



Water Quality Plan

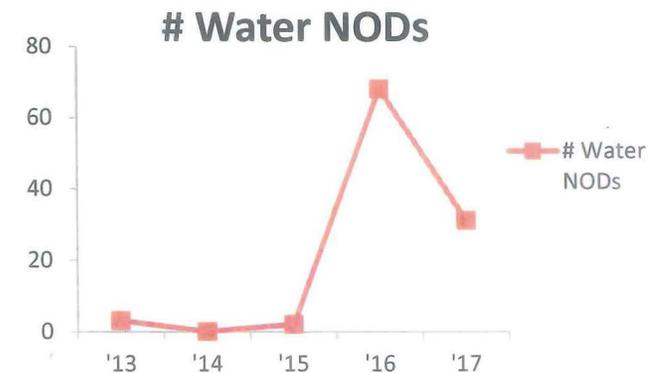
Secondary Water Quality in NC

NCDEQ began issuing Notice of Deficiencies for exceeding sMCLs for Fe and Mn in the **Raleigh Region** in **February 2016**.

- (8) Tier 1 NODs: Fe + Mn > 1 mg/L, no treatment
- (13) Tier 2 NODs: Fe + Mn > sMCL, no treatment
- (47) Tier 3 NODs: Fe + Mn >1 and sequestration

**Treatment is defined as media filtration and/or sequestration.

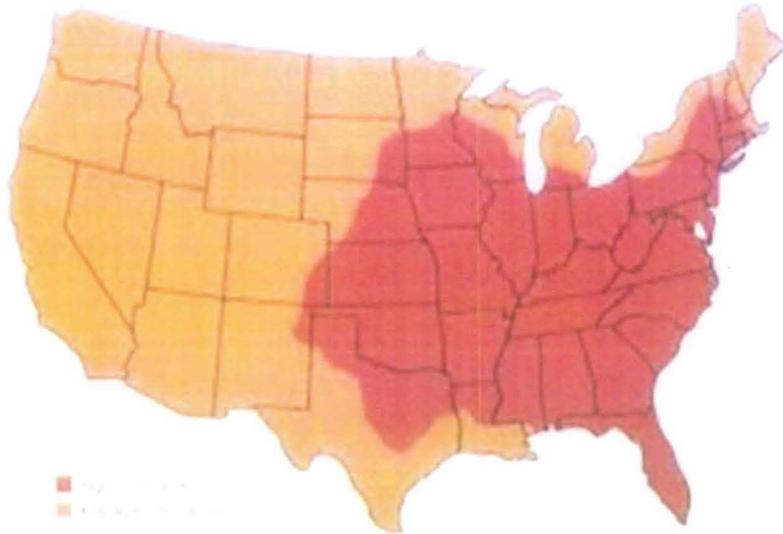
**Cartridge filters are not considered treatment per NCDEQ



Water Quality Plan

Water Quality

- Safe and aesthetically pleasing
- Critical to achieving customer confidence in a water system.
- Iron and manganese can have negative impacts on a water system and on customers.



Water Quality Plan

Prioritize sites and address aesthetic water quality issues based on:

1. Notice of deficiencies
2. Scientific, engineering, and health data
3. Customer complaints

Plan Considerations:

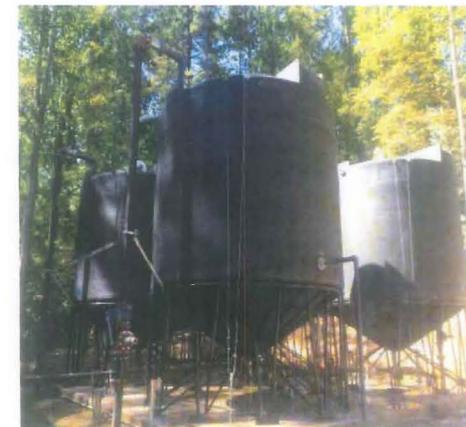
- Capital - Treatment/Filtration Plan
- Process Improvement
 - Tank Cleaning
 - Flushing

Collaborative Approach:

