

West Boylston Source Water Protection Plan

Prepared for:

West Boylston Water District

Prepared by:

Mass Rural Water Association



Why have Source Water Protection?

- Because the most cost-effective method to ensure the safety of the drinking water supply is to protect the source from contamination.
- Because it is part of a "multi-barrier" approach to providing safe drinking water; treatment alone cannot always be successful in removing contaminants.
- To improve public perception of the safety of drinking water.
- Because safe drinking water is essential to the public health and economic well-being of communities.



Access Road to Pleasant Valley Well 05G.

Benefits of Source Protection Planning

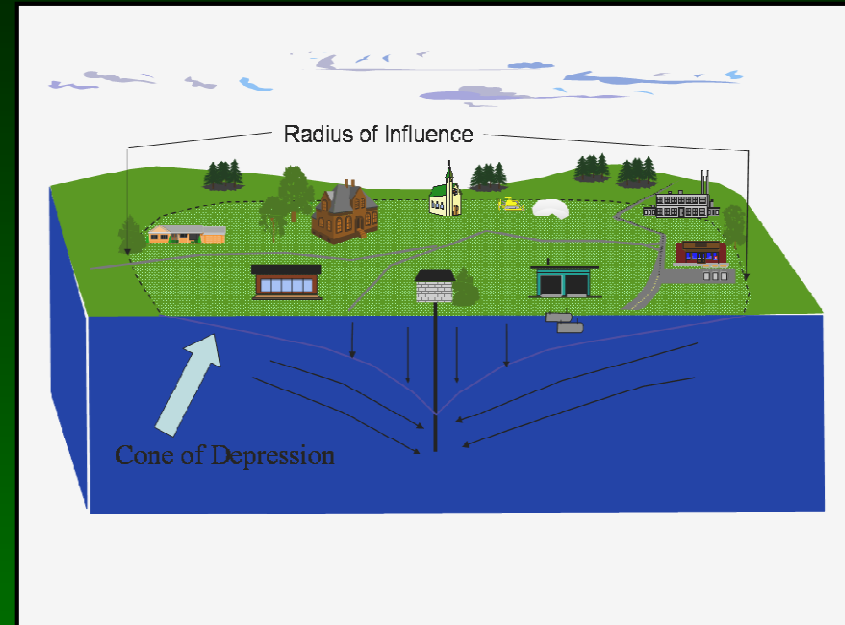
- Increase consumer confidence in their drinking water source.
- Reduces treatment costs.
- Reduce the likelihood that contamination incidents will occur. Prevention is cheaper than cleanup and/or finding new sources.
- Relationships with regulatory agencies, employees and the public are often enhanced through source protection.
- A Source Protection Plan provides strong support to requests for financial assistance.



*Mass Central Railtrail and the Oakdale Well
01G Pumphouse.*

What contaminants potentially threaten drinking water?

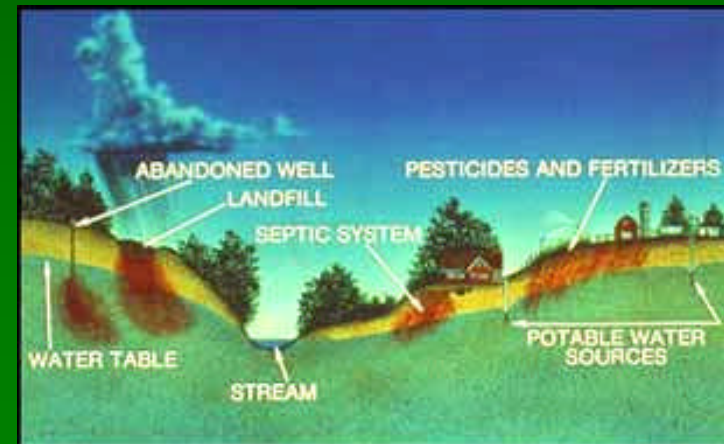
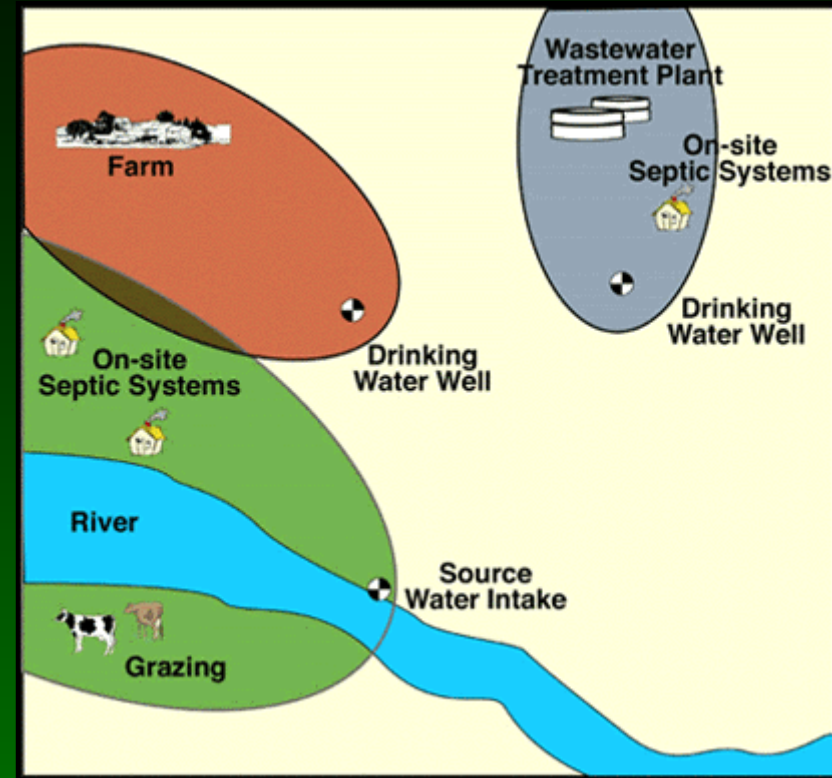
- Sediments
 - ✓ Runoff and erosion from development, farming, industrial activities
- Microbial contaminants
 - ✓ Septic systems and natural sources – beaver, livestock, dogs, geese
- Chemical contaminants
 - ✓ Accidents, uncontrolled/unmanaged hazardous materials, stormwater, road salt, vandalism, septic systems



Oil Tank near a Drinking Water Reservoir



What is the single major threat to a safe supply of drinking water in Massachusetts?

