



Massachusetts Department of Environmental Protection  
Source Water Assessment and Protection (SWAP) Report  
for  
**Medfield Water Department**

### What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

### Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

**Table 1: Public Water System Information**

<i>PWS Name</i>	Medfield Water Department
<i>PWS Address</i>	459 Main Street
<i>City/Town</i>	Medfield, Massachusetts 02052
<i>PWS ID Number</i>	3175000
<i>Local Contact</i>	Ken Feeney - Superintendent
<i>Phone Number</i>	(508) 359-8505

### Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

#### Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures.

Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

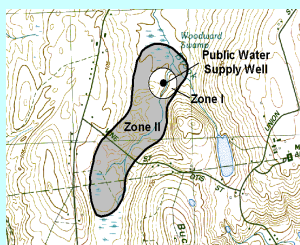
#### This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection
4. Additional Resources Available for Source Protection
5. Appendices

## Section 1: Description of the Water System

### What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and a Zone II protection area.



### Glossary

**Aquifer:** An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

**Hydrogeologic Barrier:** An underground layer of impermeable material (i.e. clay) that resists penetration by water.

**Recharge Area:** The surface area that contributes water to a well.

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

**Zone II:** The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

#### *Zone II #:* 511

*Susceptibility:* High

<i>Well Names</i>	<i>Source IDs</i>
Well #1 – Main Street	3175000-01G
Well #2 – Main Street	3175000-02G

#### *Zone II #:* 106

*Susceptibility:* High

<i>Well Names</i>	<i>Source IDs</i>
Well #3 – Elm Street	3175000-03G
Well #4 – Elm Street	3175000-04G

#### *Zone II #:* 88

*Susceptibility:* High

<i>Well Names</i>	<i>Source IDs</i>
Well #6 – Route 27	3175000-05G

The wells for the Medfield Water Department are located within three separate water supply protection areas, with portions extending into the towns of Dover, Millis, Sherborn, and Walpole. Each well has a Zone I radius of 400 feet. The wells are located in aquifers with a high vulnerability to contamination due to the absence of hydrogeologic barriers (i.e. clay) that can prevent contaminant migration. Please refer to the attached map of the Zone II.

The Medfield Water Department is looking to rehabilitate and reactivate the wellfield formerly operated by Medfield State Hospital. The Zone II for this source is almost entirely within the Zone II for Well #6.

For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report. Drinking water monitoring reporting data is also available on the web at <http://www.epa.gov/safewater/ccr1.html>

## Section 2: Discussion of Land Uses in the Protection Areas

The Zone IIs for Medfield have a mixture of residential, commercial, industrial, open space, and forested land uses (refer to attached map for details). Other land uses include agricultural, and mining. Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Table of Regulated Facilities and Table of Underground Storage Tanks in Appendix B.

#### **Key issues include:**

1. Inappropriate Activities in Zone I
2. Local Businesses
3. Railroad Right Of Way
4. Oil or Hazardous Material Contamination Sites
5. Residential Land Uses and Activities
6. Sand and Gravel Operation
7. Comprehensive Wellhead Protection Planning

The overall ranking of susceptibility to contamination for Medfield is high, based on the presence of at least one high threat land use within each Zone II, as seen in Table 2.

**1. Inappropriate Activities in Zone I** – Some older wells may not meet the Zone I requirement. In many cases the land is owned by municipalities, and is used for recreational activities. Among the significant threats to water supplies are septic systems, pesticides and fertilizers, storm water runoff and underground storage tanks which often accompany these land uses. Not owning or controlling the Zone I of a groundwater source puts drinking water supplies at significantly increased risk of contamination.

The “Drinking Water Regulations of Massachusetts” 310 CMR 22.21(3)(b) states that all suppliers of water shall acquire ownership or control of sufficient land around wells used as sources of drinking water to protect the water from contamination. This requirement shall generally be deemed to have been met if all land within the Zone I is under ownership or control of the supplier of water.

**Inappropriate Activities in Zone I - Recommendations**

- ✓ **Stormdrains** - Roadways and parking lots are frequent sites for illegal dumping of hazardous or other potentially harmful wastes. Work with the Town to determine if stormdrains discharge into the Zone I of the Main Street Wells. If it is established stormdrains discharge into the Zone I, implement a plan to redirect or eliminate these discharges.
- ✓ **Emergency Response** - Accidents from automobiles and railroad cars can lead to spills of gasoline and other potentially dangerous transported chemicals. Ensure that emergency response measures are regularly updated in order to deal with potential spills.

**2. Local Businesses** – Because many small businesses and industries use hazardous materials, produce hazardous waste products, and often store large quantities of petroleum products, there is the potential for degrading water quality. Educating the business community about drinking water protection, and encouraging partnerships between businesses, water suppliers, and communities will enhance successful public drinking water protection practices.

