

Durham Meadows Superfund Site Durham, CT

Public hearing regarding proposed
groundwater ordinance

December 16, 2014, 7:00 PM
Durham Public Library

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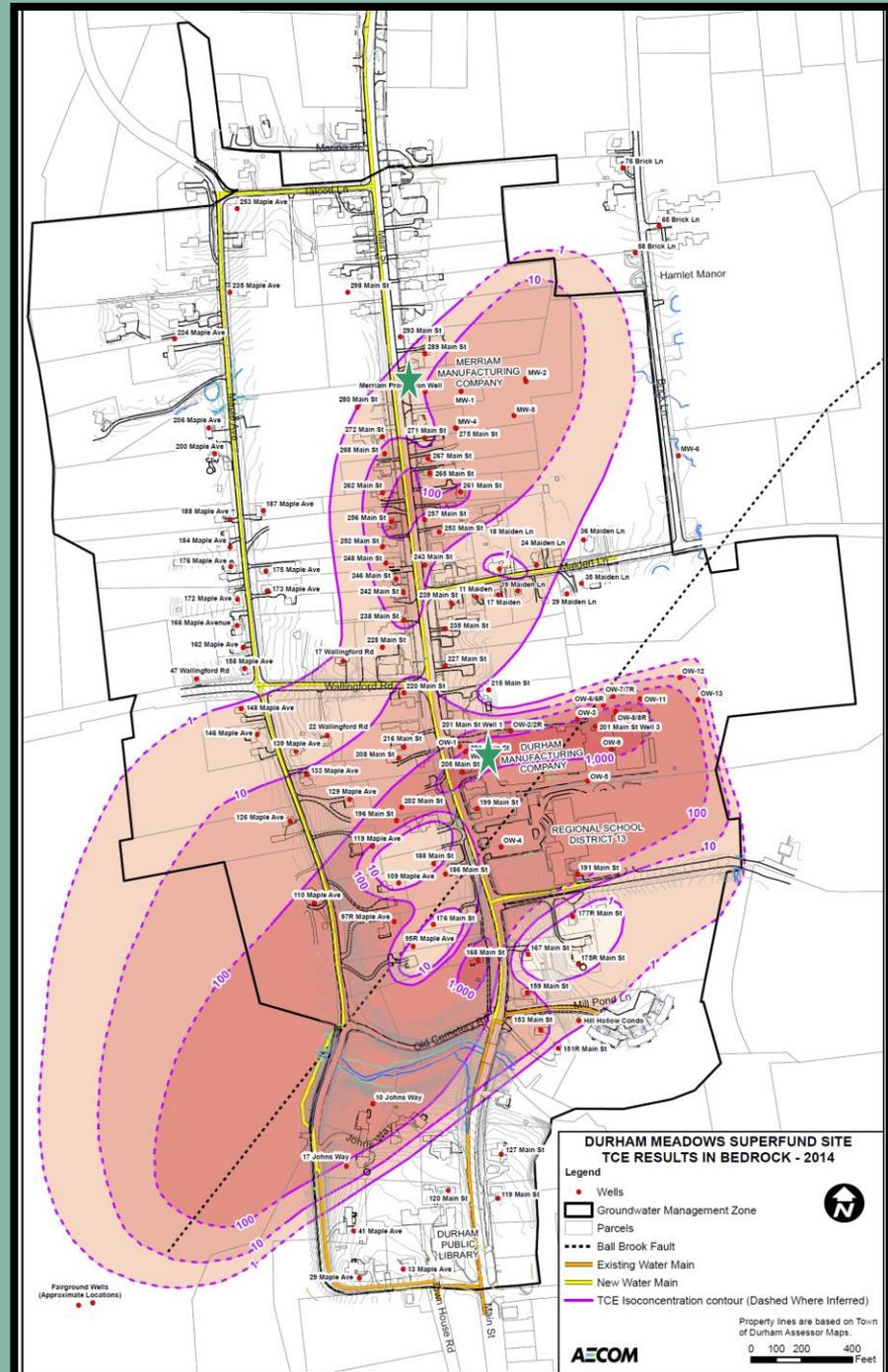
Tonight's agenda

- ◆ Overall status of Durham Meadows Superfund Site
 - Merriam Manufacturing Company
 - Durham Manufacturing Company
 - Site-wide Area of Groundwater Contamination
 - ◆ Water extension (water line) remedy
 - ◆ Proposed Ordinance – need & rationale
 - ◆ Remarks from CT DEEP and others
 - ◆ Q&A/Public Hearing
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Durham Meadows Superfund Site

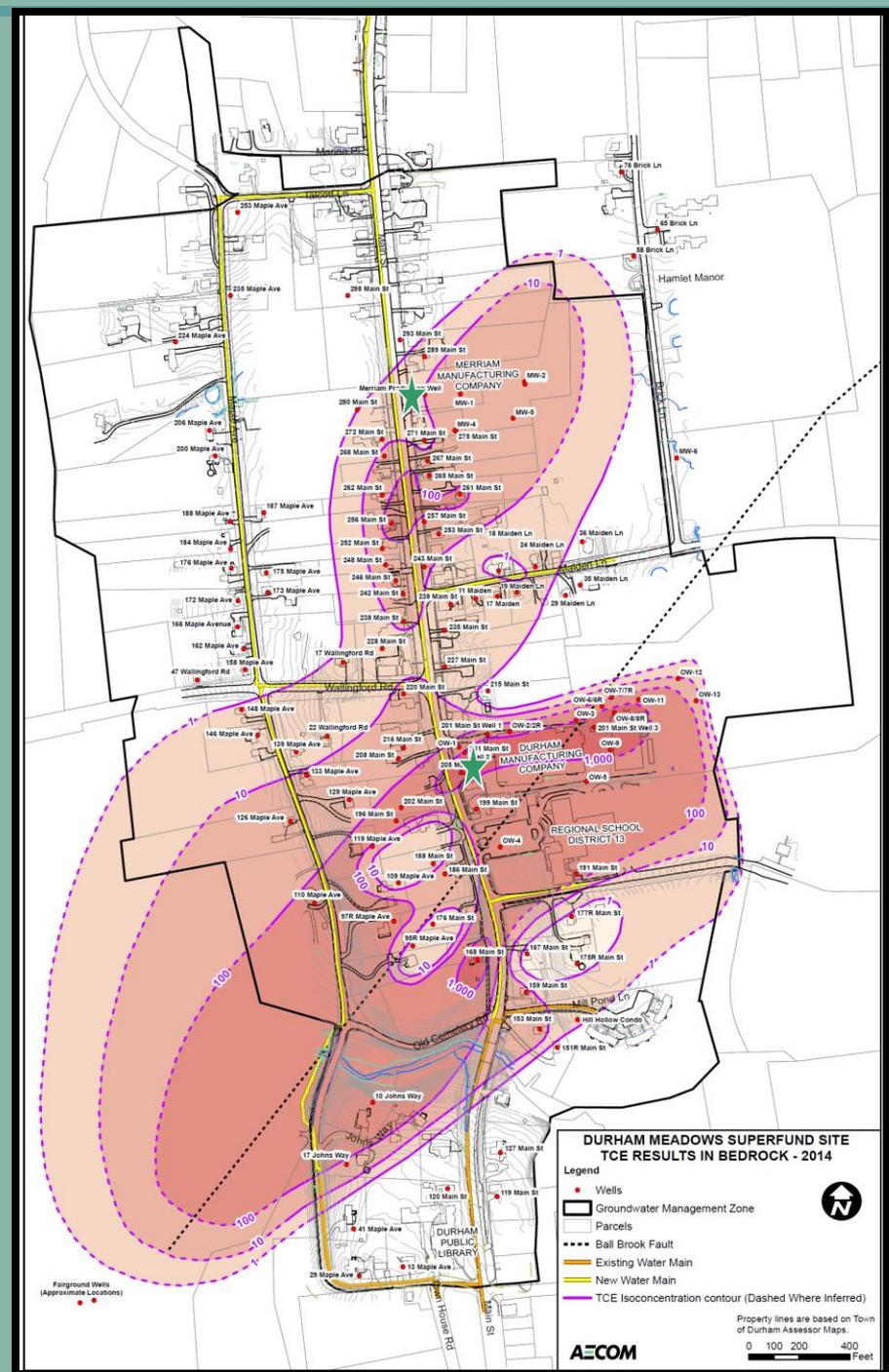
- ◆ Merriam Manufacturing Company Study Area
 - Includes parcels at 281 Main Street and 275 Main Street
 - Soil excavation & off-site disposal cleanup is complete, cleanup to residential standards
 - Requires Environmental Land Use Restriction
 - Cleanup allows for reuse, properties currently for sale