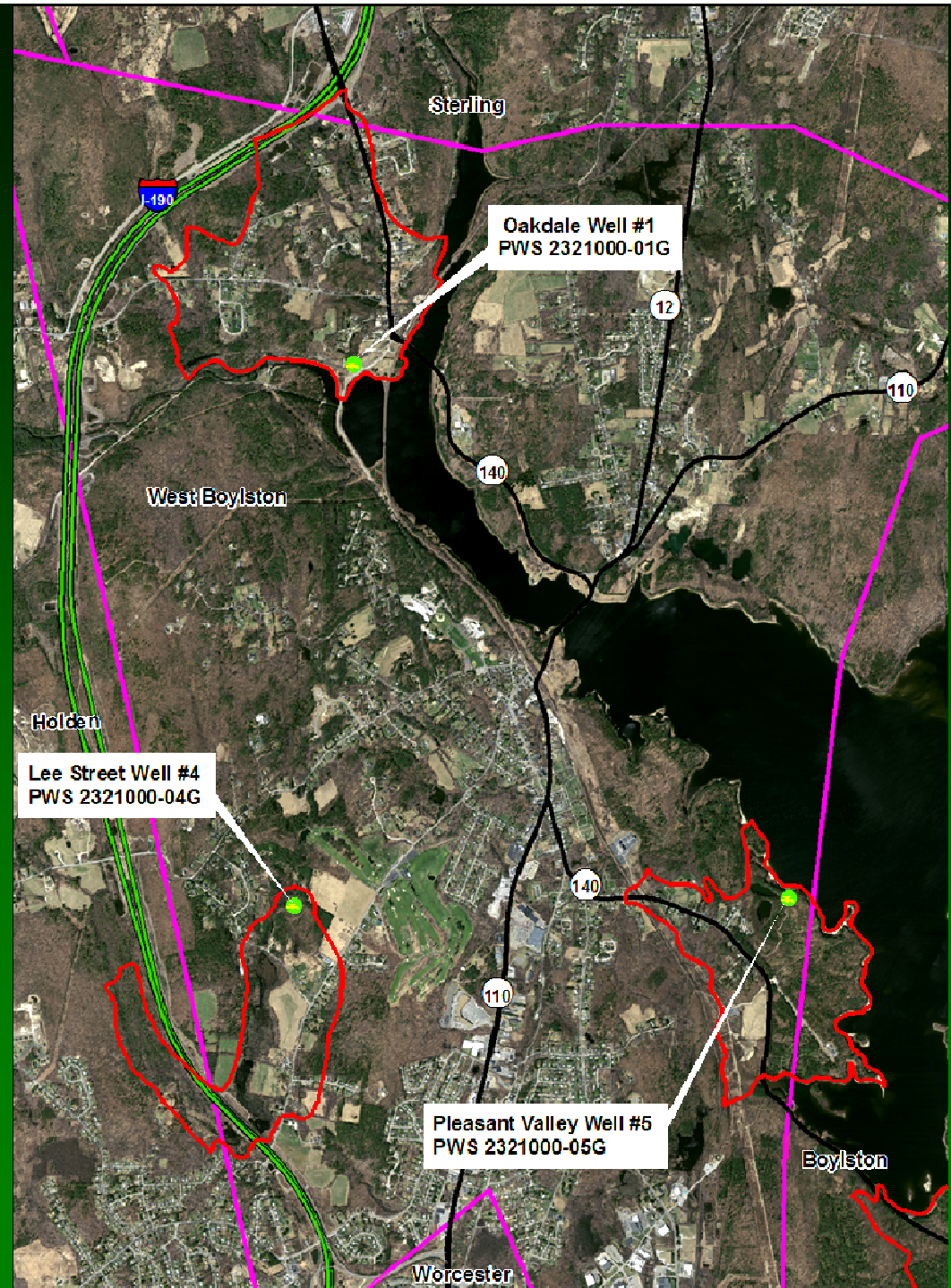
- Land development has been identified as the dominant threat to public water supplies, and controlling land use through purchase, easement, or ordinance is the greatest challenge facing public water systems.



Contamination Sources

West Boylston's Zone II and Wells

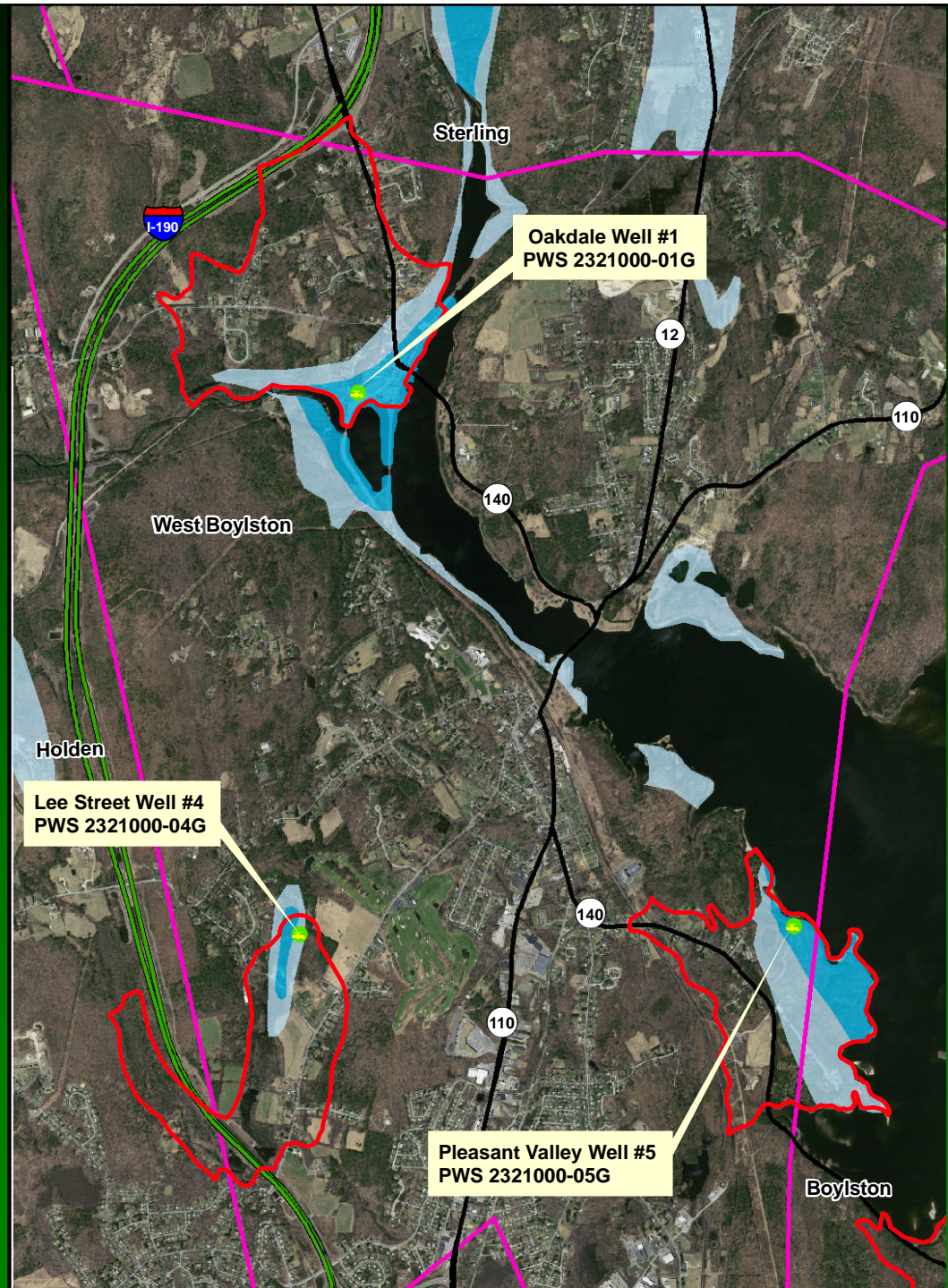
-  DEP Approved Zone IIs
-  Community Groundwater Source