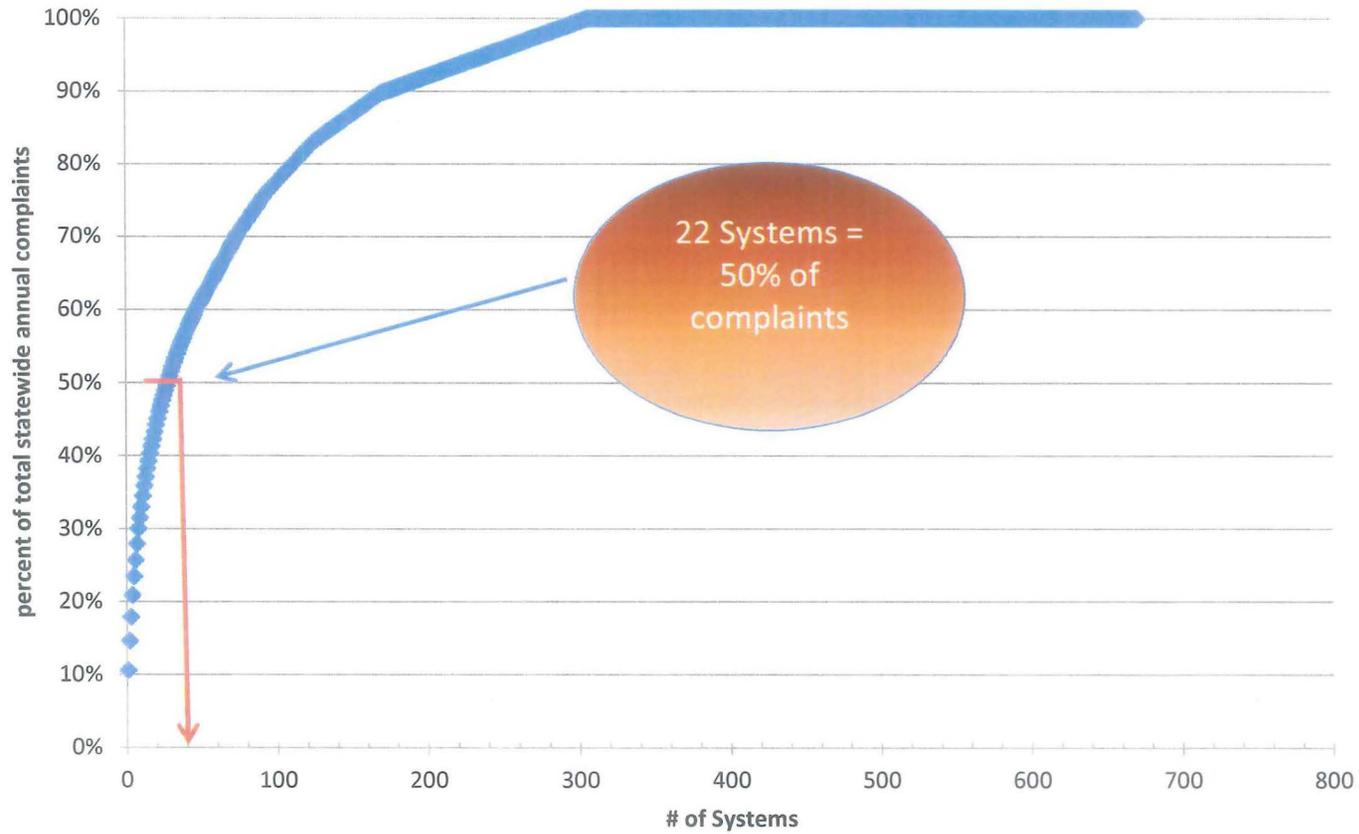
- Develop a common framework to address and prioritize secondary water quality issues
- Regulatory support

Plan based on specific plant level analysis.

Approximately \$28M planned investment over next 7 years to address highest priority systems



Customer Complaints



Groups Based on Mineral Levels

<u>GROUP :</u> Iron and Manganese Condition		<u>Action</u>
<ul style="list-style-type: none">Group 1 Sites: Fe + Mn > 1 or Mn > 0.3 mg/L (Public Health Protection – Mn)	G1	Filtration & Flushing & Tank Cleaning
<ul style="list-style-type: none">Group 2 Sites: Fe > 0.6 & Mn > 0.1 mg/L Aesthetics & Home Plumbing Protection	G2	Sequestration or Filtration & Flushing
<ul style="list-style-type: none">Group 3 Sites: Fe > 0.3 or Mn > 0.05 mg/L Aesthetics	G3	Sequestration & Flushing
<ul style="list-style-type: none">Group 4: Under sMCL	G4	Flushing as needed