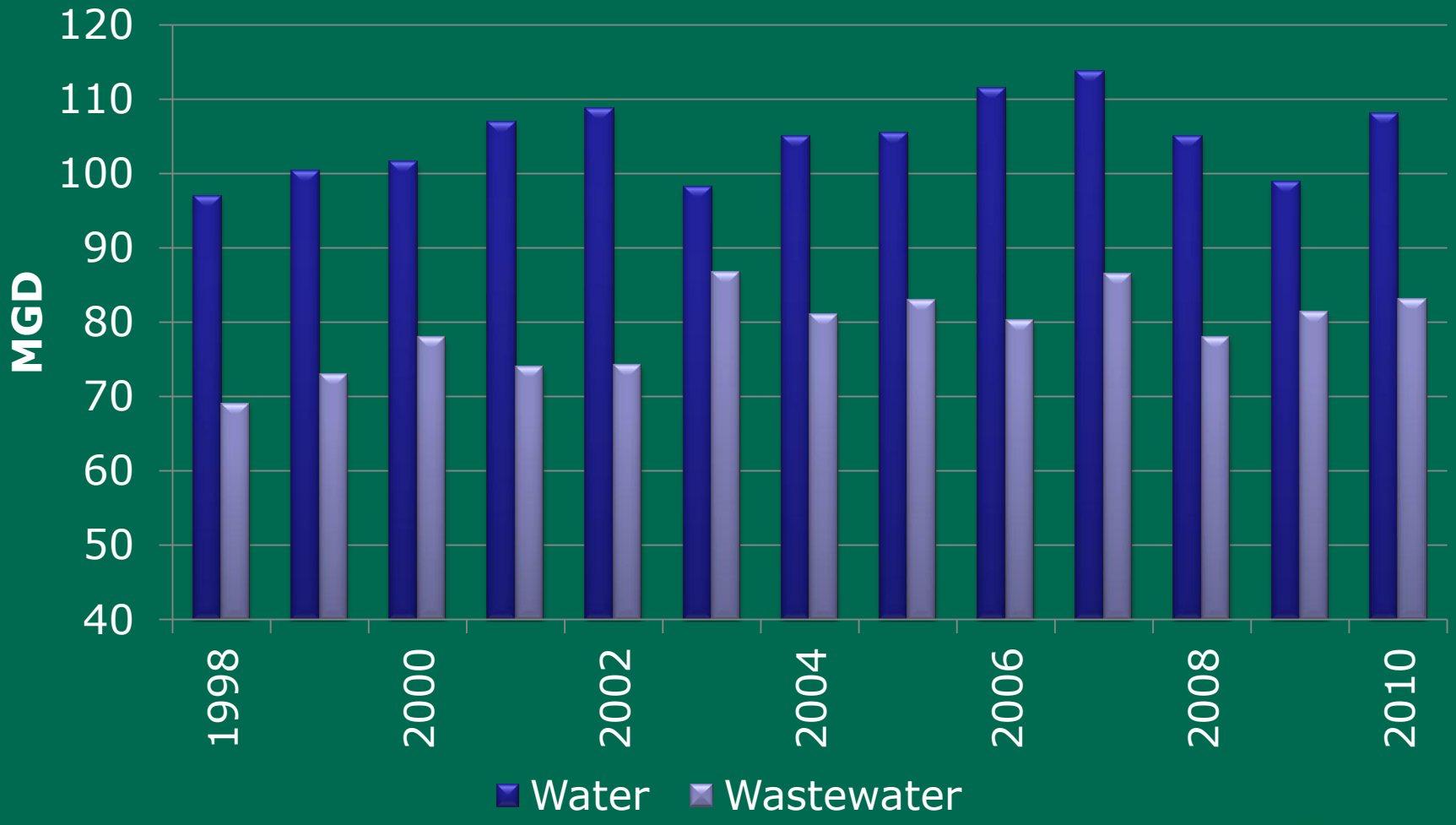
Capital Program History

CIP Period	Water	Wastewater	Total
	(dollars in millions)		
FY12-16*	251.8	231.3	483.1
FY11-15	301.9	478.0	780.0
FY10-14	410.0	707.0	1,117
FY09-13	298.5	681.5	980.0
FY08-12	367.6	676.7	1,044.1
FY07-11	227.5	325.3	552.8
FY06-10	208.2	366.0	574.2
FY05-09	191.4	336.3	527.7
FY04-08	127.6	321.9	449.5