Goals and Objectives of the West Boylston SWPP Steering Committee

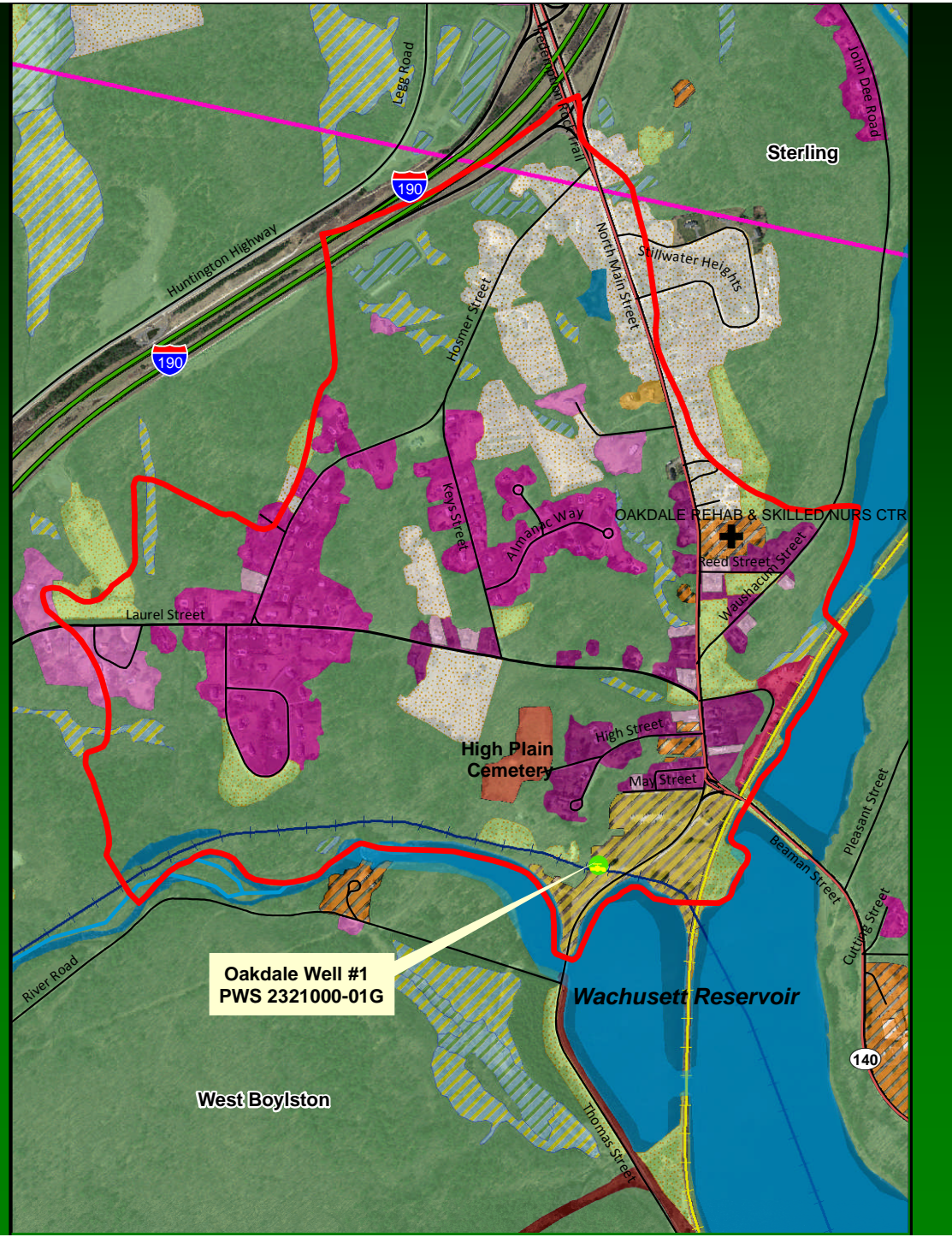
1. Work with the town officials of West Boylston and the DCR to continue to protect the Zone I and II utilizing a Aquifer and Watershed Protection Zone.
2. Acquire available funds for land purchase and all other implementation strategies using the **West Boylston Source Water Protection Plan** as water resource management tool required by the **Commonwealth Capital** funding process.
3. Continuing a public education and outreach program to inform residents of the potential threats to quality drinking water.
4. A septic system outreach program for the unsewered portions of Zone II.
5. A hazardous materials and floor drain inspection program will be recommended to the Board of Health to implement.
6. Strategies for controlling high-risk land use and development within West Boylston's Aquifer and Watershed Protection District will continue to be a priority in the future.
7. Identify priority parcels for conservation and acquisition.

West Boylston Aquifers

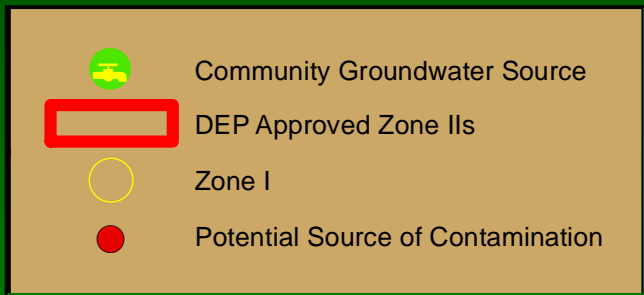


Land Uses Oakdale Well 01G

-  Community Groundwater Source
-  DEP Approved Zone IIs
-  Town Boundary
-  Longterm Care Facility
-  PANAM
-  DCR
-  Powerline
- Land Use 2005**
-  Brushland/Successional
-  Cropland
-  Open Land
-  Forest
-  Non-Forested Wetland
-  Forested Wetland
-  Orchard
-  Pasture
-  Nursery
-  Commercial
-  Industrial
-  Cemetery
-  Mining
-  Golf Course
-  High Density Residential
-  Medium Density Residential
-  Low Density Residential
-  Very Low Density Residential
-  Multi-Family Residential
-  Participation Recreation
-  Powerline/Utility
-  Urban Public/Institutional
-  Water



Potential Sources of Contamination Oakdale Well 01G



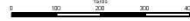
Potential Sources of Contamination Zone II
Oakdale Well 01G West Boylston Water District
PSW# 2321000-01G

Site Number	Name	Potential source of contamination	DEP Risk Category ¹
1	Oakdale Rehabilitation and Skilled Nursing Center	Medical hazardous waste UST DFS Facility ID#: 22611 There is no info about this UST in the state data base. See Appendix C Fire Dept. reports- 4000gal. install. 12/2007	M = medical waste H=UST
2	Building is vacant, could potentially have a new occupant.	UST DFS Facility ID#: 18008. See Appendix C	H=UST
3	Jacqueline's Hair Salon	Potential hazardous waste from hair treatment	L
4	Transportation corridors/ Route 140 and Main/Thomas Street	Hazardous spills, petro chemical runoff, salt application; Zone I	L
5	Pan Am Railroad corridor	Herbicides: over-application or improper handling; fuel storage, transported chemicals, and maintenance chemicals: leaks or spills	H
6	Bonci-Warren Fire Training Facility	Historical training facility for the fire department	L
7	Wachusett Reservoir Thomas Street Parking Lot	Hazardous spills, petro chemical runoff, salt application	L
8	Residential homes	Septic systems, heating oil, lawn and garden chemicals	M
9	High Plain Cemetery	Over-application of pesticides: leaks, spills, improper handling; historic embalming fluids	L
10	Transportation corridor/ Route I-190	Hazardous spills, petro chemical runoff, salt application	L