**Local Businesses - Recommendations:**

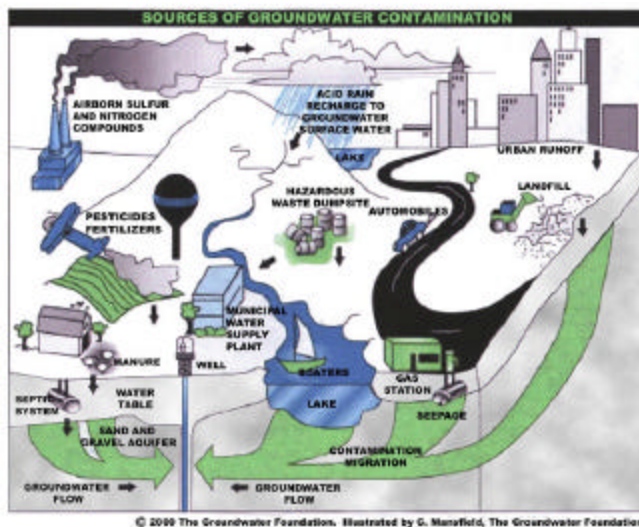
- ✓ **Hazardous Materials Program Best Management Practices** - Support the development and implementation of a hazardous materials program that includes a Bylaw or Health Regulation. Such a program educates businesses on hazardous material management requirements, explicitly informs the business community what is expected of them, and decreases the potential future liability businesses may be unknowingly creating for themselves. A local program

**Benefits of Source Protection**

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

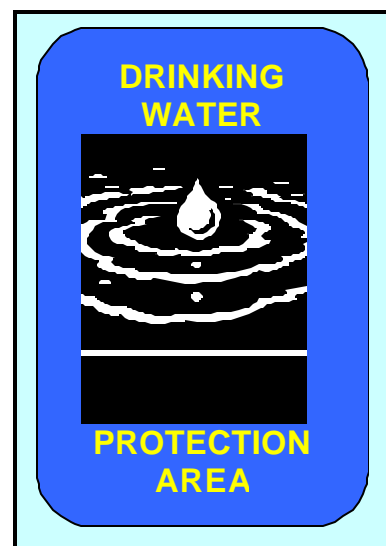
Contact your regional DEP office for more information on Source Protection and the Waiver Program.



lets the town serve as a consultant, helping businesses protect themselves. See DEP’s website for additional information on developing a program for hazardous materials management at <http://www.state.ma.us/dep/brp/dws/files/hazmat.doc>.

- ✓ **Inspection Program** – Coordinate efforts with local officials in the development and implementation of an Inspection Program to prevent hazardous substances from entering water supplies. Inspections target facilities that generate, use, store, or disposal of hazardous/toxic materials. Programs can also include floor drain and underground storage tanks inspections. Local inspection programs often provide educational material and technical assistance on Best Management Practices. Building Inspectors are often involved in local inspection programs.

- ✓ **Hazardous Materials Best Management Practices** - Work with local businesses to encourage training on proper hazardous material use, disposal, and emergency response. Refer to the attached list of resources for more information on hazardous material BMPs.
- ✓ **Storage Tanks** - Support your local fire department in upgrading all above and below ground oil/hazardous material storage tanks in order to meet current construction standards. Funding for replacing underground storage tanks is available through the MA Department of Revenue. For more information, refer to [http://www.dor.state.ma.us/ust/ust\\_home.htm](http://www.dor.state.ma.us/ust/ust_home.htm)
- ✓ **Register Hazardous Waste Generators** - Work with local businesses to register with DEP those facilities that are unregistered generators of hazardous waste or waste oil.
- ✓ **Monitor Land Uses** - Work with the Selectmen, Board of Health and Planning Board to monitor land uses within and proximal to the Zone II. Refer to the Wellhead Protection Plan guidance and model bylaws at <http://www.state.ma.us/dep/brp/dws/files/whplan.doc> for types of activities that should be prohibited and managed in the vicinity of public or private water supplies.



- ✓ **Lawn care and Landscaping** - Encourage local businesses to incorporate Best Management Practices (BMPs) for the use of fertilizer, herbicides and pesticides. For more information, refer to [http://www.massdfa.org/pesticides/publications/IPM\\_kit\\_for\\_bldg\\_mgrs.pdf](http://www.massdfa.org/pesticides/publications/IPM_kit_for_bldg_mgrs.pdf)

**3. Railroad Right-Of-Way** – Rail corridors serving passenger and/or freight trains are potential contaminant sources due to chemicals released during normal use, track maintenance, and accidents. Over-application or improper handling of herbicides during railroad right-of-way maintenance is a potential source of contamination. Leaks or spills of transported chemicals or train maintenance chemicals are also potential sources of contamination to the water supply.

**Railroad Right-of-Way - Recommendations:**

- ✓ **Best Management Practices** - Work with local officials during their review of the railroad right-of-way Yearly Operating Plan to ensure Best Management Practices are implemented with regard to vegetation control in the Zone II, and that pesticides are not used in the Zone I, in accordance with 333 CMR 11.00: Rights-of-Way Management.
- ✓ **Emergency Response Plan** - Work with your local fire department to review emergency response plans. Request that emergency response teams practice containment of potential contaminants from train accidents.

**4. Presence of Oil or Hazardous Material Contamination Sites** – The Zone II contains DEP Tier Classified Oil and/or Hazardous Material Release Sites indicated on the map as Release Tracking Numbers 3-0003142, 3-0003830, 3-0013400, 3-0013401, 3-0013403, 3-0015514, 3-0002548, 3-0003323, 3-0004033, 3-0004704, 3-0011836.

For more information refer to the attached map, Appendix C, and the Bureau of Waste Site Cleanup’s website at <http://www.state.ma.us/dep/bwsc/sitelist.htm>

**Oil or Hazardous Material Contamination Sites – Recommendation:**

- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or hazardous material contamination sites.