* Proposed

Water System Modeling

Average Daily Production



2010 Peak Multipliers

- Average Day
- Peak Day
- Peak Hour
- Line Size vs Water Quality

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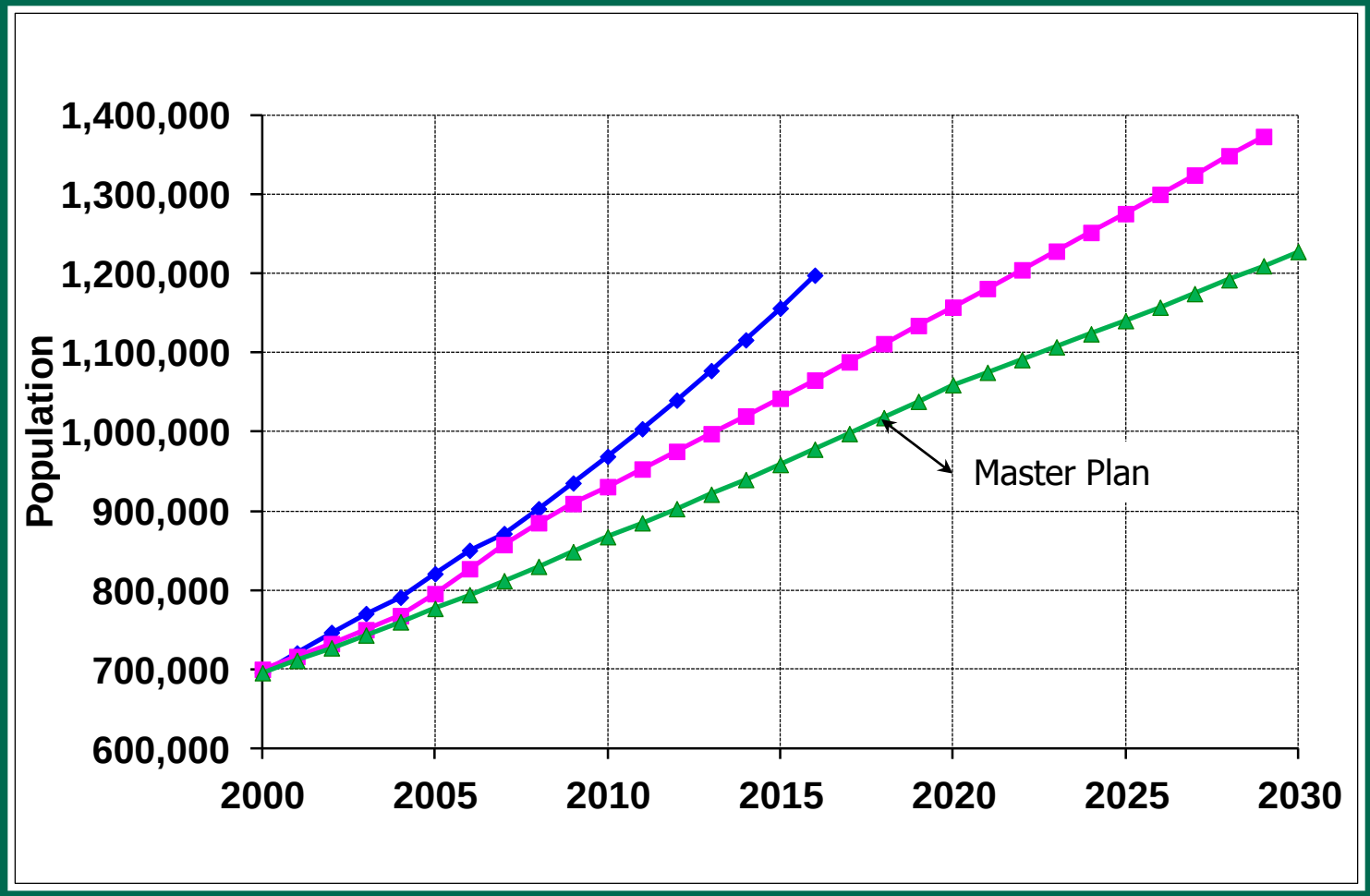
Population Projections