- ◆ Durham Manufacturing Company Study Area
 - 201 Main Street
 - Depressurize portion of manufacturing building to address potential vapor intrusion risk
 - Soil excavation & off-site disposal remedy currently being designed
 - Requires Environmental Land Use Restriction



Site-wide Groundwater Contamination

- ◆ 50 wells, serving 54 locations (mostly residential homes), have contamination and are on filters
- ◆ Of the 50 wells, 10 locations also receiving bottled water for drinking water use due to 1,4-dioxane contamination
- ◆ 17 additional locations are regularly monitored, no filter yet
- ◆ Cleanup of groundwater is technically impracticable



Bedrock groundwater contaminants

Current cancer risk ranges from 2×10^{-4} to 3×10^{-2}

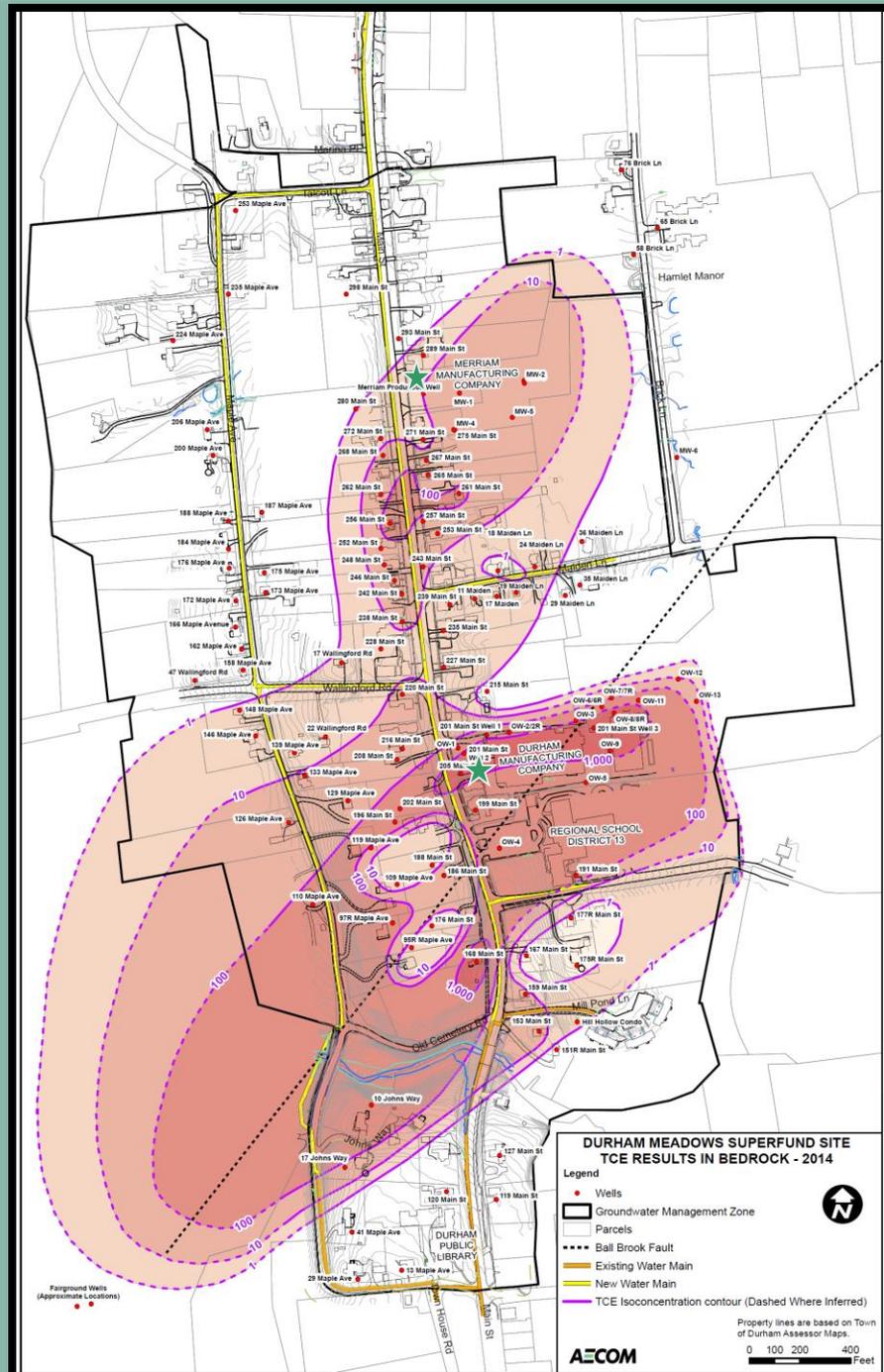
Target organ Hazard Index (HI) ranges from 2 to 900

Future risks are 4×10^{-2} and HI of 900

Contaminant	Maximum detect (ppb)	Drinking water limit (ppb)
TCE	2500	1 (CT action level)
PCE	210	5
Vinyl chloride	18	2
Cis-1,2-DCE	640	70
1,4-dioxane	58	3 (CT action level)