**5. Residential Land Use** - If managed improperly, household hazardous waste, septic systems, lawn care, and pet waste can all contribute to groundwater contamination. Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances.

If a septic system fails or is not properly maintained, it could be a potential source of microbial contamination. Fertilizers and pesticides contain hazardous chemicals that can travel through the soil and contaminate ground water if over-applied. Pet waste may contain bacteria, parasites, or viruses that pose a health risk. Water supplies may also be threatened from improper use or disposal of chemical products used in homes. Educating residents on proper disposal of these materials is the best defense against pollution.

**Residential Recommendations - Household Hazardous Waste:**

- ✓ **Proper Disposal** - Educate residents on the problem of disposing of hazardous materials in landfills, septic systems, wastewater treatment plants, storm drains, and on the ground. Encourage residents to participate in the Town of Medfield’s annual Household Hazardous Waste Collection Day.

### Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

**Table 2: Land Use in the Protection Areas (Zones I and II)**

For more information, refer to Appendix 2: Regulated Facilities within the Water Supply Protection Area

Activities	Quantity	Threat*	Zone II ID#	Potential Source of Contamination*
<b>Agricultural</b>				
Fertilizer Storage or Use	1	M	88	Leaks, spills, improper handling, or over-application of fertilizers
Manure Storage or Spreading	1	H	88	Manure (microbial contaminants): improper handling
Nurseries	1	M	106	Leaks, spills, improper handling, or over-application of fertilizers, pesticides, and other chemicals
<b>Commercial</b>				
Body Shops	1	H	88	Vehicle paints, solvents, and primer products: improper management
Gas Stations	1	H	511	Automotive fluids and fuels: spills, leaks, or improper handling or storage
Service Stations/ Auto Repair Shops	3	H	106, 511	Automotive fluids, and solvents: spills, leaks, or improper handling
Cemeteries	1	M	511	Leaks, spills, improper handling, or over-application of pesticides; historic embalming fluids (such as arsenic)
Dry Cleaners	2	H	511	Spills, leaks, or improper handling of solvents and wastes
Funeral Homes	1	L	511	Spills, leaks, or improper handling of hazardous chemicals
Laundromats	1	L	511	Improper management of wash water
Nursing Homes	1	L	511	Microbial contaminants
Printer And Blueprint Shops	1	M	88	Printing inks and chemicals: spills, leaks, or improper handling or storage
Railroad Tracks And Yards	4	H	511, 106, 88	Herbicides, transported chemicals and maintenance chemicals; fuel storage: over-application or improper handling, leaks or spills
Research Laboratories	1	M	511	Spills, leaks, or improper handling or storage of laboratory chemicals and wastes
Sand And Gravel Mining/Washing	1	M	511	Heavy equipment, fuel storage, clandestine dumping: spills or leaks
<b>Industrial</b>				
Asphalt, Coal Tar, And Concrete Plants	1	M	511	Hazardous chemicals and wastes: spills, leaks, or improper handling or storage
Electronics/Electrical Manufacturers	1	H	511	Chemicals and process wastes: spills, leaks, or improper handling or storage

Activities	Quantity	Threat*	Zone II ID#	Potential Source of Contamination*
<b>Industrial</b>				
Industry/Industrial Parks	1	H	511	Industrial chemicals and metals: spills, leaks, or improper handling or storage
Machine/Metalworking Shops	1	H	88	Spills, leaks, or improper handling of solvents; metal tailings
<b>Residential</b>				
Fuel Oil Storage (at residences)	Numerous	M	511, 106, 88	Fuel oil: spills, leaks, or improper handling
Lawn Care/Gardening	Numerous	M	511, 106, 88	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Numerous	M	511, 106, 88	Household hazardous waste: improper disposal, and microbial contaminants
<b>Miscellaneous</b>				
Aboveground Storage Tanks	1	M	88	Materials stored in tanks: spills, leaks, or improper handling
Composting Facilities	1	L	88	Storage and improper handling of organic material, animal waste, and runoff
Landfills and Dumps	1	H	88	Seepage of leachate
Large Quantity Hazardous Waste Generators	4	H	511, 88	Hazardous materials and waste: spills, leaks, or improper handling or storage
NPDES Locations	1	L	88	Hazardous material and wastes: improper disposal
Oil or Hazardous Material Sites	11	----	511, 88	Oil or hazardous materials and waste: spills, leaks, or improper handling or storage
Road And Maintenance Depots	2	M	88	Asphalt materials and other chemicals, aboveground and underground storage tanks with gasoline and diesel storage: spills, leaks, or improper handling of deicing materials
Snow Dump	1	M	88	Improper handling of melt water containing de-icing and other chemicals from roads and parking lots
Small quantity hazardous waste generators	10	M	511, 106, 88	Spills, leaks, or improper handling or storage of hazardous materials and waste
Stormwater Drains/ Retention Basins	Numerous	L	511, 106, 88	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transmission Line Rights-of-Way - Type: <u>electric</u>	1	L	106	Construction and corridor maintenance, over-application or improper handling of pesticides
Transportation Corridors	4	M	511, 106	Accidental leaks or spills of fuels and other hazardous materials, over-application or improper handling of pesticides
Underground Storage Tanks	26	H	511, 106, 88	Spills, leaks, or improper handling stored materials
Very Small Quantity Hazardous Waste Generator	10	L	511, 106, 88	Hazardous materials and waste: spills, leaks, or improper handling or storage
Waste Transfer/Recycling Station	2	M	88	Improper management, seepage, and runoff of water contacting waste materials