2000
695,454

2010
867,451

2020
1,059,519

2030
1,227,928

Sources: Chamber of Commerce — State Website — MUMPO

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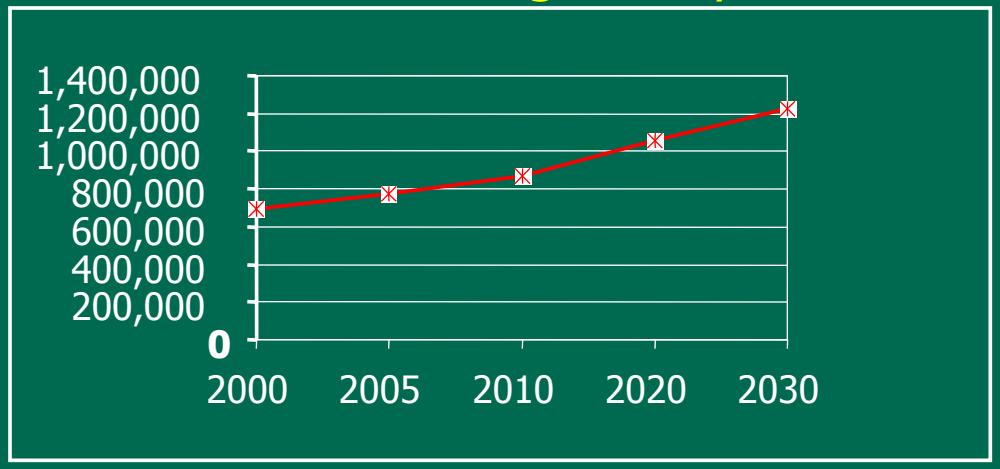
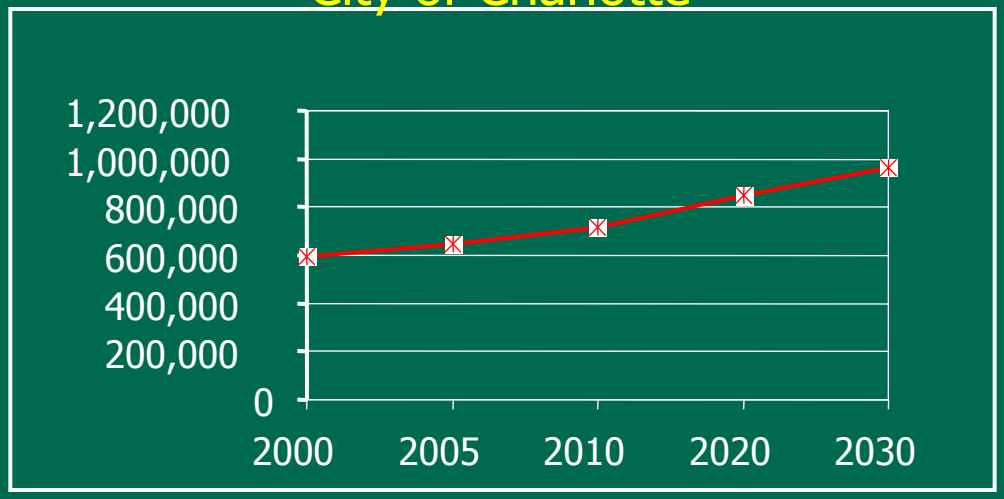
Population Projections