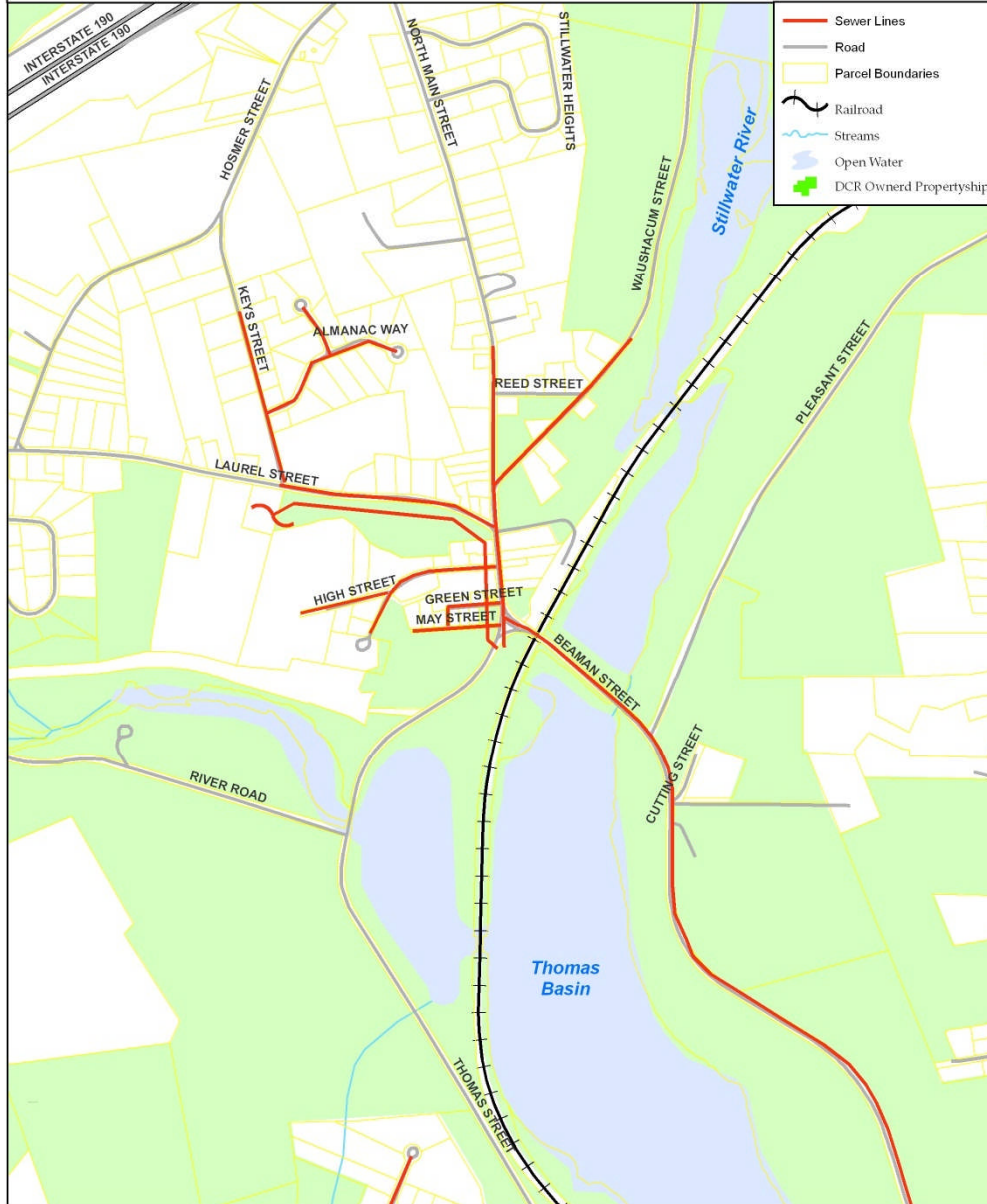
1 = High (H), Medium (M), or Low (L) threat to groundwater.



Sewer Lines Oakdale, West Boylston



dcr/DWSP/OW/Wachusett GIS Staff



Proper Disposal of Medical Waste

To dispose of prescription drugs not labeled to be flushed, you may be able to take advantage of community drug take-back programs or other programs, such as household hazardous waste collection events, that collect drugs at a central location for proper disposal. Call your city or county government's household trash and recycling service and ask if a drug take-back program is available in your community.

If a drug take-back or collection program is not available:

1. Take your prescription drugs out of their original containers.
2. Mix drugs with an undesirable substance, such as cat litter or used coffee grounds.
3. Put the mixture into a disposable container with a lid, such as an empty margarine tub, or into a sealable bag.
4. Conceal or remove any personal information, including Rx number, on the empty containers by covering it with black permanent marker or duct tape, or by scratching it off.
5. Place the sealed container with the mixture, and the empty drug containers, in the trash.

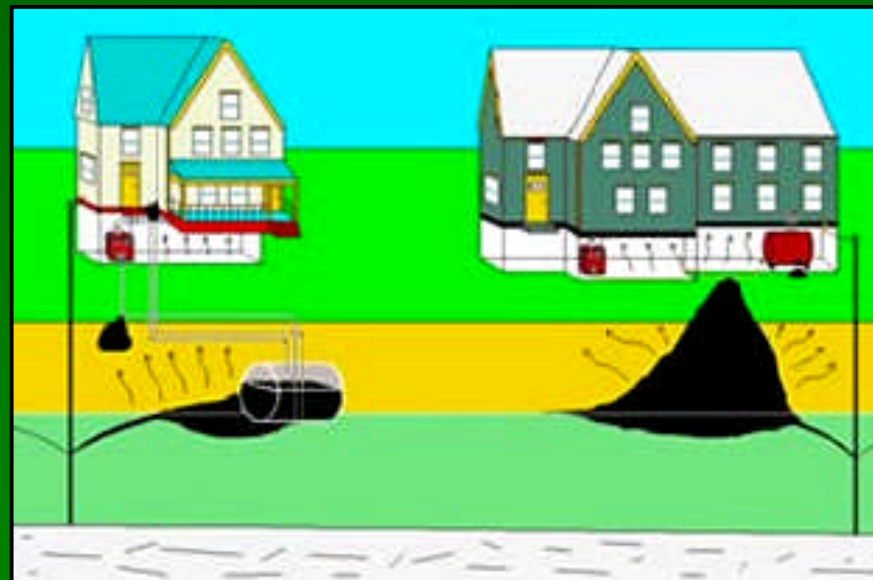
Encourage good communication about the hazards of improper medical waste disposal between the medical facilities and Zone II residents by the West Boylston Water District through outreach materials and site visits.

For more information about proper disposal of medical waste please visit the EPA website for the protection of drinking water at <http://water.epa.gov/drink/>.