Activities	Quantity	Threat*	Zone II ID#	Potential Source of Contamination
<b>Miscellaneous</b>				
Wastewater Treatment Plant/Collection Facility/Lagoon	2	M	88	Treatment chemicals or equipment maintenance materials: improper handling or storage; wastewater: improper management
Water Supply Protection Area % that is Sewered = 50%				
<b>Notes:</b>				
<ol style="list-style-type: none"> <li>When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.</li> <li>For more information on regulated facilities, refer to Appendix 3: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.</li> <li>For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix B: Tier Classified Oil and/or Hazardous Material Sites.</li> </ol>				
<p>* <b>THREAT RANKING</b> - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.</p>				

✓ **Alternative Products** - Provide residents with information on options that are available to substitute less hazardous substances for many products used in the home.

**Residential Recommendations - Septic systems:**

✓ **System Care** - Educate residents on private septic systems about using cleaning compounds that are safe for the septic system, on proper disposal practices, i.e. only sanitary waste in the septic system. Information on septic systems can be found at Massachusetts Department of Environmental Protection's website <http://www.state.ma.us/dep/brp/files/yoursyst.htm>.

✓ **Proper Disposal** - Residents should dispose of used oil, antifreeze, paints, and other household chemicals properly - not in septic systems.

**Residential Recommendations - Lawn Care and Landscaping:**

✓ **Environmentally Sound Lawn Care** - Provide educational materials to residents about the proper application of pesticides or fertilizers. Landscape with native grasses, native flowering plants and trees and shrubs. Once established, native plants require less water and may not require fertilizer, herbicide or pesticide use. Encourage the use of native plants and landscaping by establishing a demonstration area at a town facility. Information on environmentally sound lawn care practices can be obtained from the Massachusetts Department of Food and Agriculture Pesticide Bureau's website at <http://www.massdfa.org>.

**Residential Recommendations - Heating Oil Tanks:**

✓ **Aboveground Storage Tanks** - Provide educational materials to residents regarding the proper storage of liquid petroleum products in aboveground storage tanks. The Department requires all Wellhead protection zoning and non zoning controls to prohibit the siting of liquid petroleum products storage in Zone II unless such storage is aboveground, on an impervious surface and either in a container or in an aboveground tank within a building, or in an area that has a containment system designed and operated to hold either 10 percent of the total possible storage capacity of all containers, or 110% of the largest container storage capacity whichever is greater.

Consult with the local fire department for any additional local code requirements regarding aboveground storage tanks. A fact sheet on basement or outside oil tank can be obtained from the Barnstable County Department of Health And Environment at <http://www.CapeCod.net/bcdhe/oil/oil.htm>.

**6. Sand and Gravel Operation** - The potential for ground water contamination during removal of sand and gravel operations exists as a result of accidental spills or leaks from heavy equipment, improper fuel storage, vehicle washing operations, and illegal dumping. Improper waste management and hazardous materials storage also pose a significant threat to ground water, and a wide variety of potentially harmful components are involved in the release of these products. Working with owners of sand and gravel operations to implement the following recommendations will greatly reduce the risk of contaminating groundwater.

### Sand and Gravel Operation Recommendations - Best Management Practices

- ✓ **Storage of Hazardous Materials** - Ensure that liquid petroleum products and hazardous materials are stored aboveground, on an impervious surface and either in a container or in an aboveground tank within a building, or in an area that has a containment system designed and operated to hold either 10 percent of the total possible storage capacity of all containers, or 110% of the largest container storage capacity whichever is greater. Storage of petroleum products in the pit area should be discouraged.
- ✓ **Disposal of Hazardous Material** - Encourage the training of employees on proper hazardous material disposal and emergency response in the event of spills or leaks. Refer to the attached list of resources for more information on hazardous material BMPs.
- ✓ **Equipment Maintenance** - Suggest the following maintenance practices:
  - ❖ Perform equipment maintenance and repairs outside the pit area
  - ❖ Repair hydraulic equipment as soon as leaks are detected
  - ❖ Develop a spill prevention plan and clean up spills immediately
- ✓ **Vehicle Washing** - Managing vehicle washing near drinking water sources is important because the wash water can percolate through soil and contaminate ground water. DEP Water Pollution Control regulations 314 CMR 5.00 prohibit the discharge of wash water into the ground. Coordinate efforts with the local Board of Health and Fire Department to monitor the progress of any remedial action taken in response to enforcement action issued by DEP.
- ✓ **Erosion and Sedimentation Control** - Without appropriate erosion and sedimentation controls, sand and gravel activities can contribute large amounts of sediment to storm water runoff. Erosion can be controlled by planting temporary fast-growing vegetation, such as grasses and wild flowers. Other measures include sediment traps and basins; sediment fences; wind erosion controls; and sediment, chemical, and nutrient control.
- ✓ **Dust Control** - Control dust to prevent nuisance and public hazard; use water rather than calcium chloride; never use oil!
- ✓ **Retention Basins** - Use retention basins to trap fine material; clean out regularly
- ✓ **Reclaim Excavations** - Work with the owner in developing a plan for reclamation. Reclamation should include:
  - ❖ leaving surface soil which can sustain vegetation, and plant with native vegetation to prevent erosion
  - ❖ grade slopes to the natural angle so as to prevent erosion
  - ❖ restore original, natural drainage

### Sand and Gravel Operation Recommendations - Illegal Dumping

- ✓ **Monitor Illegal Dumping** - Request that the facility owner inspect property for signs of illegal dumping, and coordinate efforts to properly dispose of material.