Mecklenburg County



2000	2030
695,000	1,228,000

City of Charlotte



2000	2030
593,000	980,000

Source - Charlotte Mecklenburg Planning Department

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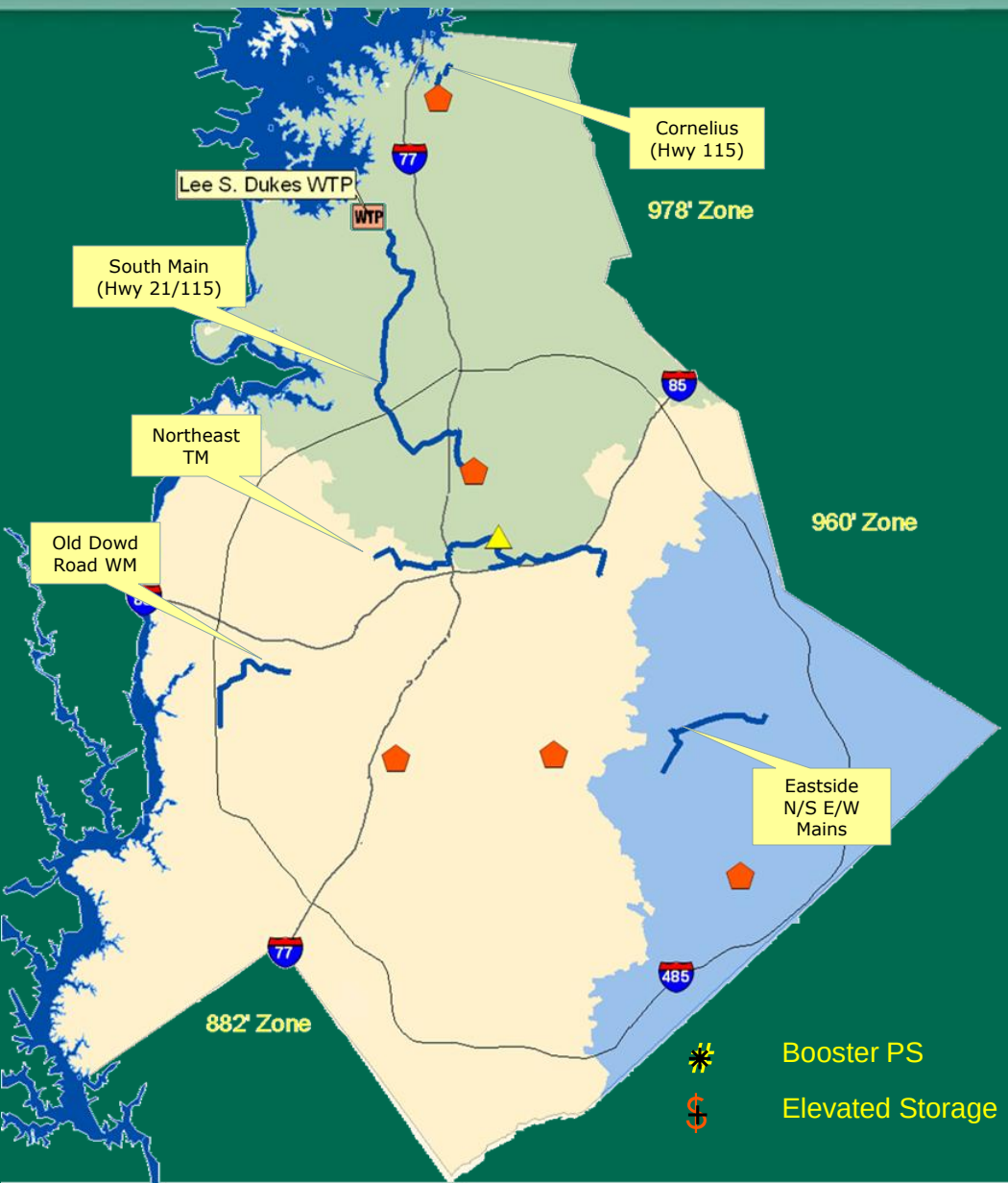
Water Master Plan



2009-2013 Projects:

– Northeast Transmission Main	$48.6 M
– South Main (Hwy 21/115)	$10 M
– Northside Booster Station	$ 6 M
– Old Dowd Road Main	$ 5 M
– Northlake Tank	$ 5 M
– Lebanon Road Tank	$ 5 M
– South CBD Tank	$ 4 M
– Cornelius – Hwy 115	$ 2 M

