

Lynnfield Center Water District

“Apple Hill” (Northwest Corner) Neighborhood Public Workshop



December 12, 2019



**CDM
Smith**

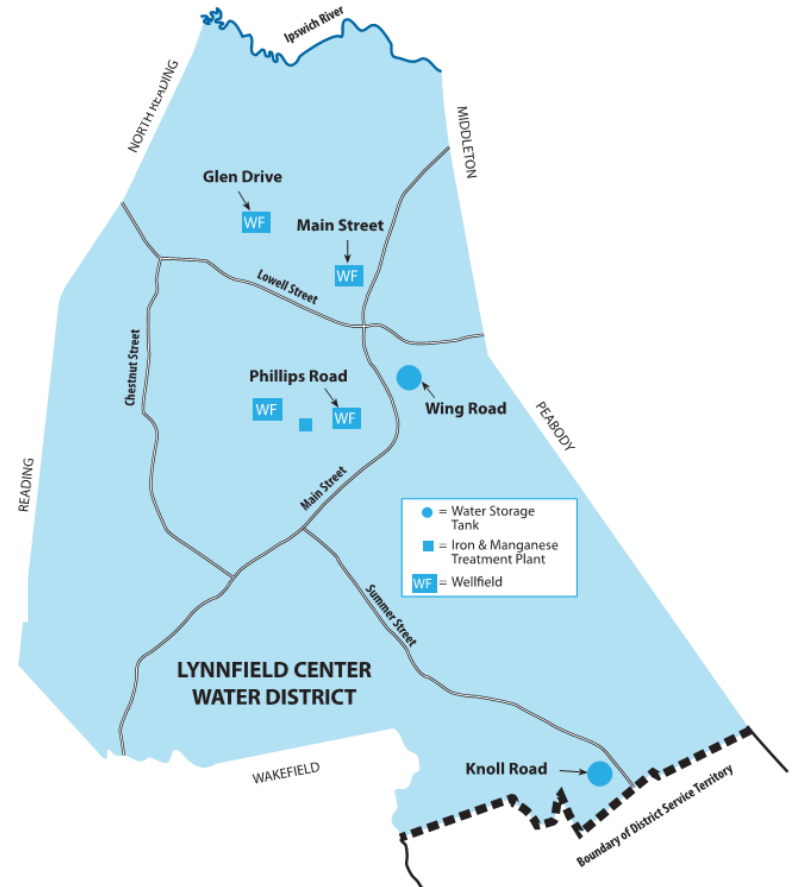
Agenda

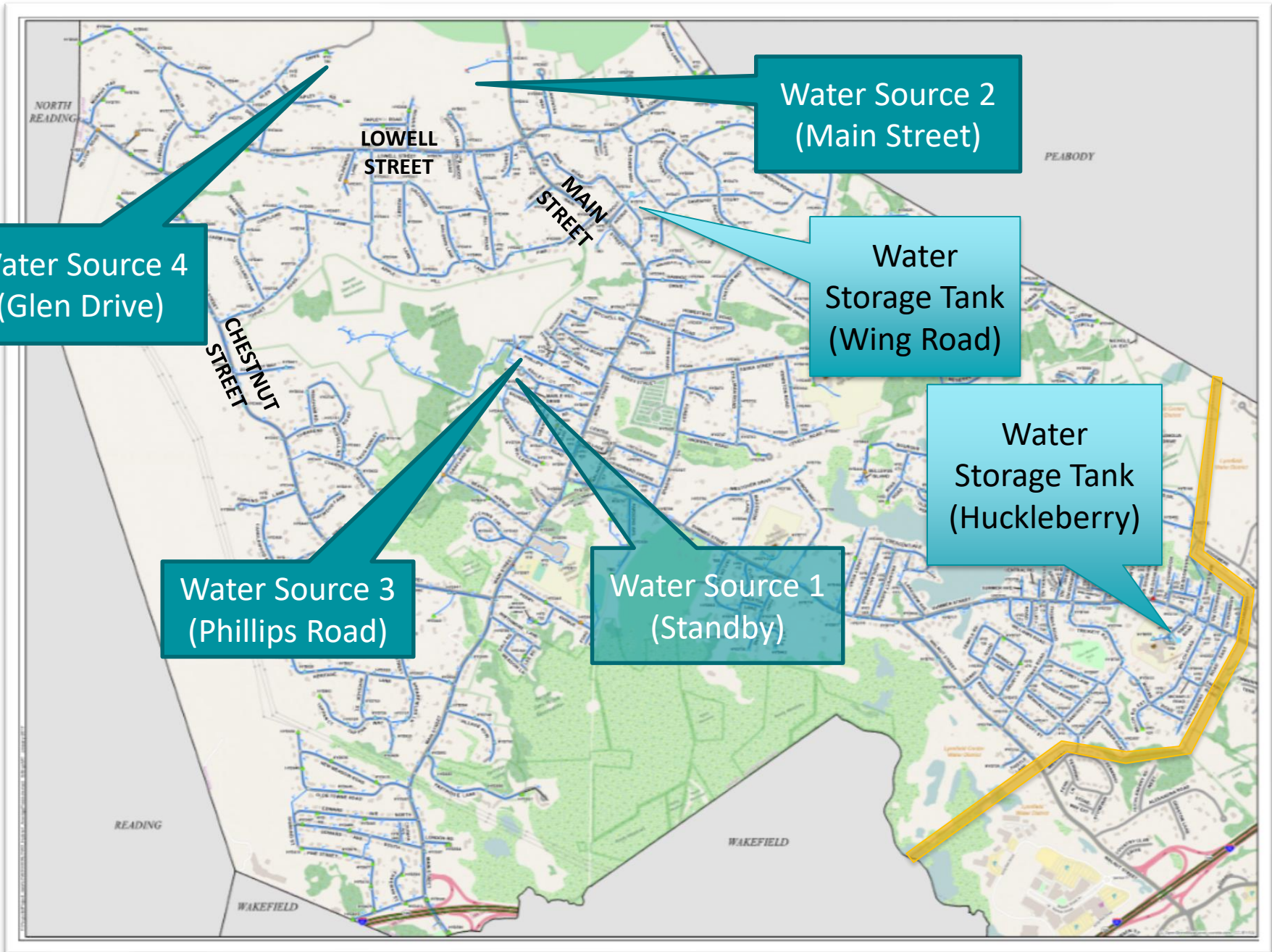
- Welcome by LCWD Superintendent
- Overview of District's Water System and Where "Apple Hill" Fits In
- "Apple Hill" Area Study & Short Term Improvements
- Big Picture & Long Term Solutions