**Sand and Gravel Operation Recommendations - Excavation Depth:** The Town of Medfield, through its Groundwater Protection District Bylaw, prohibits earth removal unless the final grading is greater than four (4) feet above the historic high groundwater mark. This bylaw applies to new or expanded uses.

- ✓ **Monitor Excavation Depth** - The Medfield Water Department, in conjunction with the Millis Water Department, and Millis Planning Board, should monitor excavation depths to ensure that sand and gravel operations do not violate the Town of Millis's Groundwater Protection District Bylaw by excavating below four (4) feet of the historic high groundwater mark

**7. Comprehensive Wellhead Protection Planning** - Protection planning prevents drinking water contamination by managing the land area that supplies water to a well. A Wellhead Protection Plan coordinates community efforts, identifies protection strategies, establishes a timeframe for implementation, and provides a forum for public participation. There are numerous resources available to help communities in developing a plan for protecting drinking water supply wells.

### Protection Planning Recommendations:

- ✓ **Develop A Land Acquisition Plan** - Land acquisition projects protect water supplies by limiting the land development potential. Acquisitions can be accomplished by water systems through conservation restrictions, land banking, land purchases and land donations. Sample conservation restrictions are available at: <http://www.state.ma.us/dep/brp/dws/>. Future development of Zone II is a major concern. The Department recommends that the water district acquire Zone II land closest to the Zone I or land that is subject to high-risk development (refer to Developing a local Wellhead Protection Plan).

### What are "BMPs?"

Best Management Practices are structural (i.e. oil & grease trap catch basins), nonstructural (i.e. hazardous waste collection days) or managerial measures that are used to protect and improve surface water and groundwater quality.



- ✓ **Local Controls** - Coordinate efforts with local officials in Dover, Millis, Sherborn, and Walpole to compare existing controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). For more information on DEP land use controls see <http://www.state.ma.us/dep/brp/dws/>.
- ✓ **Inspection Program** - Develop and implement an Inspection Program for facilities that generate, use, store, or dispose of hazardous/toxic materials. Local Board of Health and Building Inspectors working on inspections often include floor drain and underground storage tanks. Local inspection programs can provide valuable technical assistance on Best Management Practices.

Refer to Table 2 and Appendix 2 for more information about other land uses and activities that may be potential sources of contamination.

Identifying potential contaminant sources is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential contaminant sources are identified, specific recommendations like those below should be used to better protect the Medfield wells.

### Section 3: Source Water Protection

Implementing source protection measures and Best Management Practices (BMPs) will reduce the Medfield Water Department System's susceptibility to contamination. Additional source protection recommendations are listed in Table 3 and the Key Issues above.

Medfield Water Department, in conjunction with the Town, is commended for taking an active role in promoting source protection measures in the Water Supply Protection Areas through:

- ❖ Adopting land use controls that meet DEP's Drinking Water Regulations
- ❖ Sending letters to surrounding communities requesting protection of Zone II areas that extend across town boundaries
- ❖ Incorporating Best Management Practices for stormdrain maintenance

- ❖ Partnering with EPA in Department of Public Work Facilities Best Management Practices

Appendix 1 includes specific recommendations for each of the following:

#### ➤ **Partner with Local Businesses:**

Since many small businesses and industries use hazardous materials and produce hazardous waste products, it is essential to educate the business community about drinking water protection. Encouraging partnerships between businesses, water suppliers, and communities will enhance successful public drinking water protection practices.

#### ➤ **Provide Outreach to the Community:**

Public education and community outreach ensure the long-term protection of drinking water supplies. Awareness often generates community cooperation and support. Residents and business owners are more likely to change their behavior if they know where the wellhead protection recharge area is located; what types of land uses and activities pose threats; and how their efforts can enhance protection.

#### ➤ **Plan for the Future:**

One of the most effective means of protecting water supplies is planning, such as the adoption of local controls to protect watersheds and ground water. These controls may include health regulations, general ordinances, and zoning bylaws that prohibit potential sources of contamination from wellhead protection areas.

Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. These recommendations are only part of your ongoing local drinking water source protection.

#### Top 5 Reasons to Develop a Local Wellhead Protection Plan

- ❶ Reduces Risk to Human Health
- ❷ Cost Effective! Reduces or Eliminates Costs Associated With:
  - ♦ Increased groundwater monitoring and treatment
  - ♦ Water supply clean up and remediation
  - ♦ Replacing a water supply
  - ♦ Purchasing water
- ❸ Supports municipal bylaws, making them less likely to be challenged
- ❹ Ensures clean drinking water supplies for future generations
- ❺ Enhances real estate values – clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

## Section 4: Additional Resources Available for Source Protection

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community.

The assessment and protection recommendations in this SWAP report are provided as a tool to spur community discussion, support ongoing source protection efforts, and help set local drinking water protection priorities.

The Medfield Water Department should supplement this SWAP report with local information on potential sources of contamination and land uses. To aid in the protection of the wells, local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

### Funding Resources:

The Department's Wellhead Protection Grant Program and Source Protection Grant Program provide funds to assist public water suppliers in addressing Water Supply Source Protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program. For additional information, please refer to the program fact sheet from this year. Please note: each spring DEP posts a new Request for Response for the Grant program (RFR).