2013-2018 Projects:

– Lee S. Dukes WTP Discharge	$70 M
– Lee S. Dukes WTP Expansion	$65 M
– Mallard Tank	$12 M
– Eastside North/South Main	$12 M
– Northeast Transmission	$10 M
– Eastside East/West Main	$ 8 M
– Craig Tank	$ 5 M

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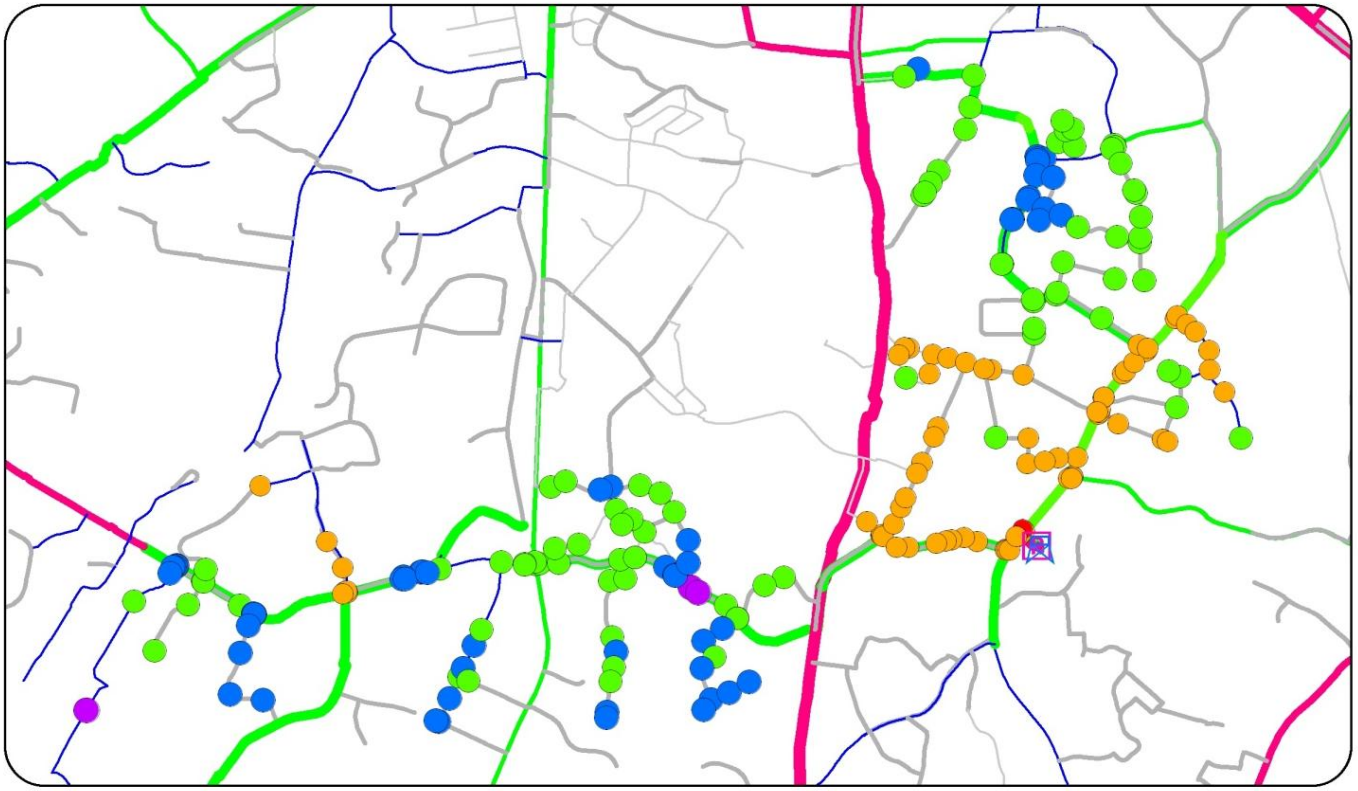
Baseline Pressure: 24-inch In Service