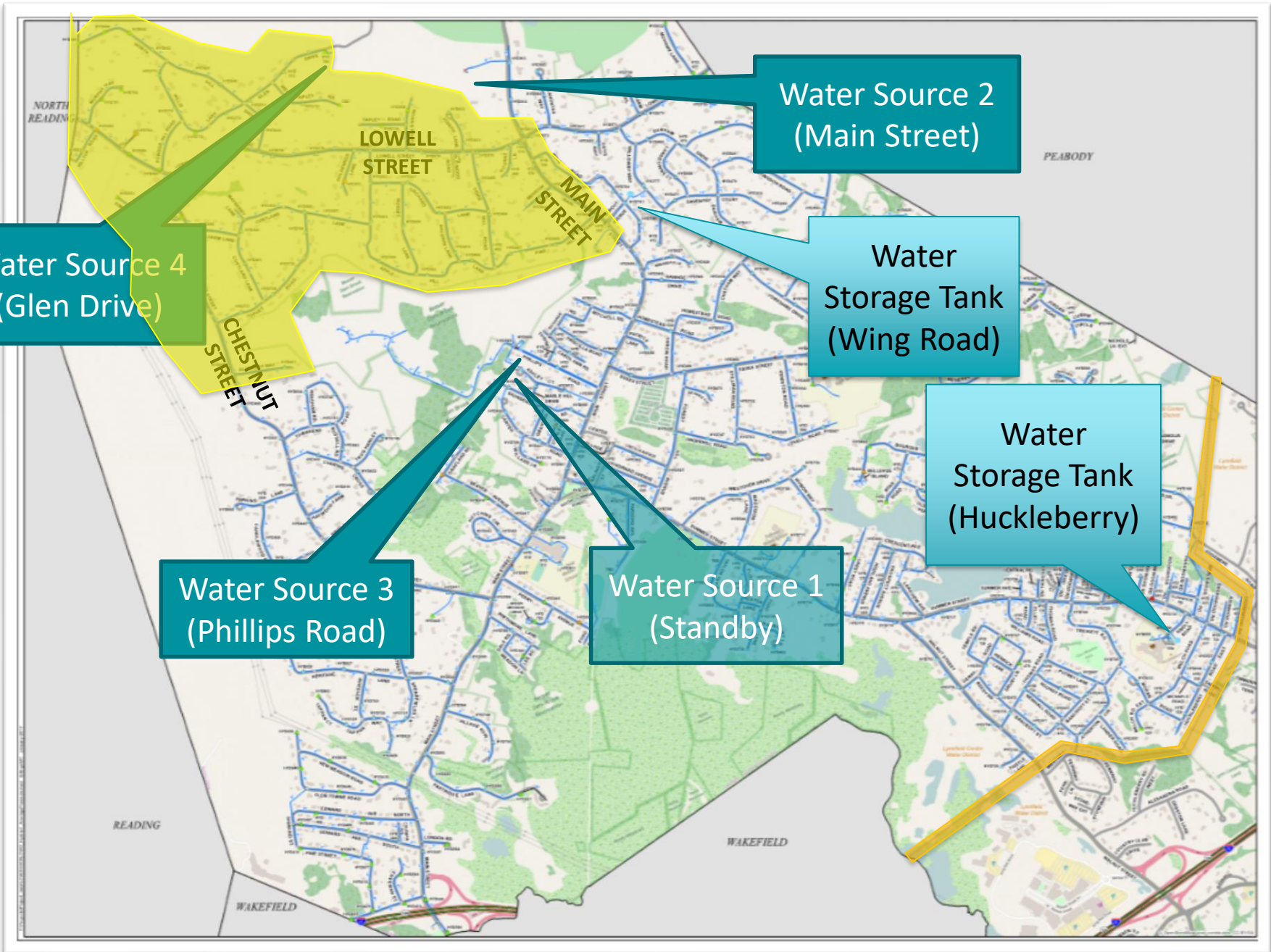


Overview of District's Water System

- Sources: four groundwater well sites (three active, one standby)
- Treatment: treatment plant and at pump stations
- Storage: two water storage tanks
- Distribution: 48 miles of water main
- Questions from Audience