The Aquifer Land Acquisition Program protects both surface and groundwaters used for drinking water purposes. Land acquisition is considered to be the single best way to protect a drinking water supply. Land acquisitions for water supply protection purposes include outright purchases, conservation restrictions, land donations, and interest in land taken by eminent domain. These funds will be available to water suppliers and municipal governments through the process described below. All publicly owned water suppliers, districts, or municipalities are invited to express an interest by submitting a Statement of Need covering any land purchase expected to be made to protect a public water supply that can be completed by June 30, 2002. The Department of Environmental Protection will select respondents of the Draft Statement of Need to submit a completed Final Statement of Need based on DEP land acquisition standard operating procedures, ability to use the funds by June 30, 2002, and other environmental criteria as determined necessary by the Secretary and Commissioner.

For further information on the Aquifer Land Acquisition Program, contact Joseph McNealy, Director of Program Development, Department of Environmental Protection, at (617) 556-1068.

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, Aquifer Land Acquisition Program, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: <http://www.state.ma.us/dep/brp/mf/mfpubs.htm>.

### Additional Documents:

To help with source protection efforts, more information is available by request or online at [www.state.ma.us/dep/brp/dws](http://www.state.ma.us/dep/brp/dws) including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

### For More Information

Contact Anita Wolovick in DEP's Wilmington Office at (978) 661-7768 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier, town boards, and the local media.

## Section 5: Appendices

1. Protection Recommendations
2. Regulated Facilities within the Water Supply Protection Area
3. Table of Tier Classified Oil and/or Hazardous Material Sites within the Water Supply Protection Areas
4. Additional Documents on Source Protection in Medfield

**Table 3: Current Protection and Recommendations**

<b>Protection Measures</b>	<b>Status</b>	<b>Recommendations</b>
<b>Zone I</b>		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	<b>YES</b> (Elm Street Wells & Well #6)	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
	<b>NO</b> (Main Street Wells)	Monitor non-water supply activities in Zone Is, and investigate options for removing these activities.
Is the Zone I posted with "Public Drinking Water Supply" Signs?	<b>YES</b>	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is Zone I regularly inspected?	<b>YES</b>	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone I?	<b>NO</b>	Monitor non-water supply activities in Zone Is, and investigate options for removing these activities.
<b>Municipal Controls</b> (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Wellhead Protection Controls that meet 310 CMR 22.21 (2)?	<b>YES</b>	Monitor activities in Zone II to assure compliance with local wellhead protection controls.
Do neighboring communities protect the Zone II areas extending into their communities?	<b>Unknown</b>	Follow-up on request that municipal officials in Dover, Millis, Sherborn, and Walpole develop land use restrictions that meet 310 CMR 22.21(2).
<b>Planning</b>		
Does the PWS have a Wellhead Protection Plan?	<b>NO</b>	Develop a wellhead protection plan. Follow "Developing a Local Wellhead Protection Plan" available at: <a href="http://www.state.ma.us/dep/brp/dws/">www.state.ma.us/dep/brp/dws/</a> .
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	<b>YES</b>	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a wellhead protection committee?	<b>NO</b>	Establish a committee that includes representatives from citizens' groups, neighboring communities, and the business community.
Does the Board of Health conduct inspections of commercial and industrial activities?	<b>Uncertain</b>	Coordinate efforts with the Board of Health and Fire Department to conduct inspections. For more guidance see "Hazardous Materials Management: A Community's Guide" at <a href="http://www.state.ma.us/dep/brp/dws/files/hazmat.doc">www.state.ma.us/dep/brp/dws/files/hazmat.doc</a> .
Does the PWS provide wellhead protection education?	<b>SOME</b>	Currently, the only outreach is through the annual Consumer Confidence Report and annual tours of the wells. Increase residential outreach through bill stuffers, school programs, Drinking Water Week activities, and coordination with local groups. Aim additional efforts at commercial, industrial and municipal uses within the Zone II.

**APPENDIX A: DEP PERMITTED FACILITIES WITHIN THE MEDFIELD WATER SUPPLY PROTECTION AREAS**

<b>DEP FACILITY NUMBER</b>	<b>FACILITY NAME</b>	<b>STREET ADDRESS</b>	<b>TOWN</b>	<b>PERMITTED ACTIVITY</b>	<b>ACTIVITY CLASS</b>
134001	COMARK CORP	93 WEST ST	MEDFIELD	HANDLER	Small Quantity Generator
33252	RICKS AUTO BODY INC	100 N MEADOWS RD	MEDFIELD	HANDLER	Small Quantity Generator
33952	COLONIAL SER CTR SQ UIER SS NUMBER PKW	461 MAIN ST	MEDFIELD	HANDLER	Small Quantity Generator
34497	MILLER STUART ASSOC ESCO TOOL	50 PARK ST	MEDFIELD	HANDLER	Small Quantity Generator
34501	MEDFIELD COLLISION	98R ADAMS ST	MEDFIELD	HANDLER	Very Small Quantity Generator
134000	WHITE SAM & SONS	16 WESTMILL ST	MEDFIELD	HANDLER	Very Small Quantity Generator
134000	WHITE SAM & SONS	16 WESTMILL ST	MEDFIELD	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
38085	SUNOCO SERVICE STATION	209 EAST MAIN ST	MEDFIELD	HANDLER	Very Small Quantity Generator
38085	SUNOCO SERVICE STATION	209 EAST MAIN ST	MEDFIELD	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
308181	FORM CENTERLESS GRINDING INC	106 ADAMS ST	MEDFIELD	HANDLER	Small Quantity Generator
308181	FORM CENTERLESS GRINDING INC	106 ADAMS ST	MEDFIELD	HANDLER	LARGE QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
308181	FORM CENTERLESS GRINDING INC	106 ADAMS ST	MEDFIELD	HANDLER	Small Quantity Generator