Baseline Pressure

- Less than 60 psi
- 60 to 80 psi
- 80 to 100 psi
- 100 to 120 psi
- Greater than 120 psi

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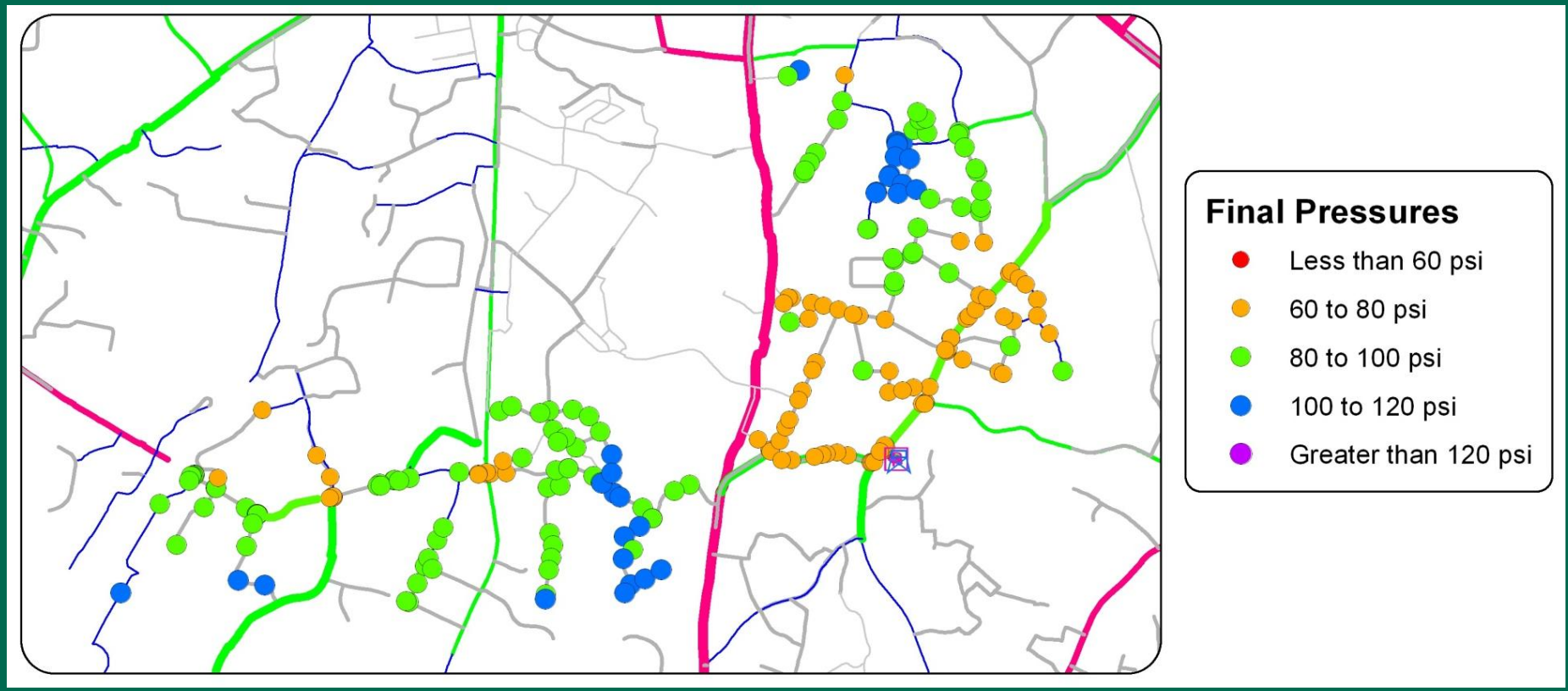
Final Pressure: 24-inch Main Retired



