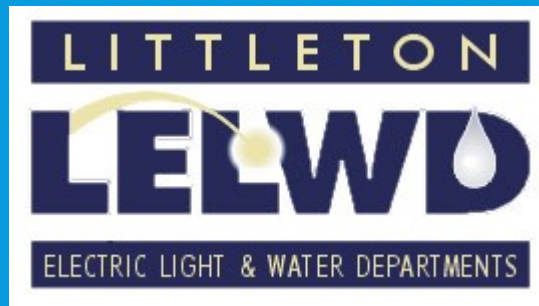


# THE LONG ROAD TO RESILIENCE

Corey Godfrey

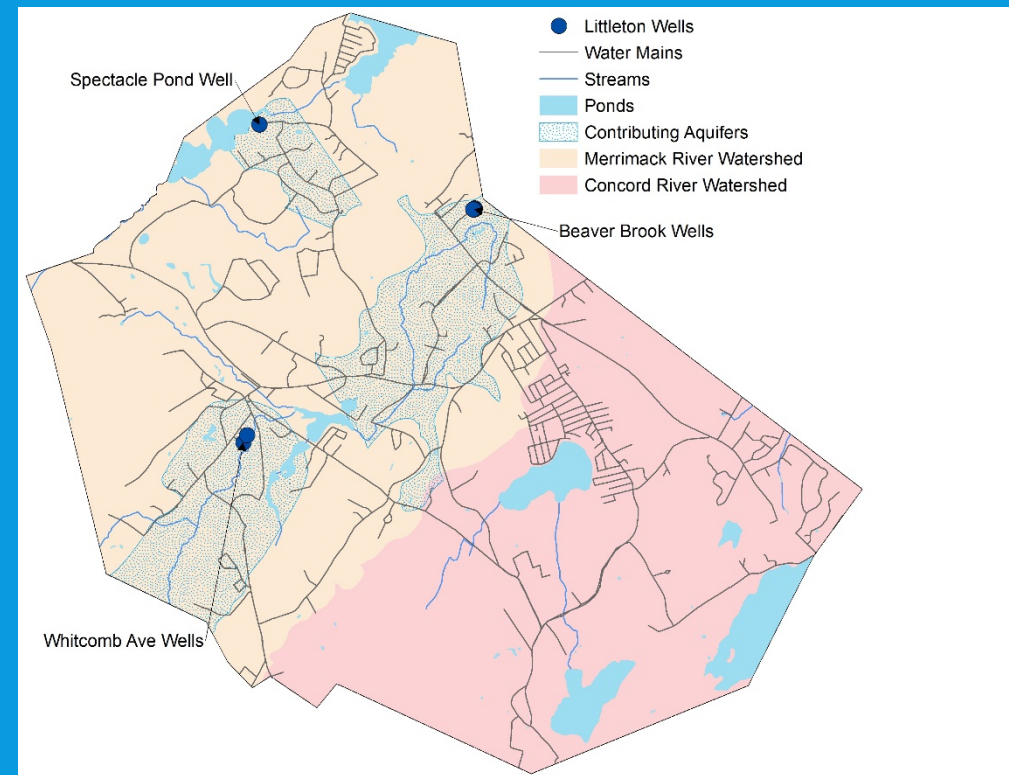
Superintendent

Littleton Water Department



# LITTLETON WATER SYSTEM AT A GLANCE

- 1 Million Gallons per Day (MGD) average
- 1.8 MGD peak during drought of 2016
- 63% residential, 36% commercial
- Population served = 9,046
- 3 wellfields
  - Beaver Brook
  - Whitcomb Ave
  - Spectacle Pond
- 80 miles of water main
- 3 storage tanks



# LITTLETON WATER SYSTEM CHALLENGES

- Cedar Hill Storage Tank in desperate need of rehabilitation
- Lost largest customer (VeryFine/SunnyD) in 2015 (20% of revenue)
- Even with loss of largest customer, peak demand exceeded peak production capacity in drought of 2016
- Spectacle Pond Treatment Plant is 23 years old and cannot meet iron or manganese SMCLs
- Whitcomb Ave wellfield is antiquated and unfiltered
- Unaccounted for Water >10%
- Large number of employees retiring all at once