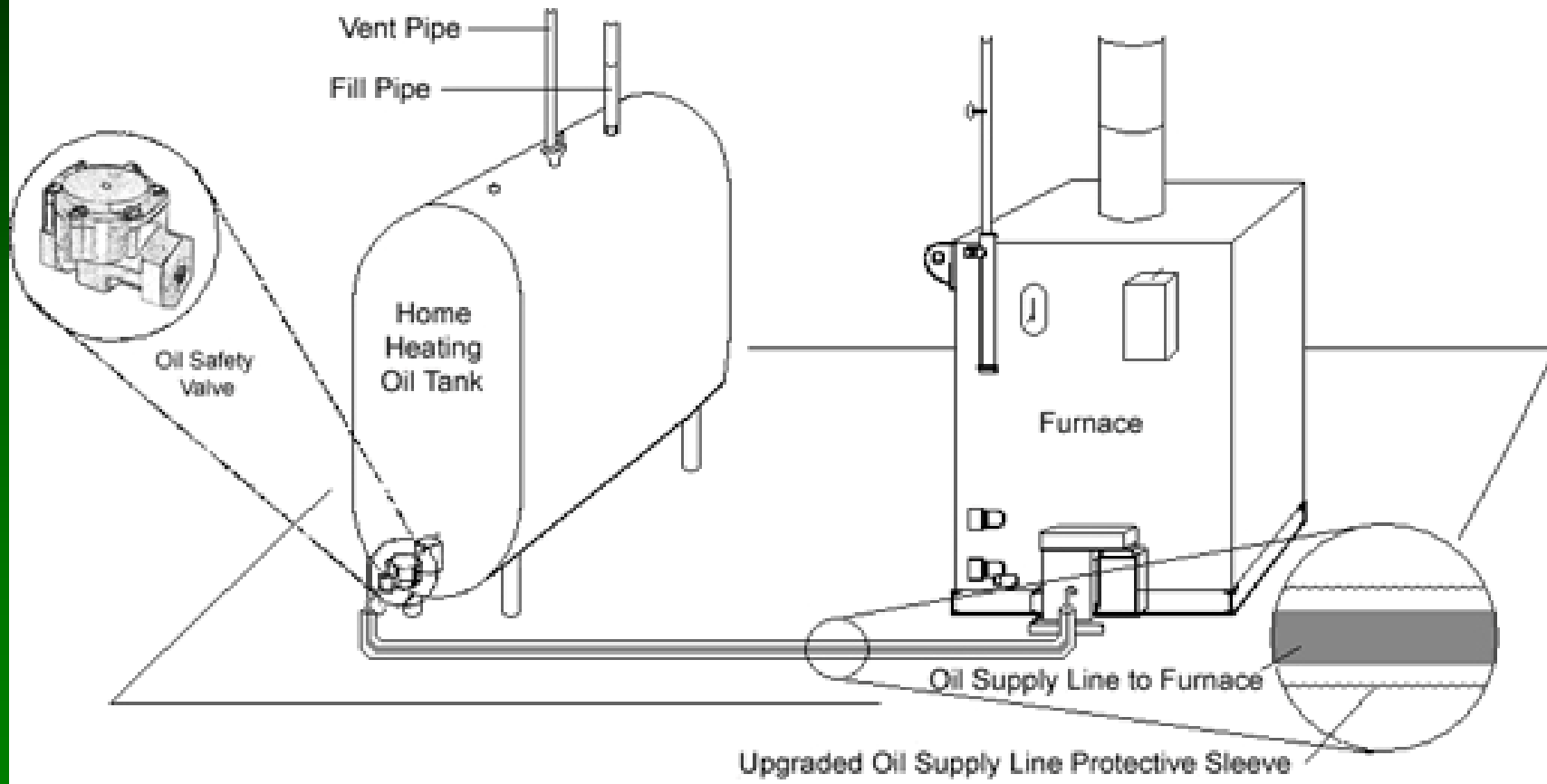
Residential/Commercial Fuel Tanks

Recommendations:

1. Conduct a survey to determine the age and leak potential of residential/commercial fuel tanks.
2. Encourage replacement of old tanks and installing spill pads.
3. Require spill pads for all new residential development.







Above-Ground Home Heating Oil System Leak Prevention Upgrades

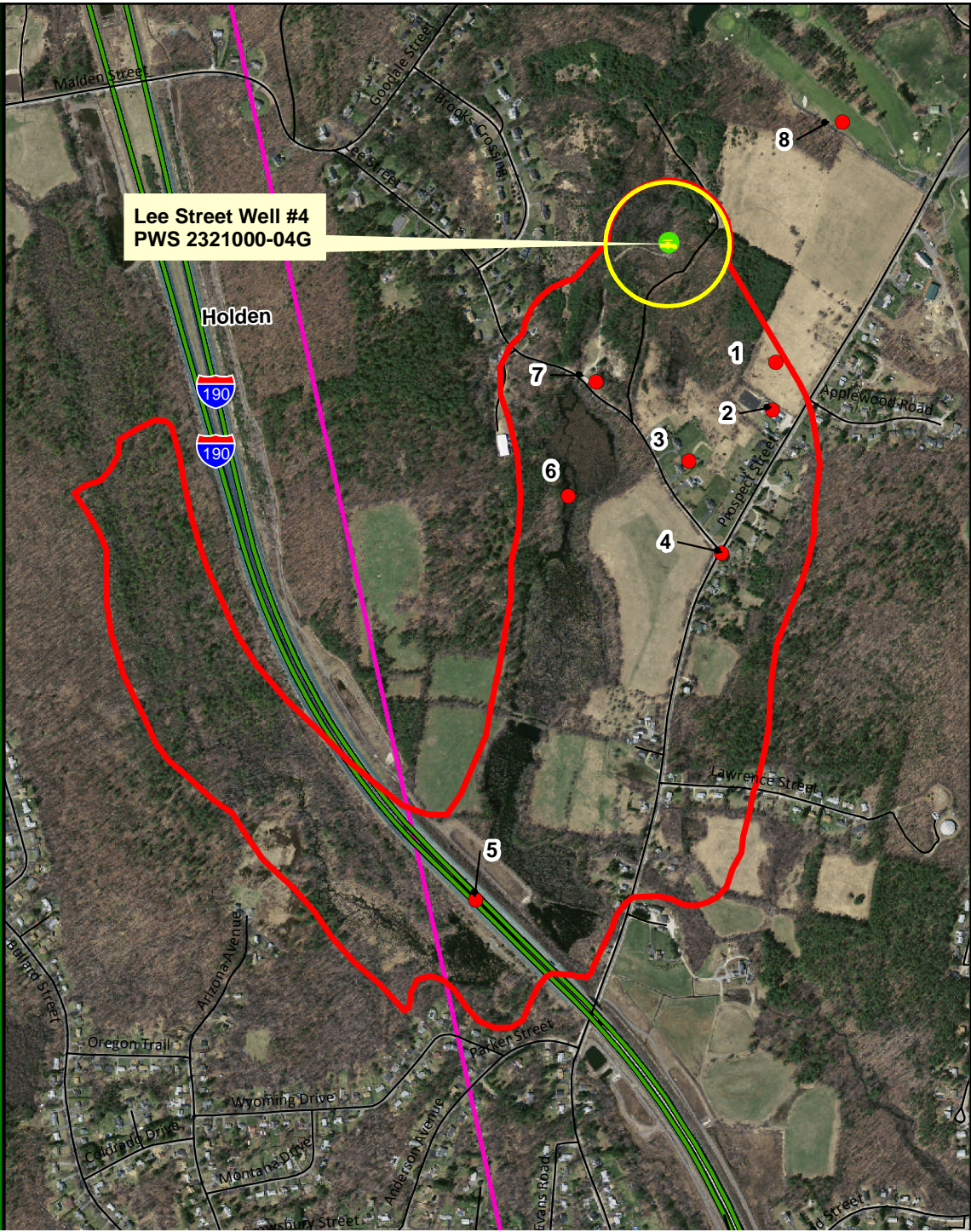


Land Uses Lee Street Well 04G



Potential Sources of Contamination Lee Street Well 04G

-  Community Groundwater Source
-  DEP Approved Zone IIs
-  Zone I
-  Potential Source of Contamination



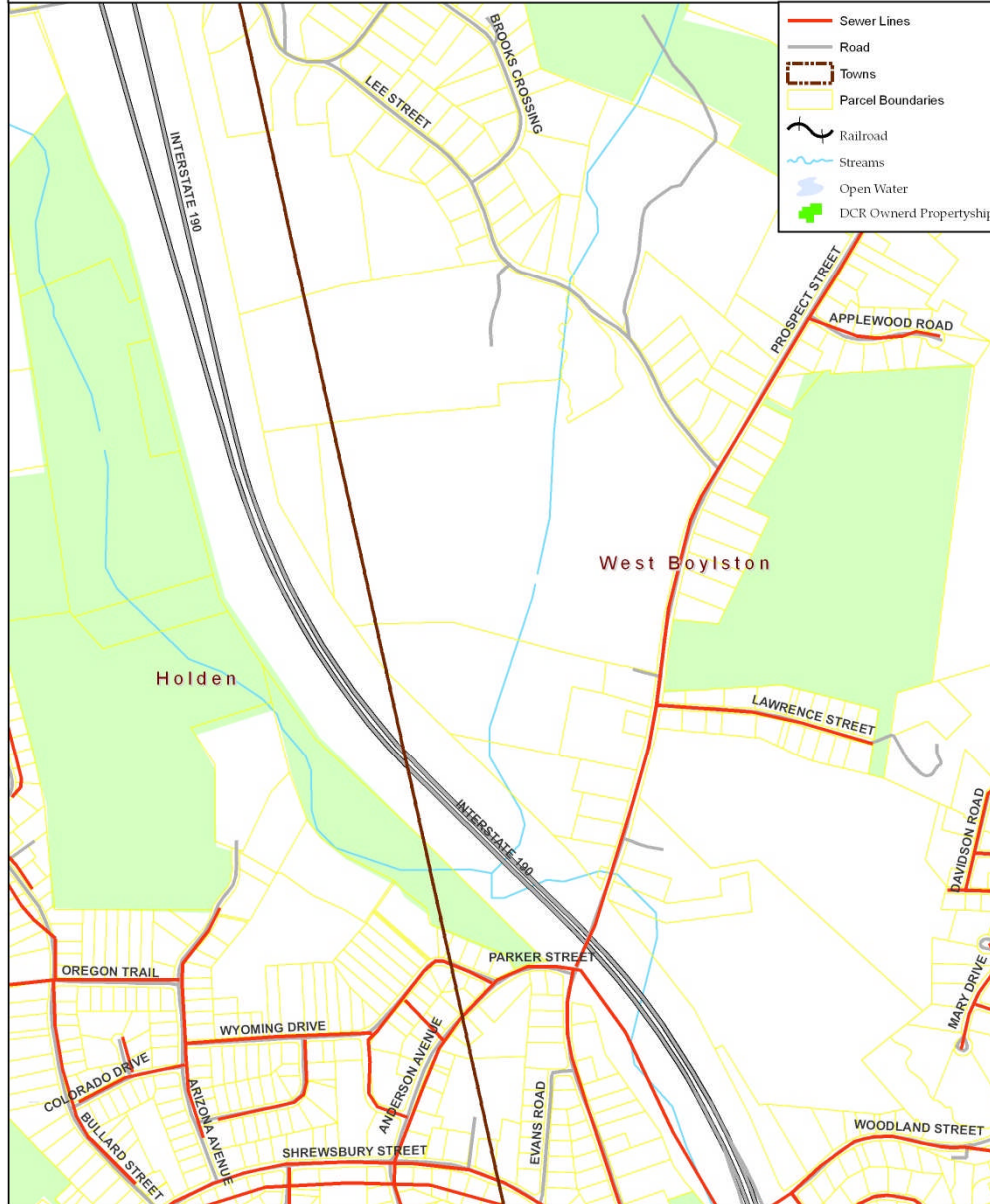
**Potential Sources of Contamination Zone II
Lee Street 04G West Boylston Water District
PSW# 2321000-04G**