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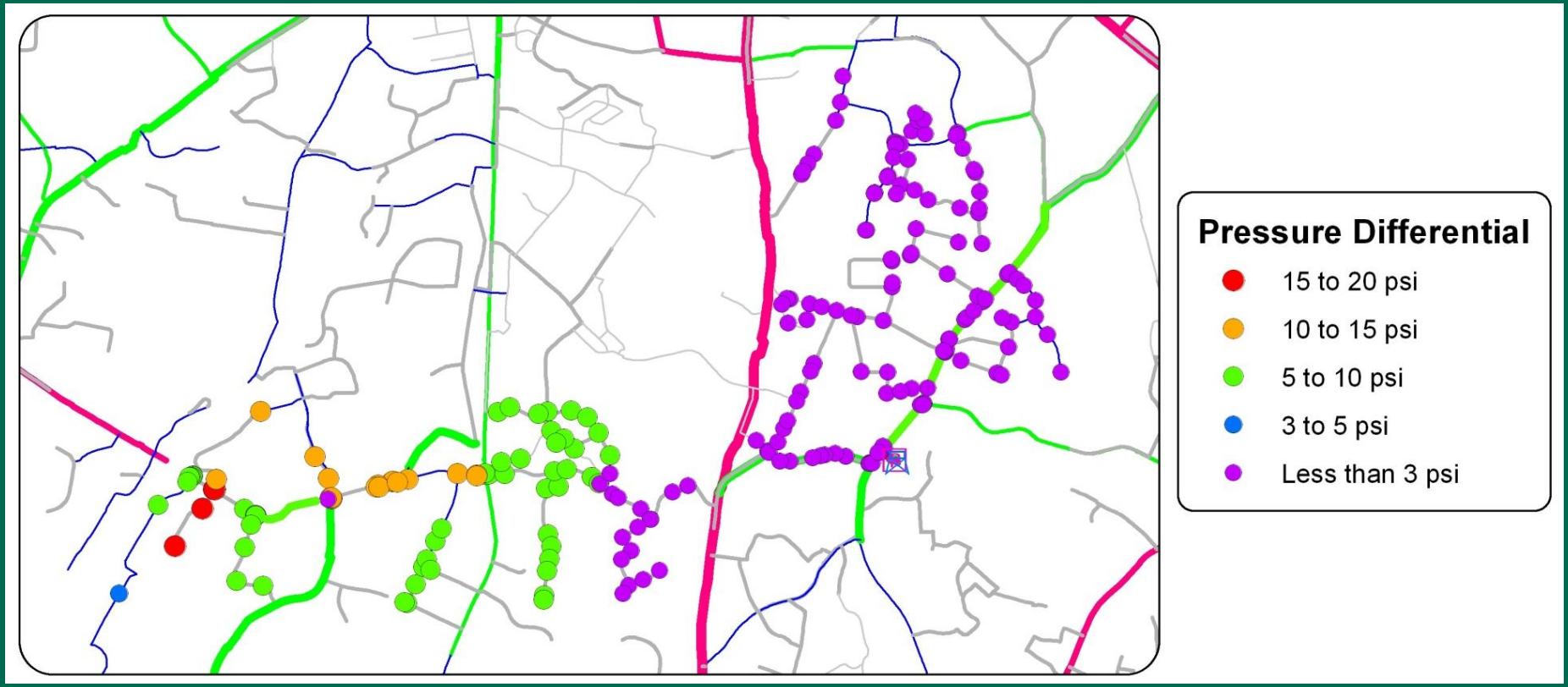
Pressure Differential: 24-inch Main Retired



Water Management Groups

- FERC Relicensing Process
  - Drought Management Advisory Group
  - Water Management Group
- Bi-State Advisory Commission

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DMAG

- Activated by drought stages
- Administer Low Inflow Protocol
- Water Consumption Reporting during Droughts

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Low Inflow Protocol

Staged response based on measurable triggers

- Lake Level (storage)
- Stream flow
- NC Drought Monitor
- Ground Water Gauges

Catawba-Wateree Water Management Group

Identify, fund, and manage projects that help extend and enhance the capacity of the Catawba-Wateree River to meet human water needs while maintaining the ecological health of the waterway

Water Management Group

Purpose

- Promote water and energy conservation
- Prepare for and manage drought impacts
- Improve water quality
- Enhance suitability of reservoirs for public water supply