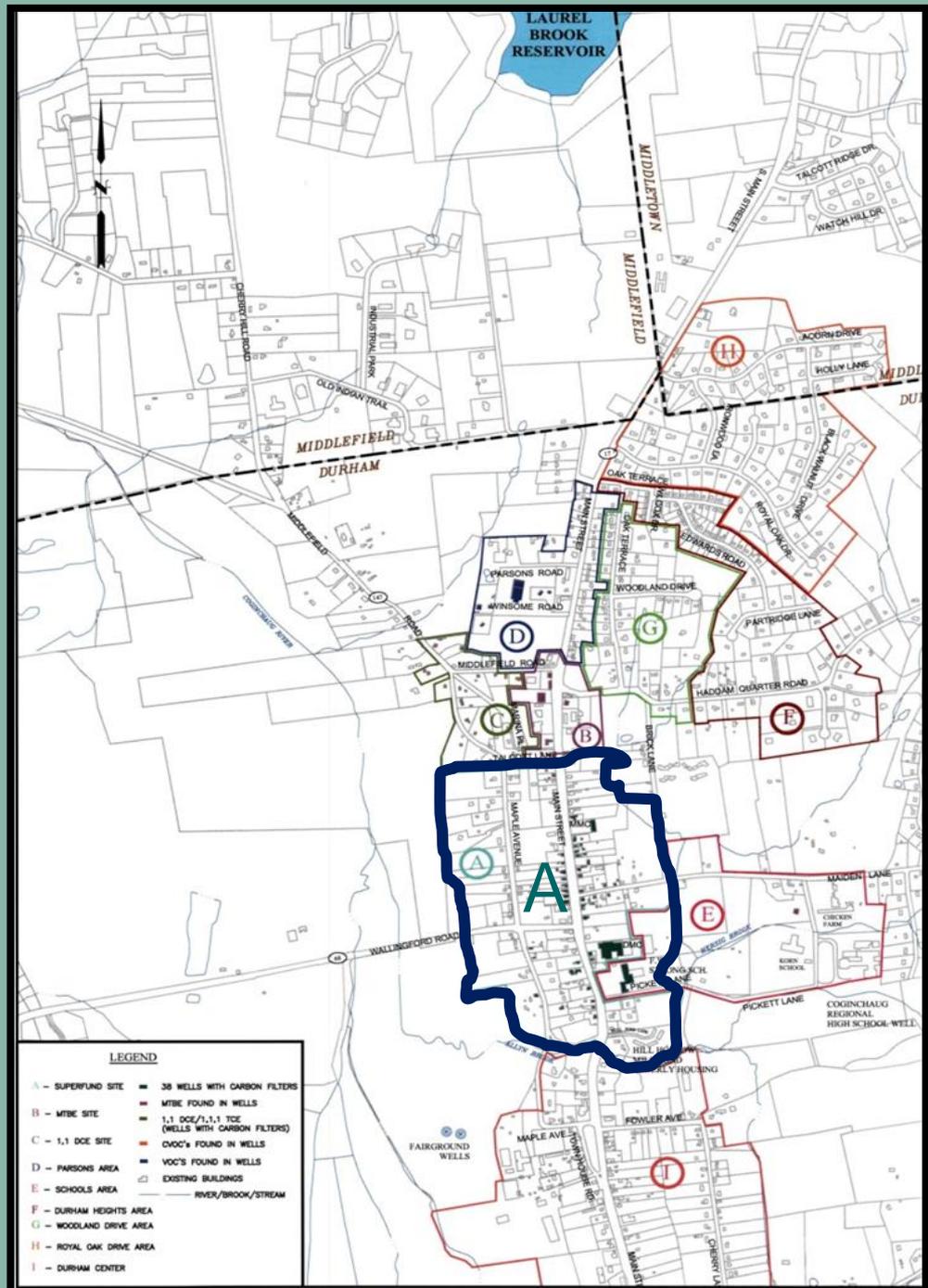
Cleanup Plan for Groundwater Contamination

- ◆ Selected remedy to address risk to human health:
 - Interim action = continue filtration/monitoring
 - Extension of water supply from the City of Middletown to wells currently affected & buffer zone of wells near the contamination (approx. 110 wells total)
 - Site-wide monitoring network after water main extension
 - Groundwater use restrictions within service area



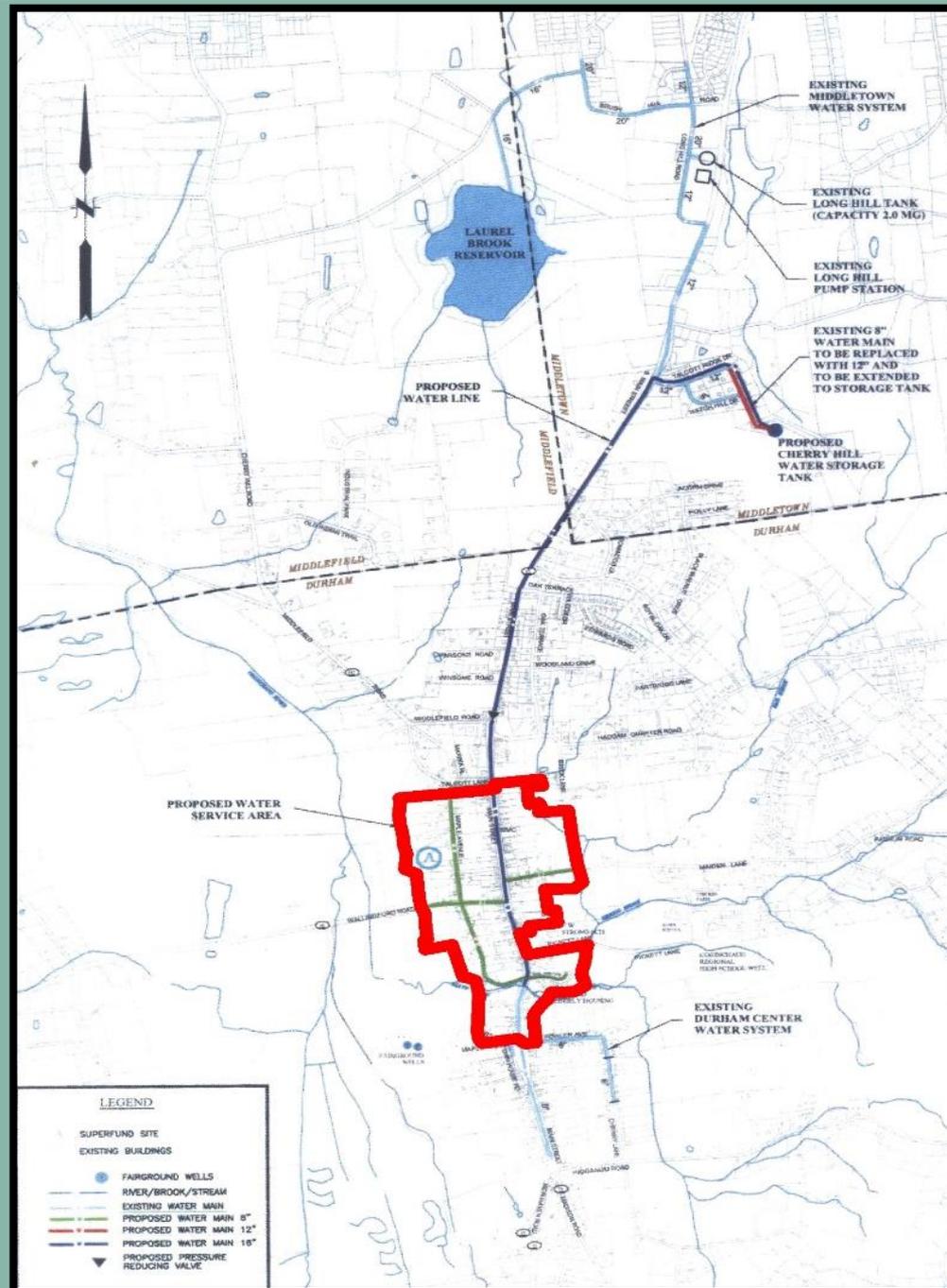
(Groundwater contamination)

- ◆ Broader study also identified 8 other areas with groundwater quality issues (not part of Superfund site) which could benefit from public water
- ◆ Area A is the Superfund site.