Apple Hill Neighborhood Study

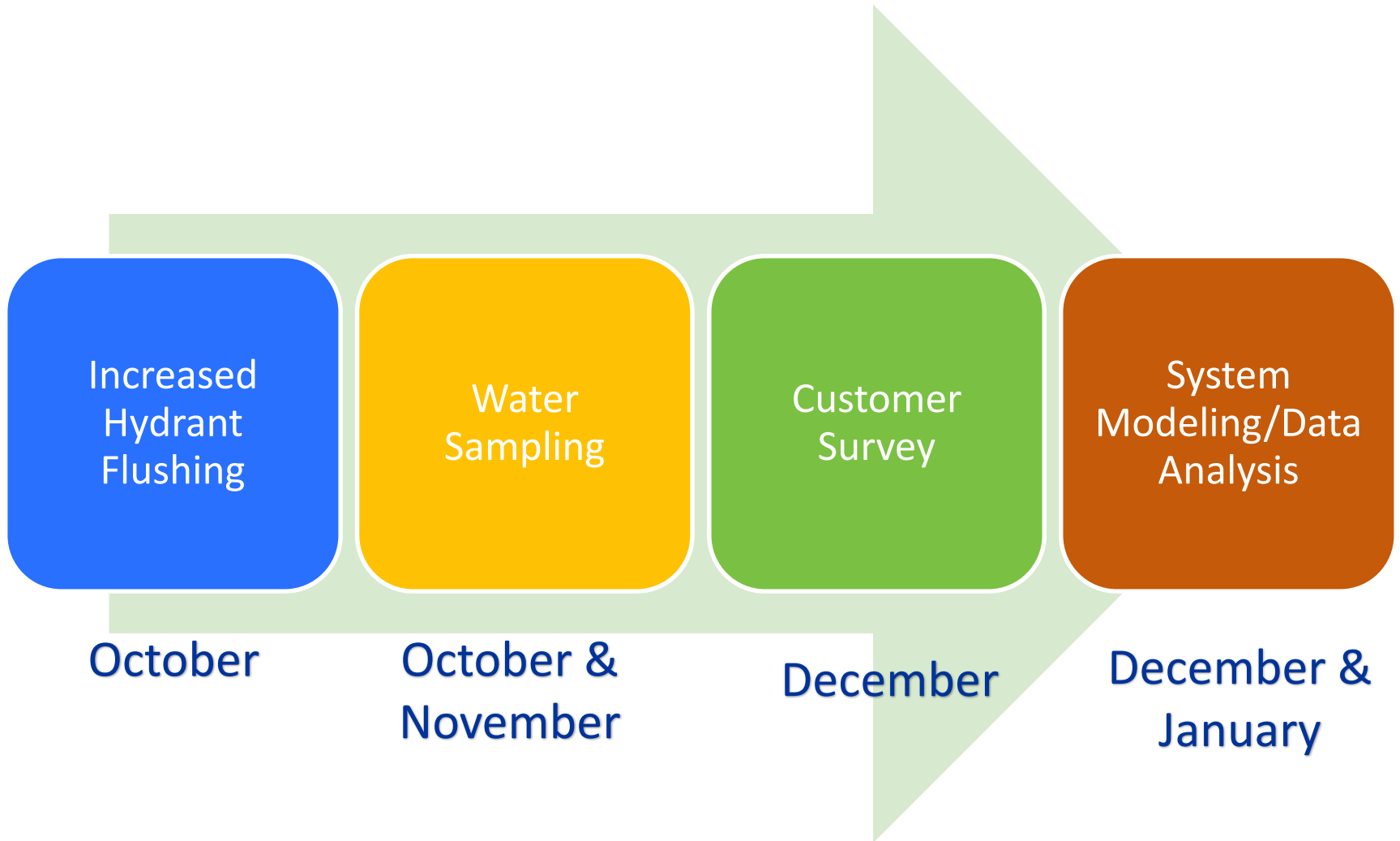
Scope of Study

- **Why** is Apple Hill more affected by “Dirty Water” than other neighborhoods?
- What is the **extent** of the problem?
- How can LCWD **alleviate** the problem?
- Why is **iron and manganese** in my water / should I be concerned?



Apple Hill Neighborhood Study

Four Elements of Study



Hydrant Flushing

Alleviating the Problem

- Why do we Flush Water Mains?
- Increased frequency: annually \longrightarrow 2x annually
- What to do if your water is discolored



Customer Feedback Survey

Extent of Problem

- Survey was mailed to you earlier this week
- Please respond online if possible
- Wide-spread participation is crucial whether you have problem or don't!
- Questions on Survey

Welcome to the Apple Hill Neighborhood Water Quality Survey

Description:
The Lynnfield Center Water District (LCWD) is conducting a customer survey to assess water quality in the "Apple Hill" neighborhood of the water system. This survey is a component of a larger program to collect information about water quality in Apple Hill so that operational improvements in daily procedures can be studied and possibly implemented to improve water quality, all while long term capital programs continue to be designed, developed and ultimately funded for construction. Your participation is essential to the success of the program. The survey consists of 11 short questions about your tap water and should take about 5 minutes to complete although you are welcome to add as much information as desired.

Is your household served by municipal water from Lynnfield Center Water District (LCWD)?*
Please choose from the drop down below.