Site Number	Name	Potential source of contamination	DEP Risk Category¹
1	Agricultural Activities	Livestock Operations Manure (microbial contaminants): improper handling Manure Storage or Spreading Pesticides: leaks, spills, improper handling, or over-application	M
2	Greenhouse	Fertilizers, heating oil	L
3	Residential Uses	Septic systems, heating oil, lawn and garden chemicals	M
4	Local Transportation Corridors/ Prospect and Lee Streets	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling	M
5	Transportation Corridors/ I-190	Hazardous spills, petro chemical runoff, salt application	M
6	Beaver Activity	Microbial contaminants	M
7	Stormwater Drains/ Retention Basins	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns	H
8	Wachusett Country Club Golf Course	Oil and gas storage, chemical cleaners for motors/ propane refilling	L

¹ = High (H), Medium (M), or Low (L) threat to groundwater.



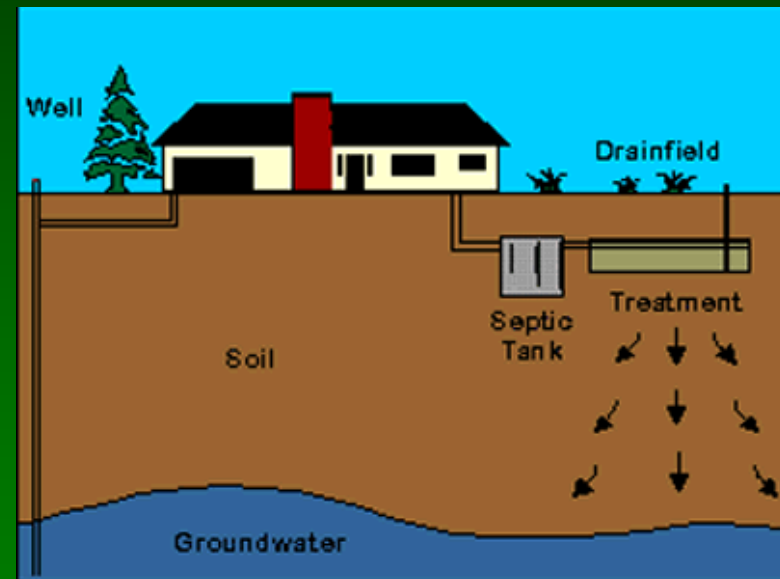
Sewer Lines Lee St., West Boylston



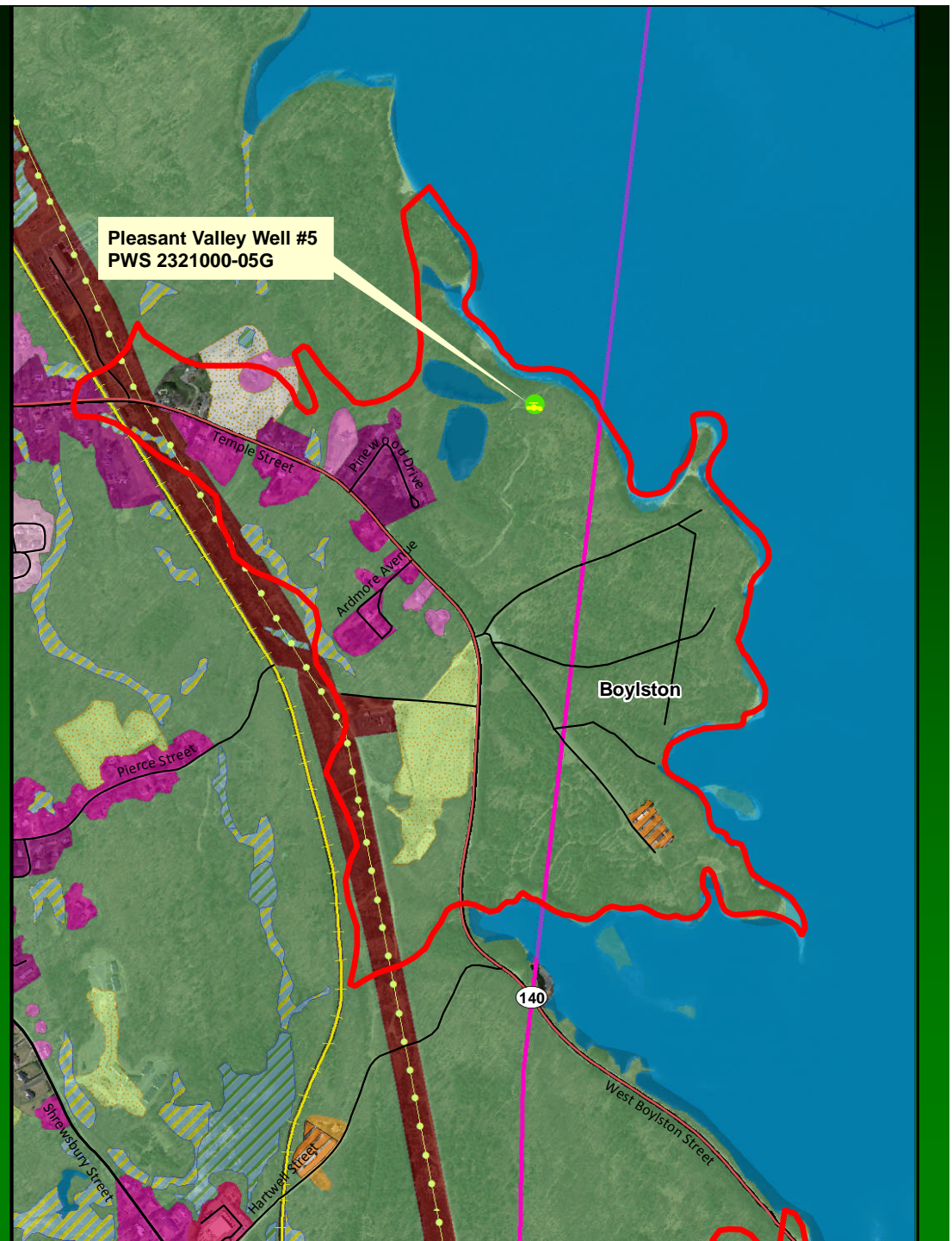
Residential Septic Systems

Recommendations:





1. Conduct outreach to owners with septic systems in Zone II.
2. Strongly encourage septic system maintenance for all residents.
3. Adopt regulations for the **Aquifer and Watershed Protection District** that specifically prohibit toxic septic system cleaners and discourage the disposal of hazardous waste.