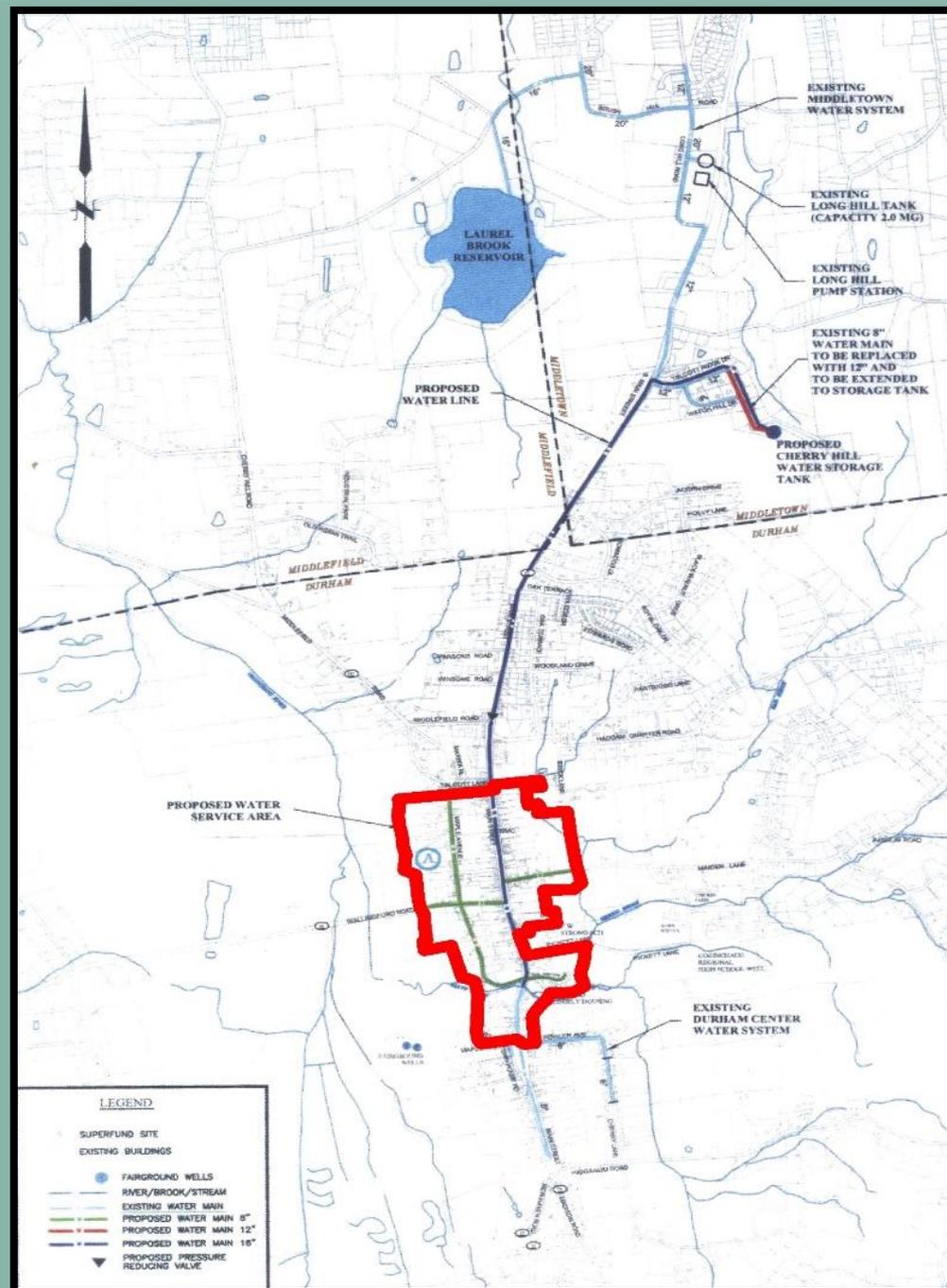
Water line design

- ◆ Interconnection of Middletown water supply to the Durham Center Water System (DCWS)
 - Disconnect Fairgrounds Wells from DCWS
- ◆ Abandonment of all private wells
- ◆ Ordinance to restrict groundwater use within Superfund site area
- ◆ No sewer