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
308181	FORM CENTERLESS GRINDING INC	106 ADAMS ST	MEDFIELD	HANDLER	LARGE QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
33952	COLONIAL SERVICE CENTER, INCORPORATED	NORTH AND MAIN ST	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
136180	CUMBERLAND GULF #118659	560 MAIN ST	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
182613	ANTONS CLEANERS INC	527 MAIN ST	MEDFIELD	HANDLER	Very Small Quantity Generator
182613	ANTONS CLEANERS INC	527 MAIN ST	MEDFIELD	HANDLER	VERY SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
320170	DON GRAVES SIGN INC	67 WEST ST	MEDFIELD	HANDLER	Very Small Quantity Generator
320137	TEXACO SERVICE STATION	26 SPRING ST	MEDFIELD	HANDLER	Very Small Quantity Generator
207995	MOBIL OIL CORP	MAIN & NORTH STS	MEDFIELD	HANDLER	Very Small Quantity Generator
308181	FORM CENTERLESS GRINDING INC	106 ADAMS ST	MEDFIELD	HANDLER	Small Quantity Generator
38085	SUNOCO #0006-1457	209 EAST MAIN ST	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
318141	BAYER CORP	63 NORTH ST	MEDFIELD	HANDLER	Large Quantity Generator
132696	MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	HANDLER	Very Small Quantity Generator
132696	MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	FUEL DISPENSER	Very Small Quantity Generator

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
132696	MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	HANDLER	VERY SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
132696	MEDFIELD STATE HOSP	45 HOSPITAL RD	MEDFIELD	HANDLER	Very Small Quantity Generator
132696	MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
182729	LA SUPREMA DRY CLEANERS	24 PARK STREET	MEDFIELD	HANDLER	Very Small Quantity Generator
40007	MEDFIELD TRANSFER STATION	NORTH MEADOWS ROAD	MEDFIELD	HANDLER	NON-NOTIFIER HW FAC THAT IS SUBJ TO REGS BUT NOT PERMITTED
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	HANDEL	Very Small Quantity Generator
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	HANDEL	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	FUEL DISPENSER	BELOW AQ REGULATED THRESHOLDS
53527	MEDFIELD TOWN OF	NORTH MEADOWS ROAD	MEDFIELD	HANDEL	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
40007	MEDFIELD COMPOST SITE	NORTH MEADOWS RD	MEDFIELD	COMPOST	REGISTRATION
246924	SAM WHITE & SONS COMPOST SITE	16 WEST MILL ST	MEDFIELD	COMPOST	REGISTRATION
348613	RANDYS AUTOMOTIVE SERVICE INC	26 SPRING ST	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	HANDEL	Very Small Quantity Generator

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
330646	MEDFIELD DEPARTMENT OF PUBLIC WORKS	NORTH MEADOWS ROAD	MEDFIELD	FUEL DISPENSER	BELOW AQ REGULATED THRESHOLDS
53527	MEDFIELD TOWN OF	NORTH MEADOWS ROAD	MEDFIELD	HANDLER	SMALL QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
40007	MEDFIELD COMPOST SITE	NORTH MEADOWS RD	MEDFIELD	COMPOST	REGISTRATION
246924	SAM WHITE & SONS COMPOST SITE	16 WEST MILL ST	MEDFIELD	COMPOST	REGISTRATION
348613	RANDYS AUTOMOTIVE SERVICE INC	26 SPRING ST	MEDFIELD	FUEL DISPENSER	Fuel Dispenser
329731	GAF MATERIALS CORPORATION	60 CURVE STREET	MILLIS	TURA REPORTER	LARGE QUANTITY TOXIC USER
329731	GAF MATERIALS CORP	60 CURVE STREET	MILLIS	HANDLER	Small Quantity Generator
329731	GAF MATERIALS CORP	60 CURVE STREET	MILLIS	HANDLER	LARGE QUANTITY GENERATOR - WASTE OIL/PCBS ONLY
40095	MILLIS COMPOST SITE	ISLAND RD & ENVIRONMENTAL DR	MILLIS	COMPOST	REGISTRATION
265505	MILLIS DPW	7 WATER ST	MILLIS	FUEL DISPENSER	Fuel Dispenser
40095	MILLIS TRANSFER STATION	ISLAND ST	MILLIS	TRANSFER STATION	SMALL TRANSFER STATION
40095	MILLIS TRANSFER STATION	ISLAND ST	MILLIS	TRANSFER STATION	SMALL TRANSFER STATION

DEP FACILITY NUMBER	FACILITY NAME	STREET ADDRESS	TOWN	PERMITTED ACTIVITY	ACTIVITY CLASS
177024	TRESCA BROTHERS SAND & GRAVEL INC	66 MAIN ST	MILLIS	HANDLER	Very Small Quantity Generator
177024	TRESCA BROTHERS SAND & GRAVEL INC	66 MAIN ST	MILLIS	HANDLER	LARGE QUANTITY GENERATOR - WASTE OIL/PCBS ONLY