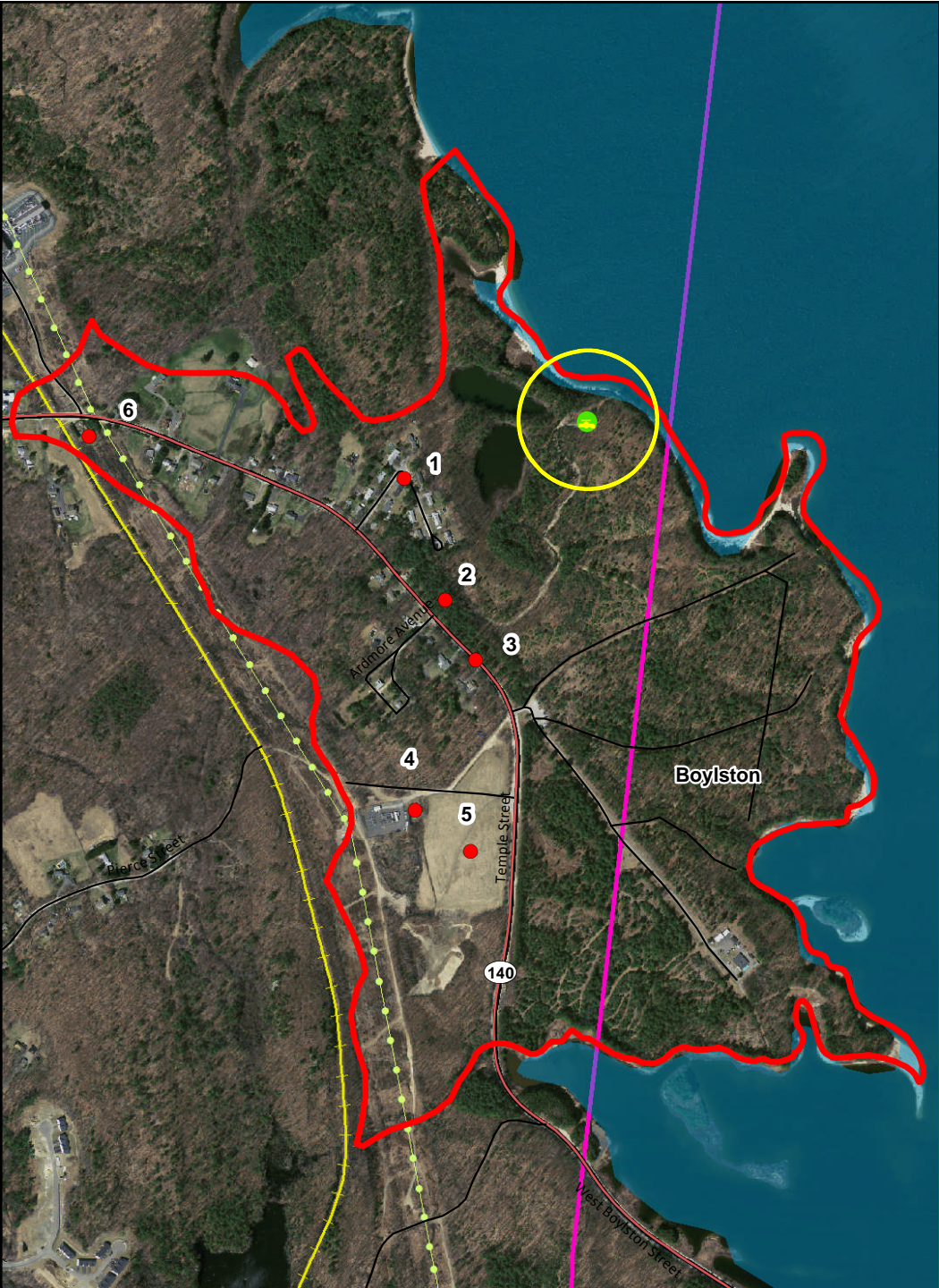


Land Uses Pleasant Valley Well 05G



Potential Sources of Contamination Pleasant Valley Well 05G

-  Community Groundwater Source
-  DEP Approved Zone IIs
-  Zone I
-  Potential Source of Contamination



**Potential Sources of Contamination Zone II
Pleasant Valley Well 05G West Boylston Water District
PSW# 2321000-04G**

Site Number	Name	Potential source of contamination	DEP Risk Category¹
1	Residential Homes	Septic systems, heating oil, lawn and garden chemicals	M
2	Sewer Substation	Potential leaking infrastructure	L
3	Transportation Corridors/ Route 140	Hazardous spills, petro chemical runoff, salt application	M
4	Electric Transformer Station	PCB's	M
5	Former Town Landfill?	Contamination plumes from capped landfill.	M
6	Railroad/Electrical Utility Corridor	Herbicide application	M

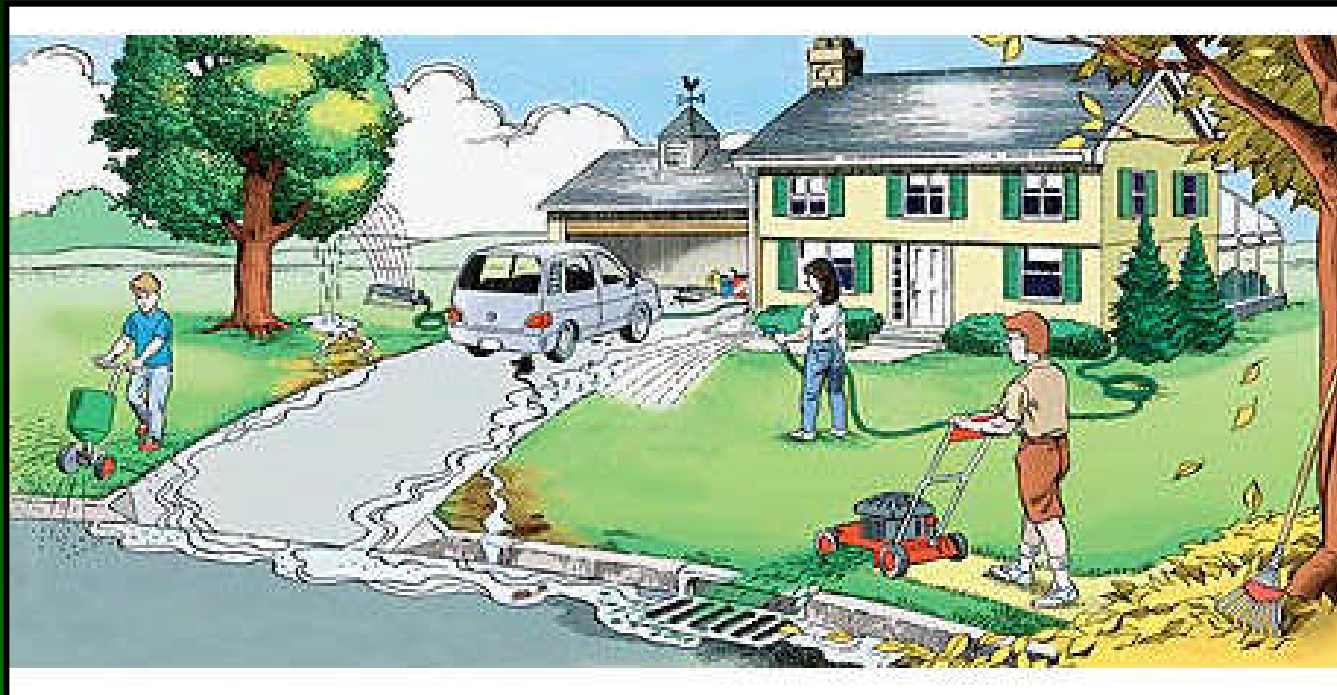
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Sewer Lines Pleasant Valley, West Boylston



Landscape Care



Recommendations:

1. Educate residents about appropriated landscape practices and products.
2. Work with local suppliers to ensure availability of organic fertilizers and pesticides.