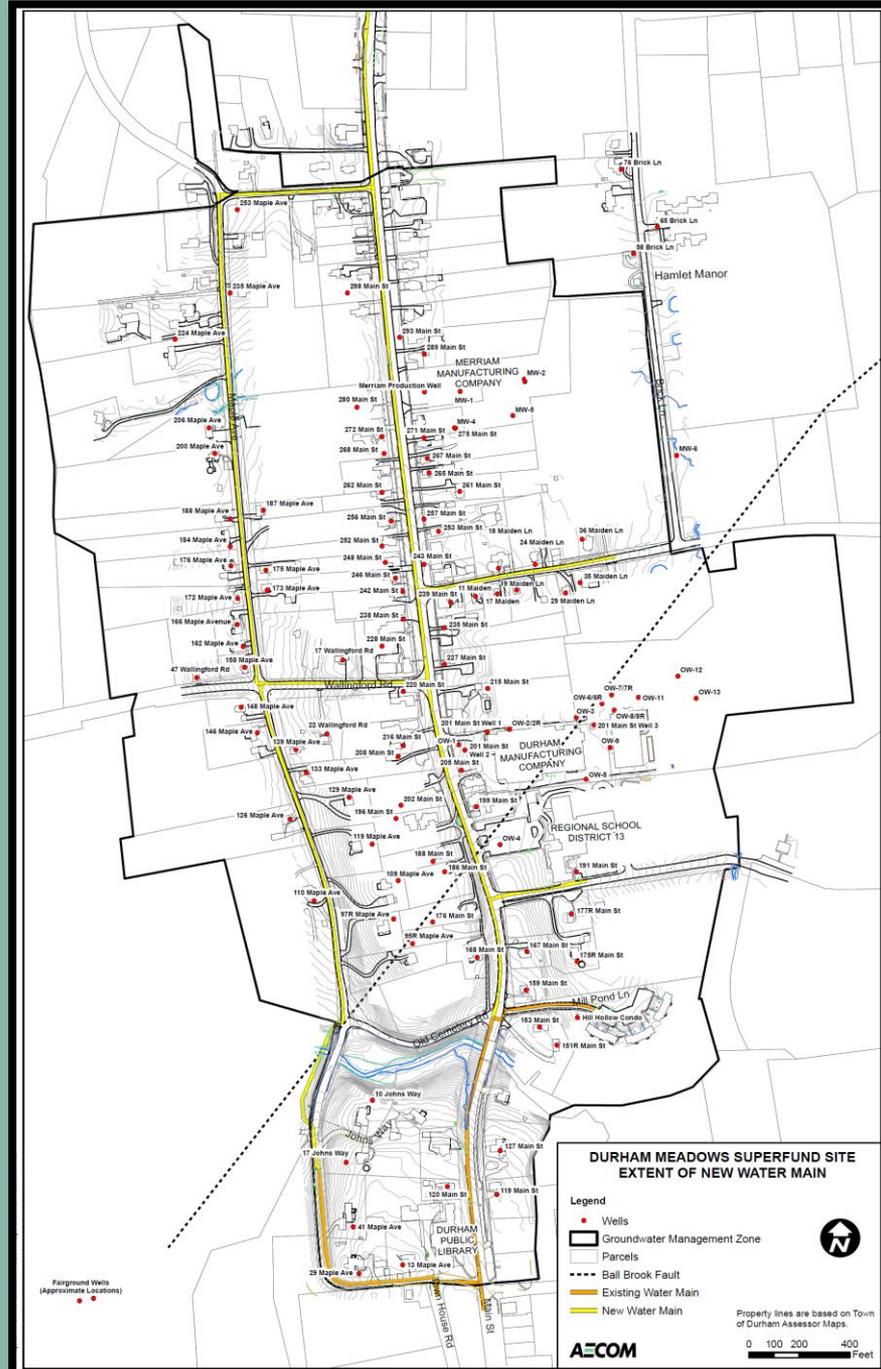
Water line design

- ◆ Concrete water storage tank (in Middletown) and access road
 - 1 million gallon tank to provide pressure and storage
- ◆ Pump station electrical improvements
- ◆ Water main (sized to allow flow to all areas)
 - Approx. 25,000 linear feet of water main
- ◆ Hydrants for fire protection
 - Approx. 47 hydrants



Water line design

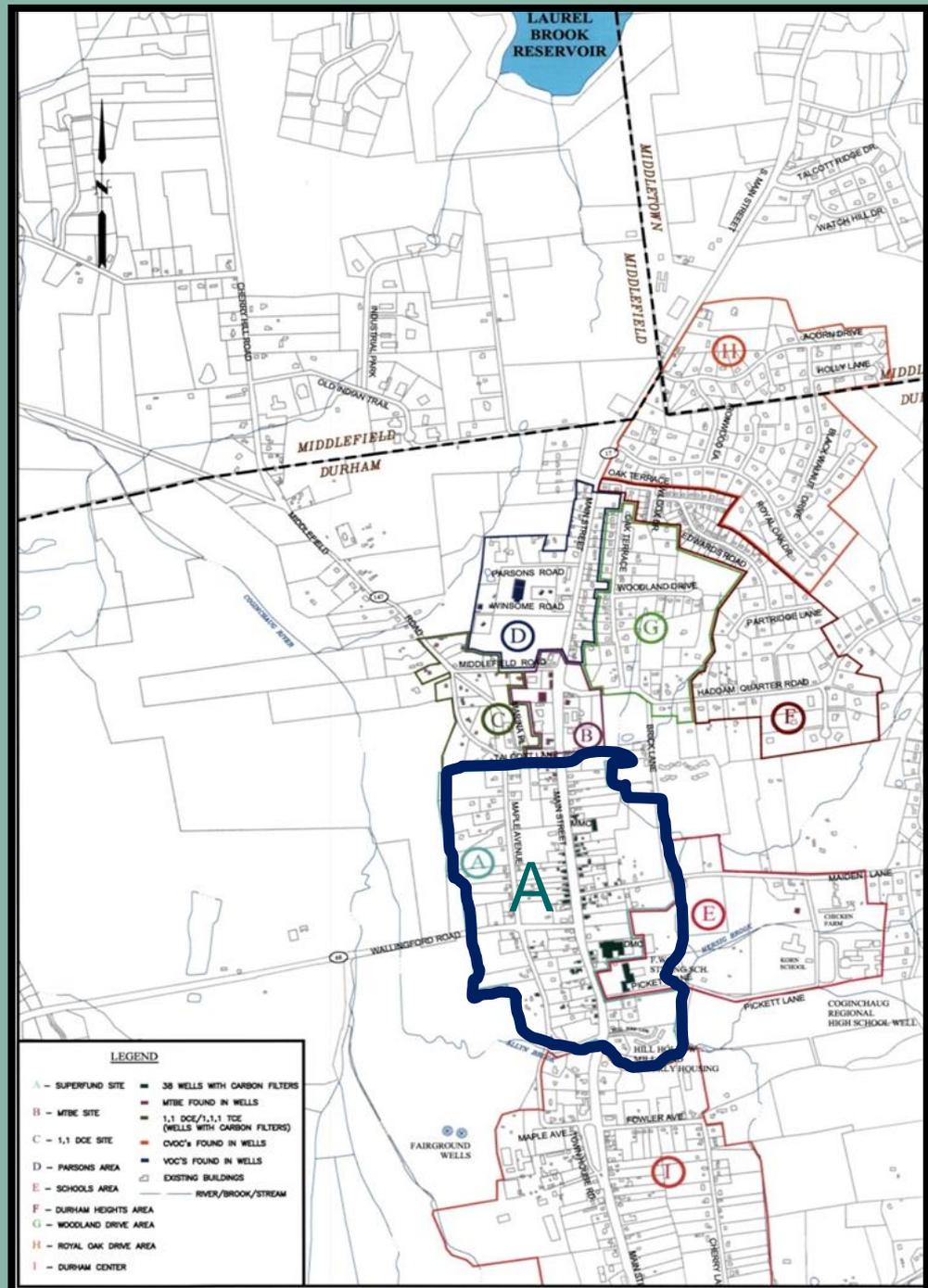
- ◆ Connection to all locations within Superfund area (including curb boxes to vacant lots)
- ◆ Hookup of limited number of homes south of Allyn Brook to water main
- ◆ Approx. 105 water line connections
- ◆ Curb box to property line at all parcels along water line route outside of Superfund area
- ◆ Stub lines at future street connection points to areas outside of Superfund area