Water Management Group

Address intake and storage security

Promote best management practices for water management

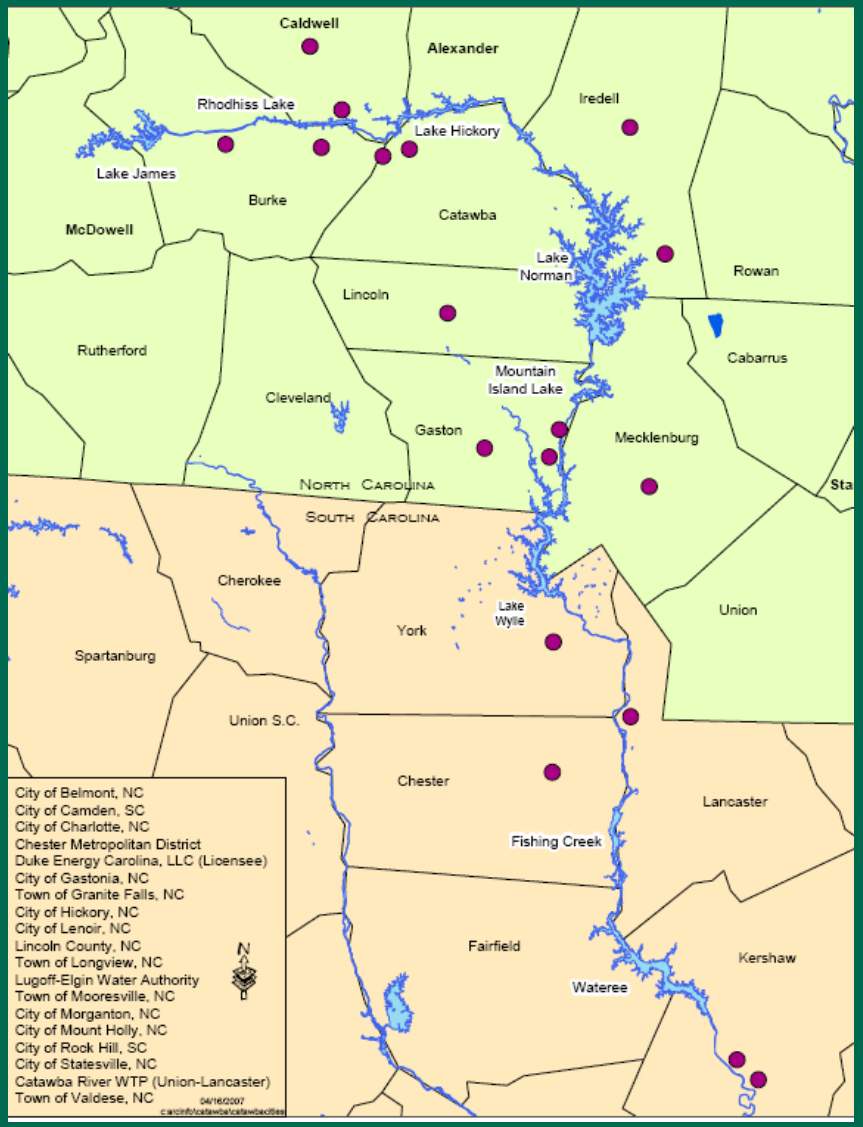
Ensure continued use of water to support human needs

Water Management Group

Membership in WMG

- Public water systems that withdraw 1MGD or more and Duke
- Provisions for smaller users to participate
- Membership is voluntary
- Members will pay dues based on gross withdrawals (actual 2005)

Members



1. Morganton
2. Granite Falls
3. Long View
4. Lenoir
5. Hickory
6. Valdese
7. Statesville
8. Lincoln County
9. Mount Holly
10. Belmont
11. Gastonia
12. Charlotte
13. Rock Hill
14. Catawba River Water Plant
15. Chester
16. Lugoff-Elgin
17. Camden
18. Duke Energy

CITY OF CHARLOTTE

Bi-State Advisory Commission

Established by the North and South Carolina Legislatures

Members appointed by the Governors and Legislatures of both states - primarily elected officials

Group performs primarily in an advisory capacity to the legislature

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UTILITIES

Questions?