## UNDERGROUND STORAGE TANKS

FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
BELL ATLANTIC	26 PLEASANT STREET	MEDFIELD	UTILITIES	1000	DIESEL
CUMBERLAND FARMS GULF	560 MAIN & SPRING STREET	MEDFIELD	GAS STATION	8000	GASOLINE
CUMBERLAND FARMS GULF	560 MAIN & SPRING STREET	MEDFIELD	GAS STATION	8000	GASOLINE
CUMBERLAND FARMS GULF	560 MAIN & SPRING STREET	MEDFIELD	GAS STATION	8000	GASOLINE
MOBIL STATION	MAIN & NORTH STREET	MEDFIELD	SERVICE STATION	10000	GASOLINE
MOBIL STATION	MAIN & NORTH STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
MOBIL STATION	MAIN & NORTH STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
MOBIL STATION	MAIN & NORTH STREET	MEDFIELD	SERVICE STATION	6000	GASOLINE
MOBIL STATION	MAIN & NORTH STREET	MEDFIELD	SERVICE STATION	1000	WASTE OIL
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	10000	GASOLINE
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	10000	GASOLINE
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	10000	GASOLINE
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	10000	GASOLINE
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	1000	
TEXICO	26 SPRING STREET	MEDFIELD	SERVICE STATION	550	



FACILITY NAME	ADDRESS	TOWN	DESCRIPTION	CAPACITY (GAL)	CONTENTS
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	8000	GASOLINE
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	1000	FUEL OIL
SUNOCO	209 E. MAIN STREET	MEDFIELD	SERVICE STATION	1000	WASTE OIL
MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	RESIDENTIAL FACILITY	30000	FUEL OIL
MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	RESIDENTIAL FACILITY	30000	FUEL OIL
MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	RESIDENTIAL FACILITY	30000	FUEL OIL
MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	RESIDENTIAL FACILITY	10000	FUEL OIL
MEDFIELD STATE HOSPITAL	45 HOSPITAL RD	MEDFIELD	RESIDENTIAL FACILITY	2000	FUEL OIL

For more information on underground storage tanks, visit the Massachusetts Department of Fire Services web site: <http://www.state.ma.us/dfs/ust/ustHome.htm>

Note: This appendix includes only those facilities within the water supply protection area(s) that meet state reporting requirements and report to the appropriate agencies. Additional facilities located within the water supply protection area(s) should be considered in local drinking water source protection planning.

**APPENDIX B – Table of Tier Classified Oil and/or Hazardous Material Sites within Medfield Water Supply Protection Areas**

DEP’s datalayer depicting oil and/or hazardous material (OHM) sites is a statewide point data set that contains the approximate location of known sources of contamination that have been both reported and classified under Chapter 21E of the Massachusetts General Laws. Location types presented in the layer include the approximate center of the site, the center of the building on the property where the release occurred, the source of contamination, or the location of an on-site monitoring well. Although this assessment identifies OHM sites near the source of your drinking water, the risks to the source posed by each site may be different. The kind of contaminant and the local geology may have an effect on whether the site poses an actual or potential threat to the source.

The DEP’s Chapter 21E program relies on licensed site professionals (LSPs) to oversee cleanups at most sites, while the DEP’s Bureau of Waste Site Cleanup (BWSC) program retains oversight at the most serious sites. This privatized program obliges potentially responsible parties and LSPs to comply with DEP regulations (the Massachusetts Contingency Plan – MCP), which require that sites within drinking water source protection areas be cleaned up to drinking water standards.

For more information about the state’s OHM site cleanup process to which these sites are subject and how this complements the drinking water protection program, please visit the BWSC web page at <http://www.state.ma.us/dep/bwsc>. You may obtain site -specific information two ways: by using the BWSC Searchable Sites database at <http://www.state.ma.us/dep/bwsc/sitellst.htm>, or you may visit the DEP regional office and review the site file. These files contain more detailed information, including cleanup status, site history, contamination levels, maps, correspondence and investigation reports, however you must call the regional office in order to schedule an appointment to view the file.

The table below contains the list of Tier Classified oil and/or Hazardous Material Release Sites that are located within your drinking water source protection area.

**Table 1:** Bureau of Waste Site Cleanup Tier Classified Oil and/or Hazardous Material Release Sites (Chapter 21E Sites) - Listed by Release Tracking Number (RTN)

RTN	Release Site Address	Town	Contaminant Type
3-0003142	461 Main Street	Medfield	Oil
3-0003830	26 Spring Street	Medfield	Oil
3-0013400	105 Adams Street	Medfield	Oil and Hazardous Material
3-0013401	105 Adams Street	Medfield	Oil and Hazardous Material
3-0013403	105 Adams Street	Medfield	Hazardous Material
3-0015514	527 Main Street	Medfield	Hazardous Material
3-0002548	Water Street	Millis	Hazardous Material
3-0003323	40 Railroad Avenue	Millis	Oil
3-0004033	66 Main Street	Millis	Oil
3-0004704	7 Water Street	Millis	Oil
3-0011836	7 Water Street	Millis	Oil

For more location information, please see the attached map. The map lists the release sites by RTN.