Water line design

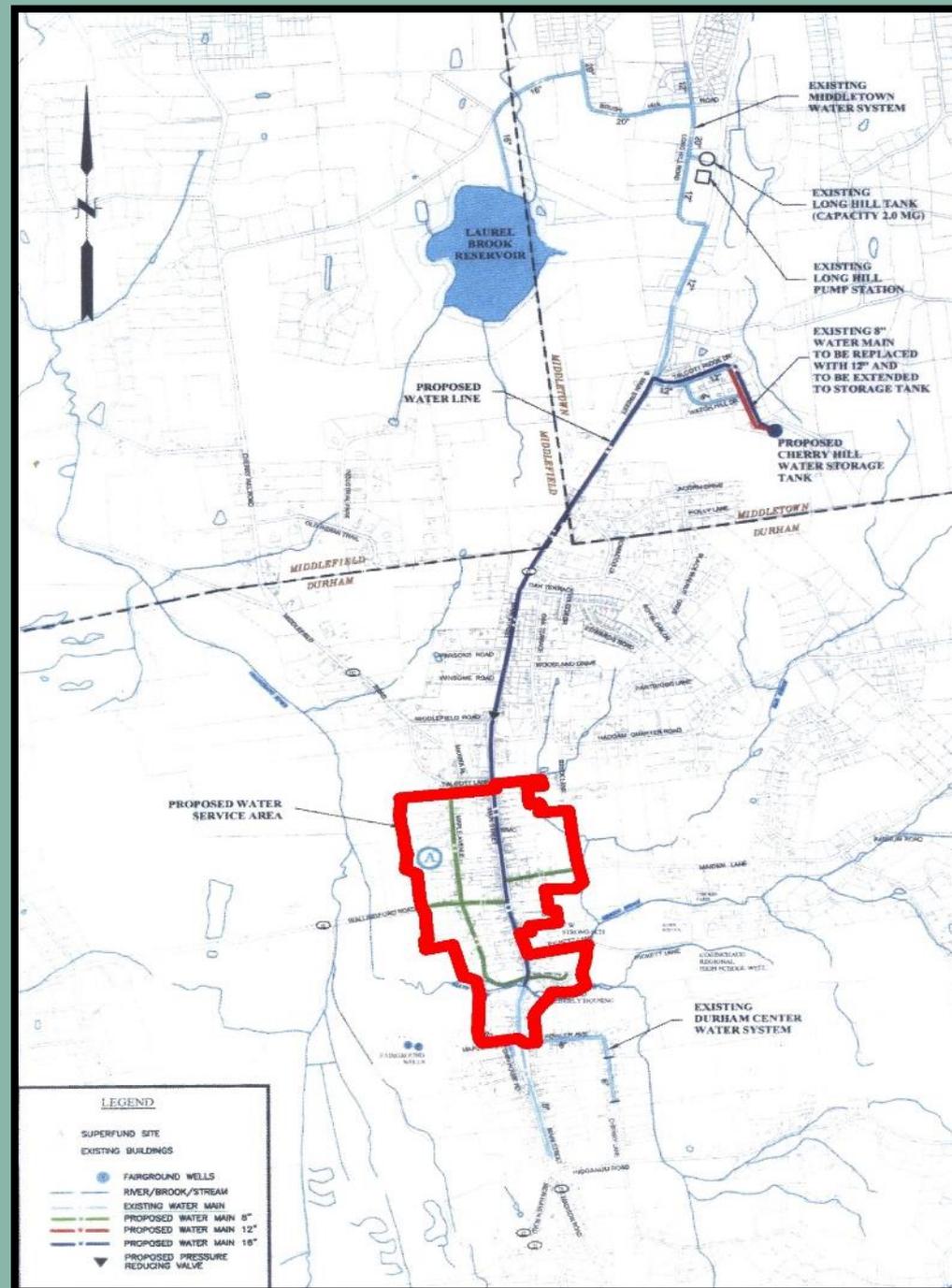
- Water main design est. complete in early 2015
 - Superfund site design includes service connections to homes/structures and well abandonment within Area A only
 - State/Town may conduct design for connection to other pollution-related areas + schools once Superfund area water line is complete
 - Design will provide capacity to serve all other areas

Estimated cost is \$20 million



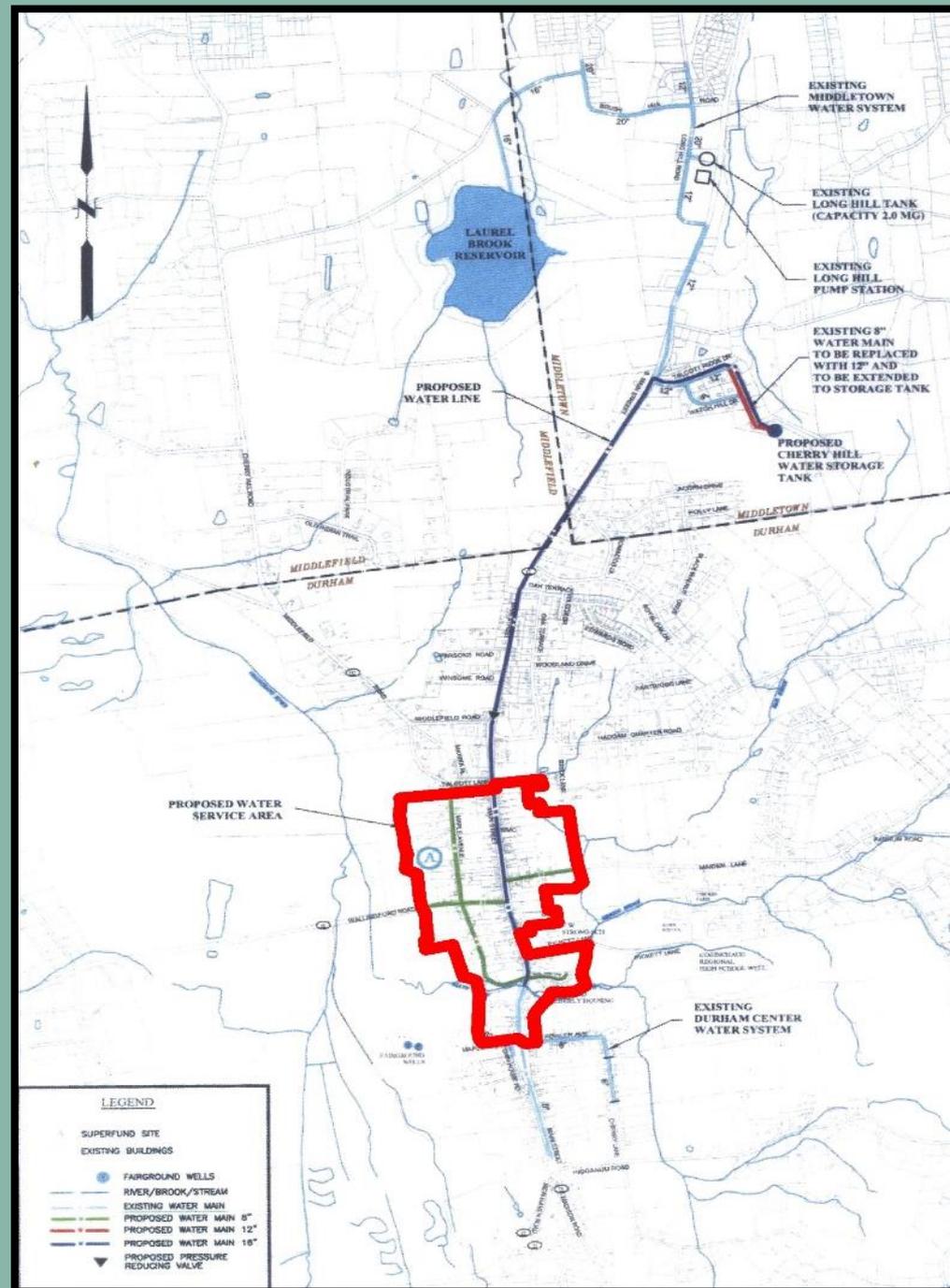
Who pays for water line for Superfund Site?