-Please Select-

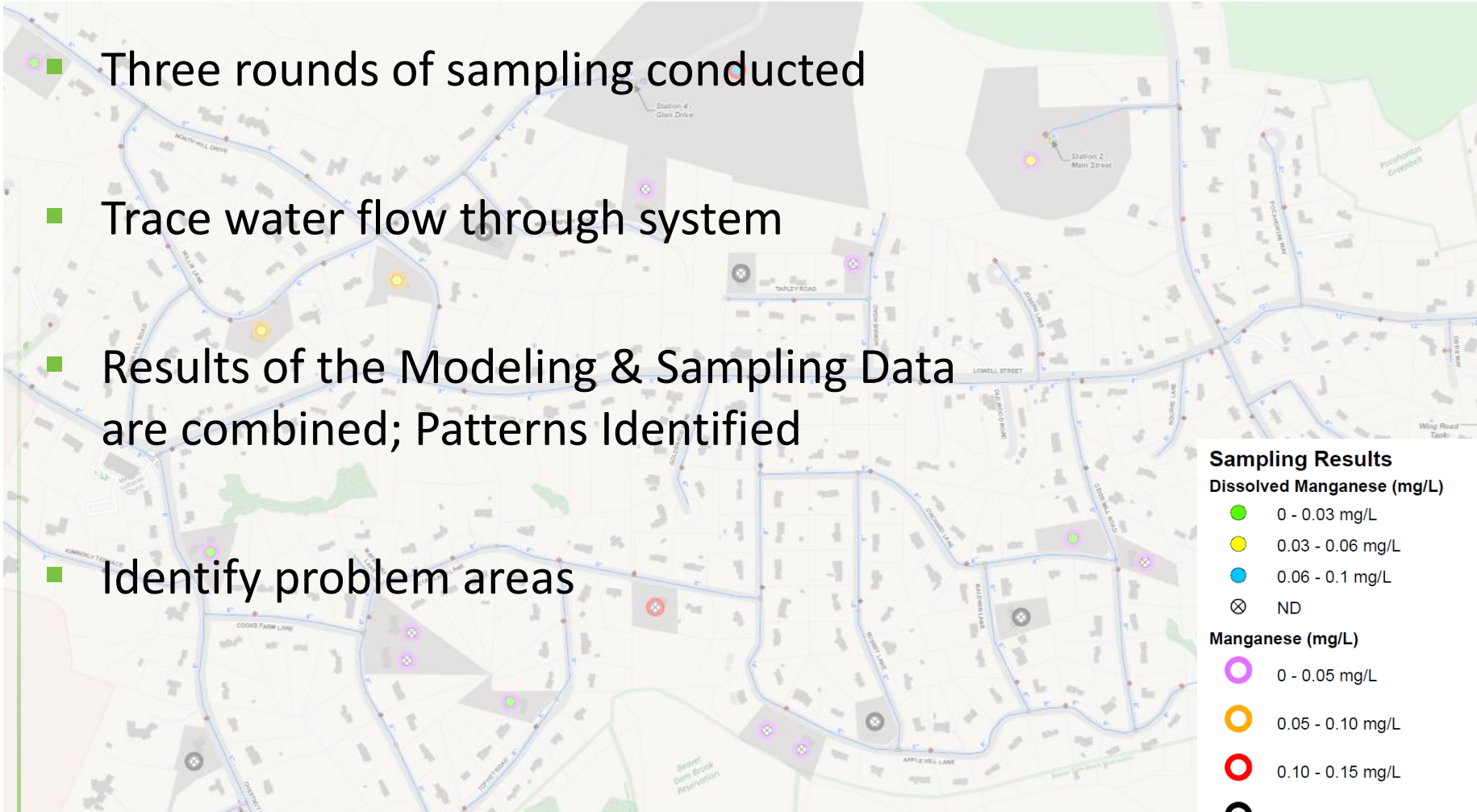


**Point Smartphone
camera at me!**



Water Sampling and Hydraulic Modeling

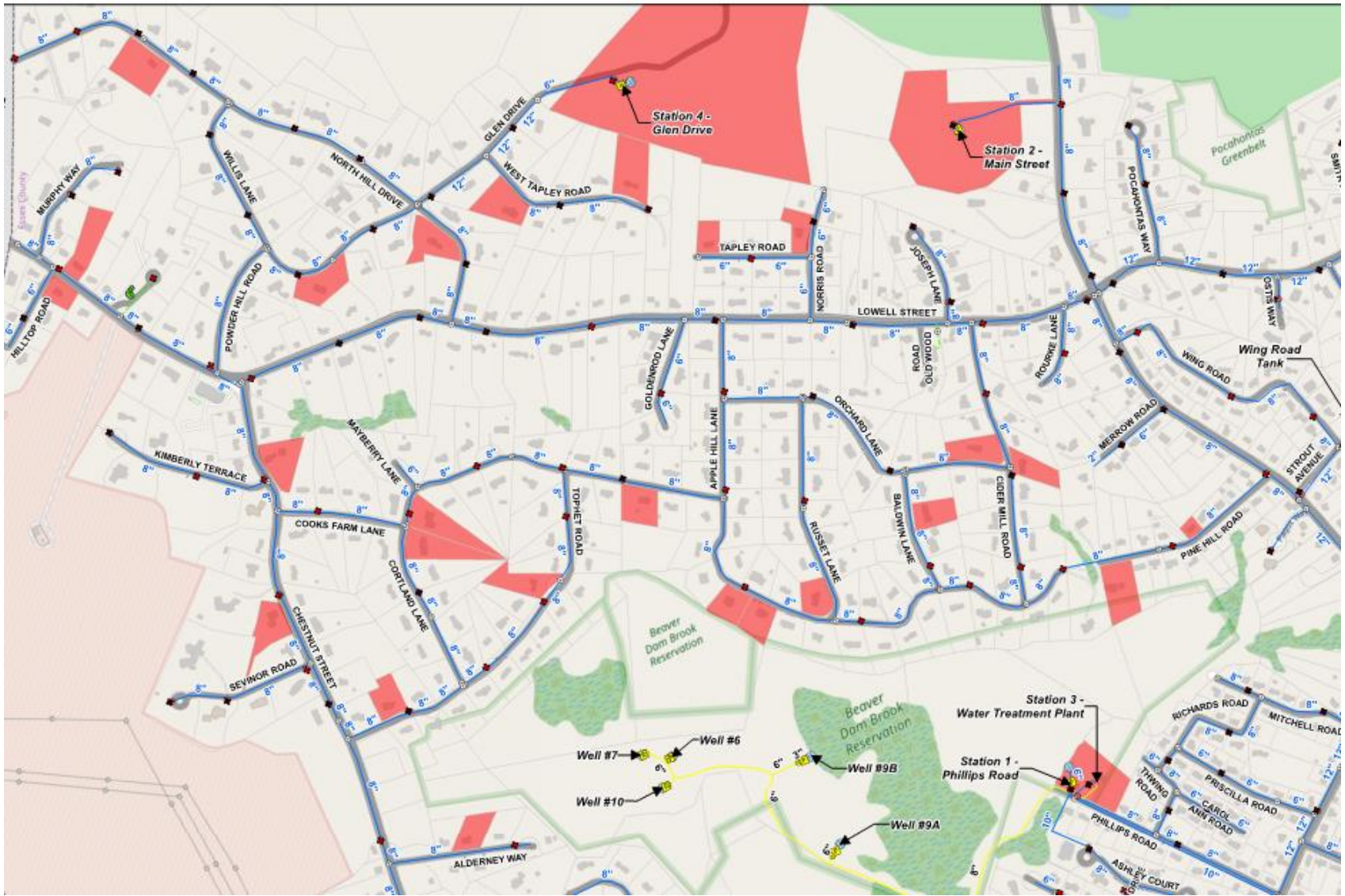
- Three rounds of sampling conducted
- Trace water flow through system
- Results of the Modeling & Sampling Data are combined; Patterns Identified
- Identify problem areas



Apple Hill Neighborhood Study

- What do the regulations mean?
 - Primary = health based, required to meet
 - Secondary = aesthetics (staining, odor, etc.), not required to meet
- Iron and manganese = Secondary
 - Iron = 0.3 ppm
 - Manganese = 0.05 ppm
- Manganese health advisory (not regulation)
 - 0.3 ppm lifetime exposure for adults
 - 1.0 ppm “acute” exposure
 - LCWD manganese levels < 0.3 ppm

Apple Hill Water Quality Study



Apple Hill Neighborhood Study

- Why these parameters?
 - Total and dissolved iron and manganese
 - Dissolved oxygen, chlorine residual
 - Temperature, pH, color
- How will the data be analyzed?
 - Water sampling results
 - Hydraulic modeling
- Goals
 - Confirm water quality meets standards
 - Look for patterns
 - Samples collected pre and post flushing



Short Term Solutions

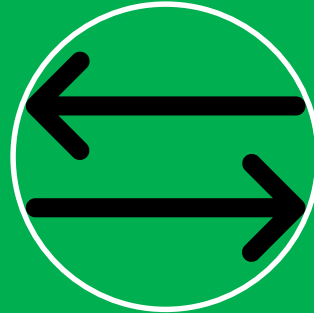
- Continue hydrant flushing 2X per year
- Low cost interim improvements
 - Promote blending or prevent flow reversal by operating valves