Recommendations:

- Regularly inspect Zone II's for illegal dumping and spills.
- Maintain low-salt agreements with MassDOT and the Town DPW.
- Continue working with local emergency response teams to ensure that any spills within the protection areas can be effectively contained.
- Promote BMPs for stormwater management and pollution controls.
- Partner with local businesses in the Zone II and the Zone III areas to ensure the proper storage, handling, and disposal of hazardous materials and to include the Water District in their Emergency Response Plans.
- Take steps to secure a Low Spray Plan for the transportation/utility corridor abutting the all of the Zone II's in West Boylston's Aquifer and WatersheProtection District.

Transportation Corridors Roads/Railroad Track Transmission Line Corridors



*Railroad and Transmission Corridor
running through Pleasant Valley Well's Zone
II.*

Hazardous Materials Storage/Use

1. Conduct safety survey of UST's in Zone II – find out if local farms have UST's on property in Zone II and encourage inspection and replacement if necessary.
2. Encourage the East West Boylston Board of Health to implement and enforce the local floor drain regulation for the Zone II's.



Excavating a leaking UST (LUST) and preparing the cavity for soil sampling.

UST's in Zone II

Name/ Type of Facility	Address	DFS Facility ID#:	UST ID# / Type of fuel	EPA Date Inspected/ Tank leak detection
OAKDALE REHAB & SKLD NURSING CTR	76 N MAIN ST WEST BOYLSTON, MA, 01583 County: Worcester	#22611	4000 gallon –Heating Oil	Not inspected according to the State UST website.
R E CHAPMAN COMPANY	30 N MAIN ST WEST BOYLSTON, MA, 01583	#18008	550 gallon – Waste Oil	Not currently inspected. Tank is reinforced.
Farms located in Zone II	Lee Street Well Zone II	Not regulated.	Unknown	Not Required.

Beaver Activity

Beavers have commonly been identified as carriers of *Giardia Lamblia* and *Cryptosporidium* – pathogens identified within the Surface Water Treatment Rule and Enhanced Surface Water Treatment Rule respectively as posing an unacceptable risk to drinking water.



Typical Beaver Dam in Massachusetts

Residents are encouraged to report any new beaver activity within the Water Supply Protection District.

Land Protection Strategies

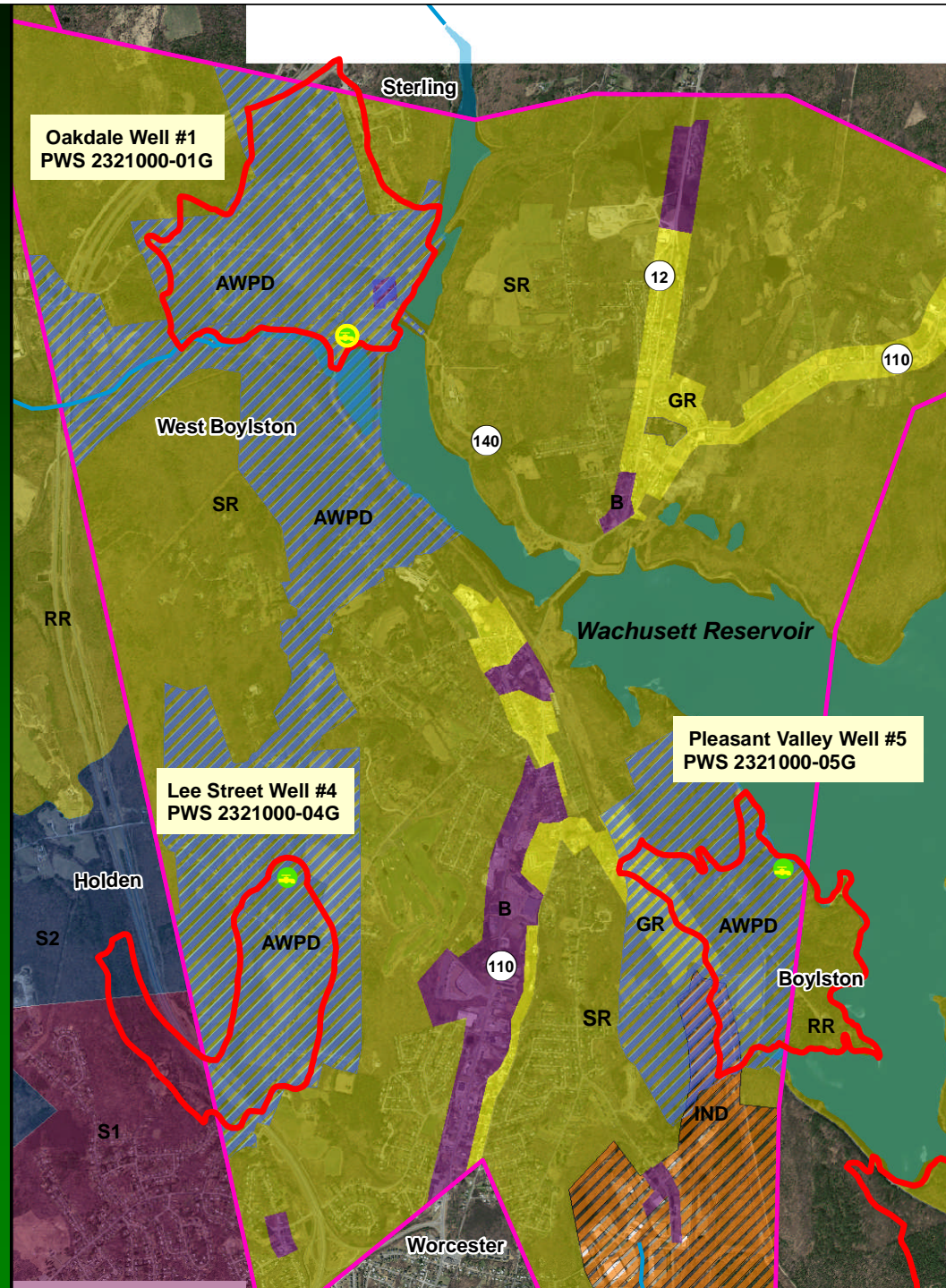
Regulatory Strategies

Aquifer and Watershed Protection District

- West Boylston has adopted a Aquifer and Watershed Supply Protection District (GSPD) Bylaw for its Zone II recharge area.

Floor Drain Regulation

- The Town of West Boylston should adopt and implement a Floor Drain Regulation Bylaw for its Zone II's through the Board of Health.



Land Protection Tools

- CHAPTER 61 “Chapter Lands”
- AGRICULTURAL PRESERVATION RESTRICTION (APR)
- LAND PRESERVATION AGREEMENT
Also known as a Conservation Easement (CE, CR)
- COMMUNITY PRESERVATION ACT

Residential Private Well Recommendations

Well Testing

- Standard analysis/coliform bacteria/nitrate/nitrite ~ \$75-125
- Radon/Gross Alpha ~ \$75
- VOCs (including MTBE) ~ \$100-125

Road Salt Contamination

If high sodium content detected by testing:

- Contact the Board of Health
- Determine cause and take appropriate action

such as low road salt application near well or seek financial assistance in relocation well away from road.

Unsafe well



Options:

- Treat water
- New well
- Public water

Questions?

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