- ◆ EPA funds 90% of construction costs, CT funds 10%
 - Water main, storage tank, pump station improvements
 - Fire protection provisions
 - Connection of public water to each home/structure
 - Abandonment of wells
- ◆ Property owner pays for water use



Timing

- ◆ EPA funding request has been made for FY 2015, receive funding = ?
 - Requires Superfund State Contract between EPA and CT
 - Construction expected to take at least two field seasons
 - Administrative requirements, bid documents, etc.
- ◆ City of Middletown and/or Town of Durham will provide all O&M and billing



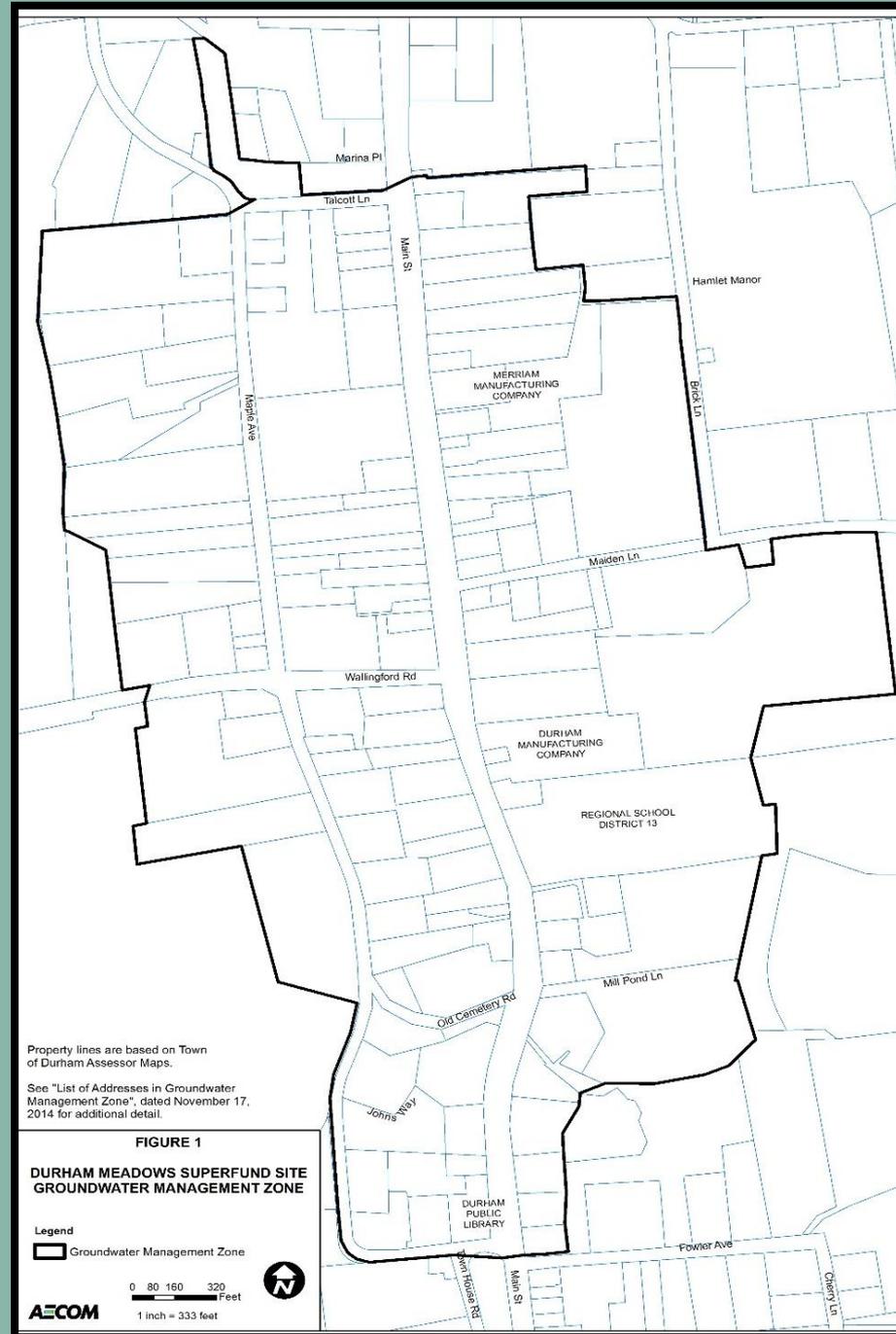
Proposed Ordinance

◆ Abandonment of private wells

- EPA/CT to pay for public water hookup and abandonment of private wells – BOTH are required in order to receive hookup