Big Picture and Long Term Solutions



All Water from
LCWD



Improvements to
LCWD and
Supplemental
Water from MWRA



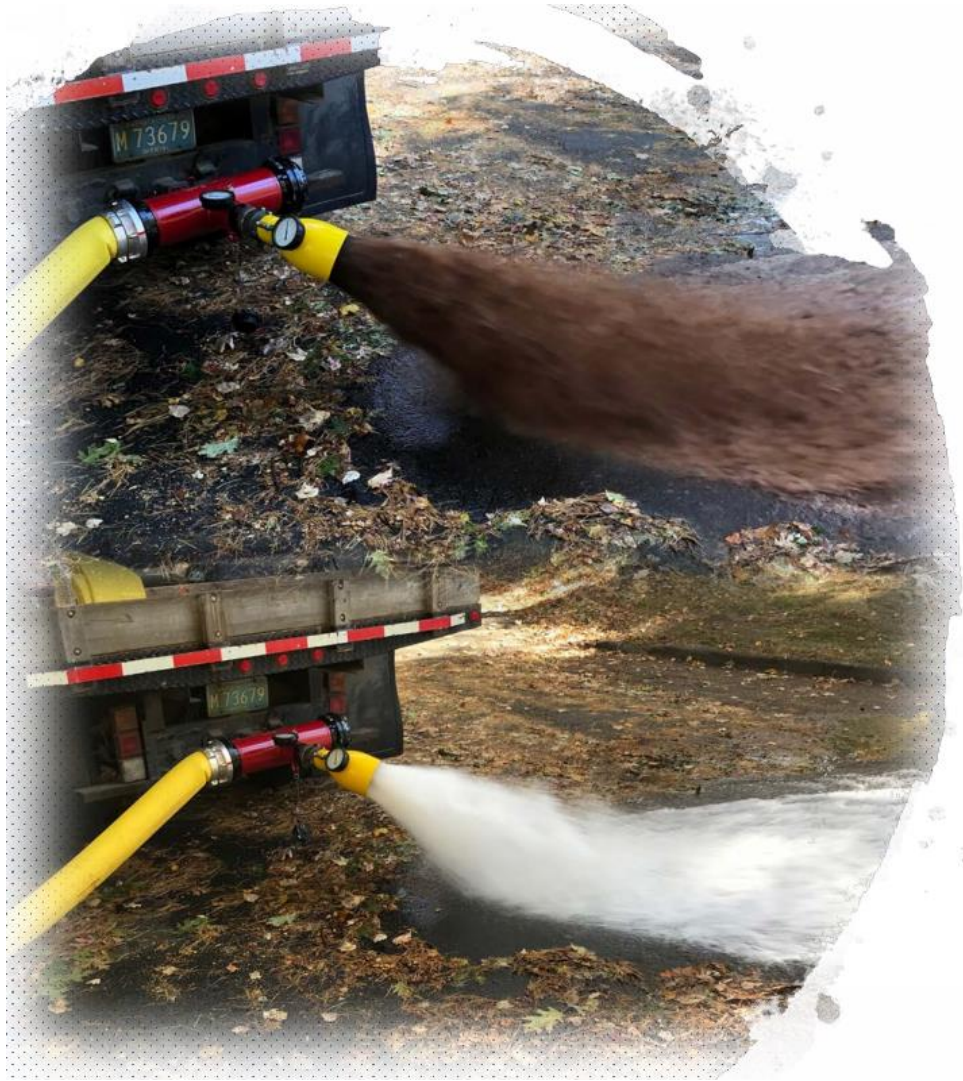
All Water from
MWRA



Big Picture and Long Term Solutions

- Study hydraulics of **receiving MWRA water** through the Lynnfield Water District
- Revisit studies for **water treatment options** at Glen Drive
- Develop plan to **investigate new wells** at existing sites (*especially sites in the less restricted North Coastal Basin where the District is not pumping to our permitted capacity*)
- Identify **deferred preventative maintenance** concerns, items and projects on existing infrastructure

Questions?



Point Smartphone
camera at me!



**Remember to
take the Survey!**