# PLANNING A PATH TO RESILIENCY

- Implement Full Cost Recovery
- Implement Asset Management
- Water System Capacity Analysis
  - New Source Development
  - Rehabilitate existing sources and pumping facilities
- Water Conservation and Drought Management
  - AWWA M36 Water Audit and Water Loss Component Analysis



# PRIORITY PROJECTS IDENTIFIED

- Replacement of Whitcomb Ave wells
- Complete rehab of Whitcomb Ave Pumping Facility
- Design of new Whitcomb Ave Water Treatment Plant
- Replacement of 0.5 MG Cedar Hill standpipe with elevated storage tank
- Complete Rehab of Newtown Hill Storage Tank
- Development of a 0.5 MGD bedrock well source

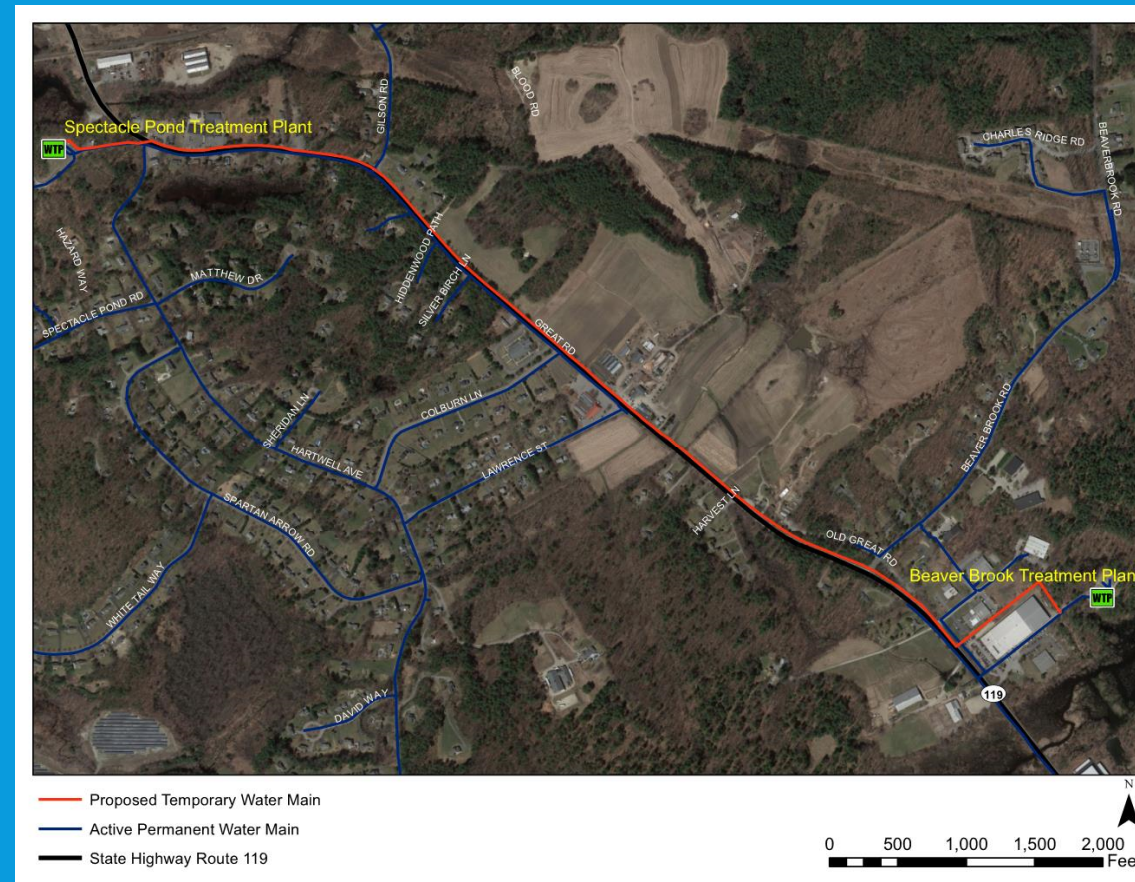
# ROADBLOCKS TO RESILIENCY

- Residential and commercial growth in Littleton has been increasing exponentially
- VeryFine/SunnyD facility purchased by Pepsi bottler in 2016
- New source development aggressively opposed by another Town
- Dispute over water rights to a potential surface water supply
  - Supreme Judicial Court
- Whitcomb Ave Water Treatment Plant aggressively opposed by small group of abutters
  - Superior Court
  - Legislative action
- PFAS found in Spectacle Pond well in 2019