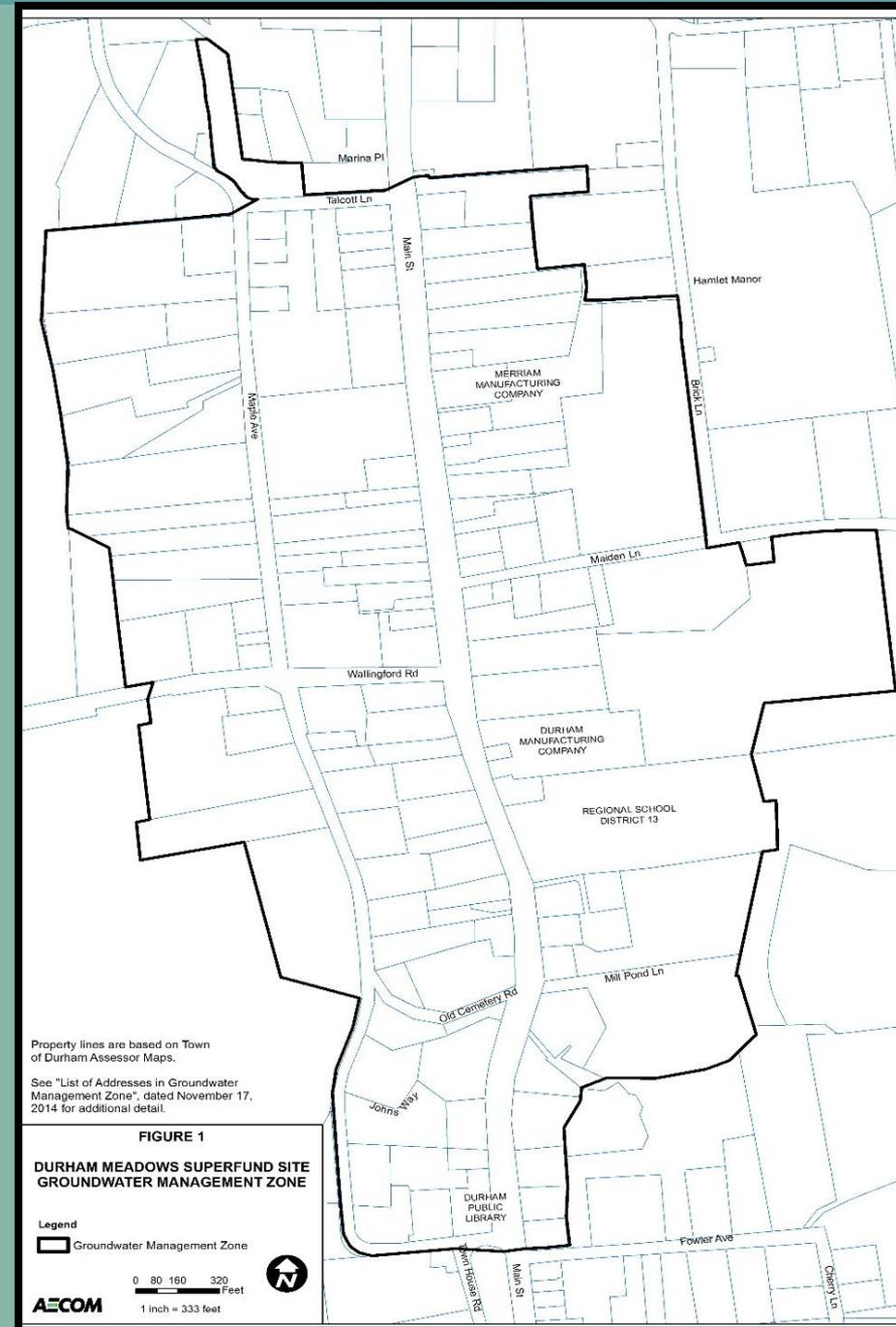
◆ Why is well abandonment needed?

- To ensure protection of public health
- To address cross-connection risk
- To ensure pumping doesn't cause plume to migrate further



(Proposed Ordinance)

- ◆ Prohibits use of groundwater within service area
- ◆ Two exceptions with many conditions
 - One industrial process well, restrictions on well use subject to an Environmental Land Use Restriction as part of EPA settlement
 - One well, possible continued agricultural use with filtration requirements
- ◆ Town levies penalties for using groundwater



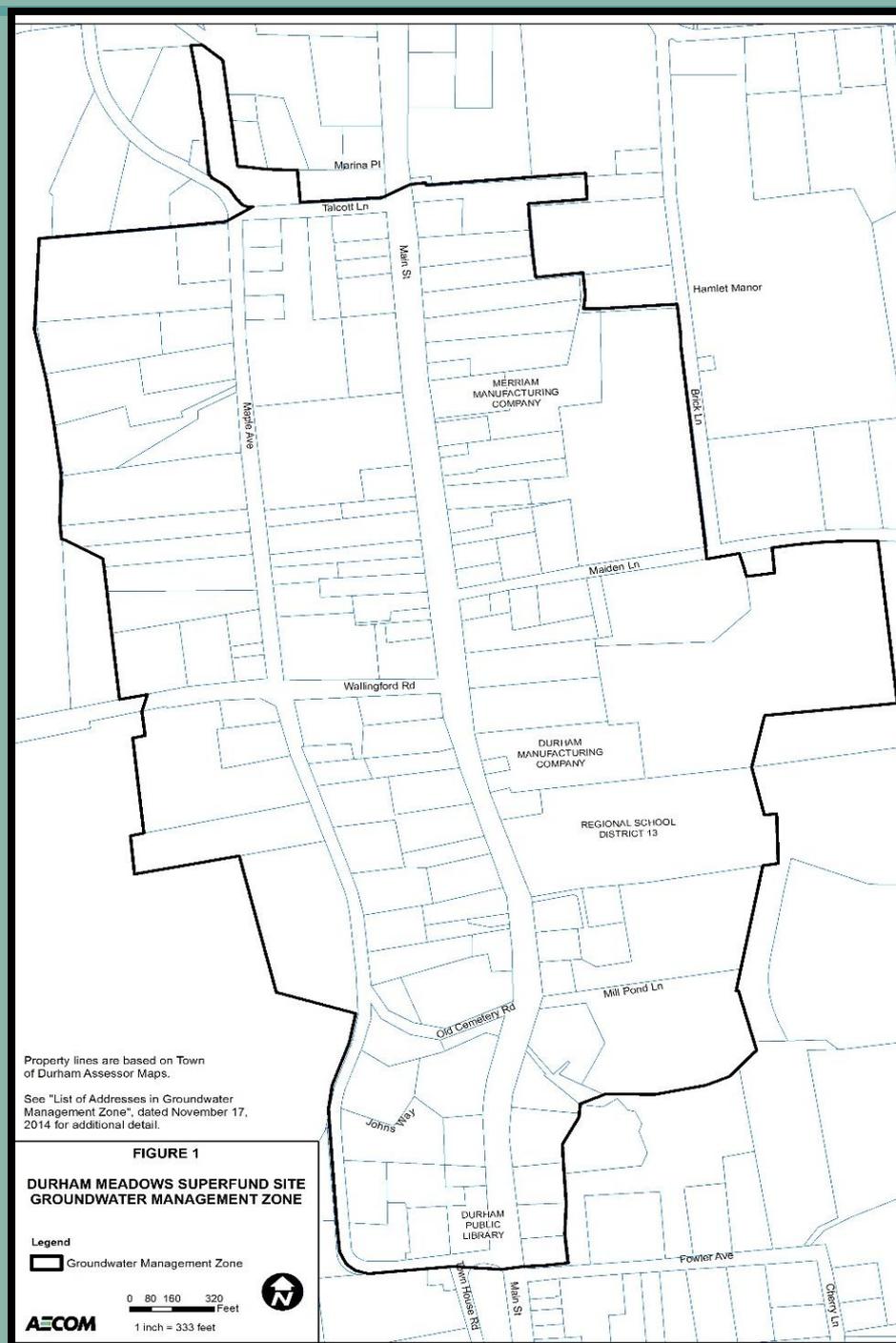
(Proposed Ordinance)

◆ Next steps:

- Board of Selectmen (BOS) hears your concerns tonight
- BOS may require revisions to proposed ordinance
- Town Meeting to vote on proposed ordinance

◆ Why should we implement this ordinance?

- EPA's remedy requires some type of groundwater use restriction



- ◆ Anni Loughlin & Ed Hathaway,
U.S. Environmental Protection Agency
 - ◆ Jing Chen & Pat Bowe, Connecticut Department
of Energy & Environmental Protection
 - ◆ Vicky Carrier & Ryan Tetreault,
Connecticut Department of Public Health
 - ◆ Laura Francis & Bill Milardo, Town of Durham
 - ◆ Guy Russo, City of Middletown Water & Sewer
Dept.
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