# PFAS CONTAMINATION OF SPECTACLE POND WELL



# INITIAL RESPONSE TO PFAS CONTAMINATION

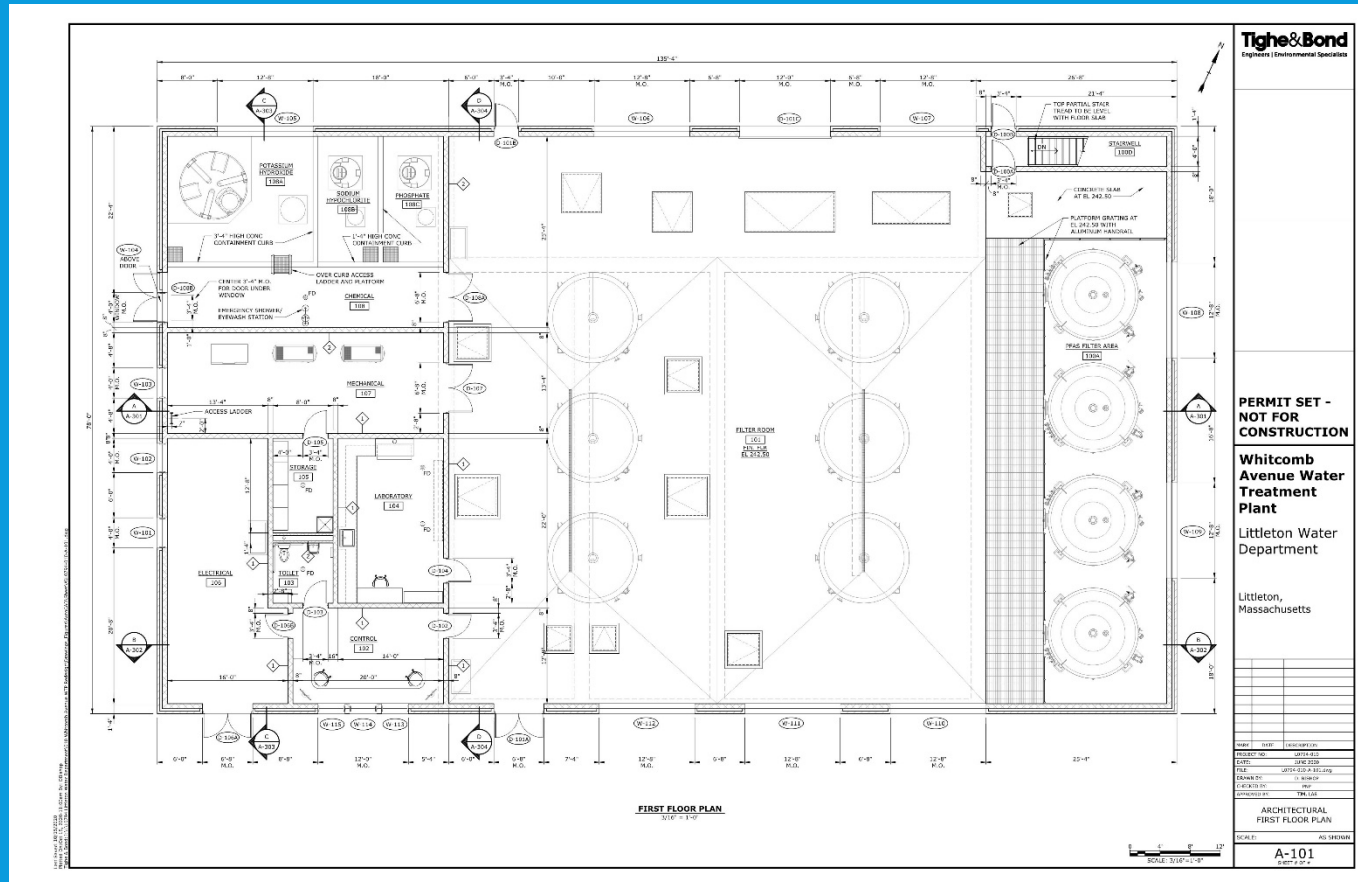




# TRANSMISSION MAIN FROM SPECTACLE POND TO WHITCOMB AVE



# BIOLOGICAL FE & MN AND GAC FOR PFAS

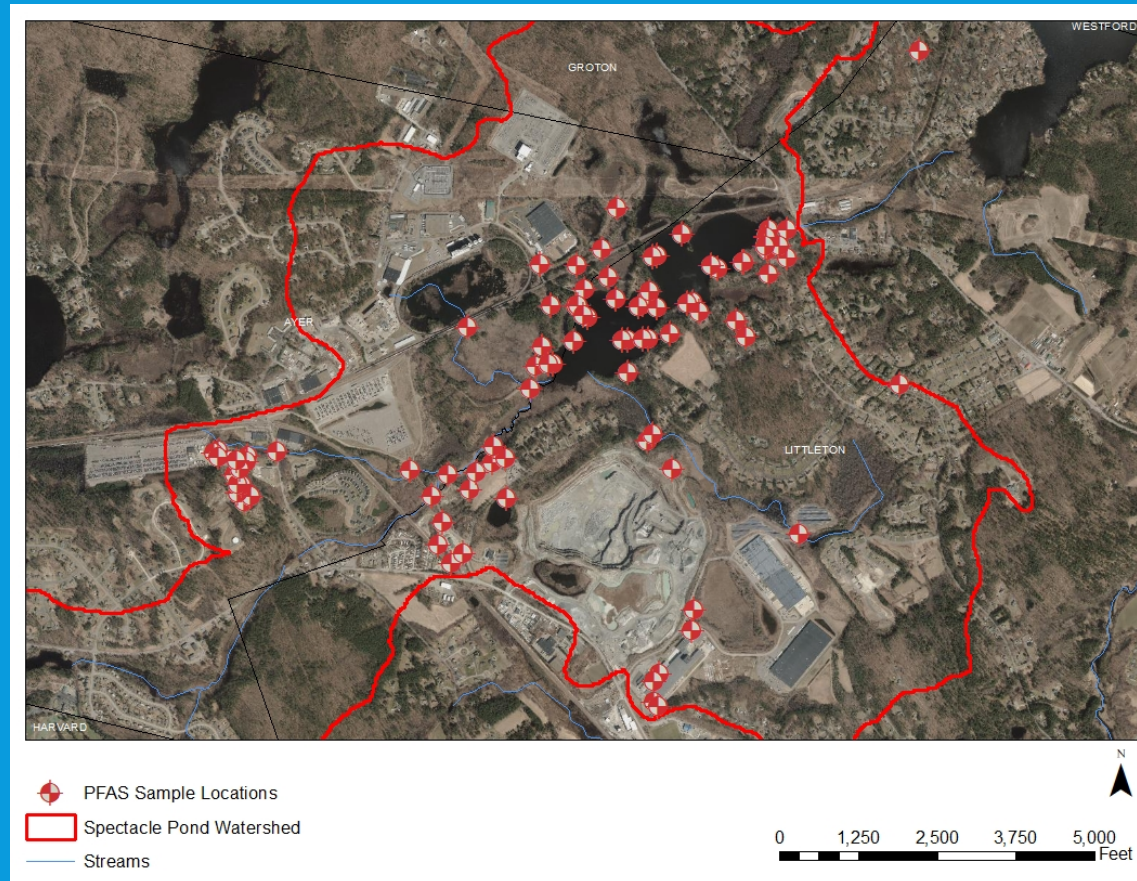


# SOURCE WATER PROTECTION AND PFAS

Water commissioners have authority under *Massachusetts General Laws 111 sec. 173A and 173B* to examine and protect water supplies and sources of supply and to take appropriate action to protect these. This includes watershed protection. Water commissioners must recognize this responsibility and provide whatever resources are required to operate the system in compliance with MassDEP regulations. Thus, the water commissioners or their designees are directly responsible for taking action as required, to protect source water quality.

<https://www.mass.gov/service-details/water-commissioners-and-local-boards-roles-and-responsibilities-for-drinking-water>

# SOURCE WATER PROTECTION AND PFAS



# SUMMARY

- Resilience is a worthy goal
- It may take your entire career to achieve it
- There will be many roadblocks along the way
  - Deteriorating infrastructure
  - The need to significantly increase water rates
  - Staff turnover and loss of institutional knowledge
  - Emerging contaminants
  - Water wars
  - NIMBYs
- Strive for resilience anyways

# THANK YOU

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