



# Massachusetts Department of Environmental Protection Source Water Assessment and Protection (SWAP) Report For Eliot Woods Condominiums

## What is SWAP?

The Source Water Assessment and Protection (SWAP) program, 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.

## SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

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

Prepared by the  
Massachusetts Department of  
Environmental Protection,  
Bureau of Resource Protection,  
Drinking Water Program

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**Table 1: Public Water System (PWS) Information**

<b>PWS NAME</b>	Eliot Woods Condominiums
<b>PWS Address</b>	728 Auburn Street
<b>City/Town</b>	Whitman, MA 02382
<b>PWS ID Number</b>	4338002
<b>Local Contact</b>	John O'Conner
<b>Phone Number</b>	(617) 984-1658

<b>Well Name</b>	<b>Source ID#</b>	<b>Zone I (in feet)</b>	<b>IWPA (in feet)</b>	<b>Source Susceptibility</b>
Well #1	01G	267	688	Moderate
Well #2	02G	267	688	Moderate

## Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, 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. 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:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

## 1. Description of the Water System

Eliot Woods Condominiums receives its drinking water from two 6-inch bedrock wells located in a forested area southwest of the condominium complex. Both wells have Zone I radii of 267 feet and Interim Wellhead Protection Areas (IWPA) of 688 feet. The IWPA provides an interim protection area for a water supply well when the actual recharge area has not been delineated. The actual recharge area to the wells may be significantly larger or smaller than the IWPA. The wells are located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone Is and IWPAs. Currently the water is treated with a water softener to control iron and manganese. The DEP requires public water suppliers to monitor the quality of the water. For current information on

### 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 an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

### What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

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 via EPA's Envirofacts website at [http://www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html).

## 2. Discussion of Land Uses in the Protection Areas

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

#### Key issues include:

1. **Zone Is;**
2. **Residential development; and**
3. **Transmission line.**

The overall ranking of susceptibility to contamination for the well is moderate, based on the presence of moderate threats within the IWPA.

1. **Zone Is** – Currently, the well meets DEP's Zone I regulations, which allow only water supply related activities in the Zone I and require that the land within the Zone I be owned or controlled by the public water system. The Zone Is are owned by the Eliot Woods Condominium Trust and there are no non-water supply activities in the Zone Is. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

#### Recommendations:

- ✓ Do not allow any non-water supply activities in the Zone Is.
- ✓ Never use or store pesticides, fertilizers or road salt within the Zone Is.

2. **Residential Development** – Some of the condominiums, landscaping and vehicle parking are located in the IWPA. Activities associated with residential development have the potential to impact drinking water quality if improperly managed.

#### Recommendation:

- ✓ If possible, contact residents in the IWPA about water supply protection. A brochure is included in this packet.
- ✓ Direct stormwater drainage in vehicle parking areas away from Zone Is and IWPAs

**Table 2: Table of Activities within the Water Supply Protection Areas**

Potential Contaminant Sources	Zone I	IWPA	Threat	Potential Concern
Residential development	No	Yes	Moderate	Runoff from lawns, septic systems, underground/above ground storage tanks
Parking lot	No	Yes	Moderate	Stormwater runoff, spills
Lawn	No	Yes	Moderate	Fertilizer and pesticide use
Heating oil storage	No	Yes	Moderate	Leaks, spills
Transmission Line	No	Yes	Moderate	Application of herbicides

\* For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - [www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/).

## Glossary

**Zone I:** The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

**IWPA:** A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

**Zone II:** The primary recharge area defined by a hydrogeologic study.

**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 that resists penetration by water.

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

when possible.

- ✓ Minimize use of pesticides and fertilizers in IWPA's.
  - ✓ Ensure that heating oil is properly stored and contained to prevent release in case of a spill.
  - ✓ Ensure that heating oil deliveries are supervised to prevent spillage from over filling or other accidents.
3. **Transmission Line Right of Way within the IWPA** – A transmission line right of way crosses the IWPA. Over-application or improper handling of herbicides used for clearing the right-of-way is a potential source of contamination.
- Recommendation:**
- ✓ Contact the utility company to ensure that pesticides and herbicides are not sprayed in the IWPA of the Eliot Woods Condominium water supply.

## 3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the wells' susceptibility to contamination. The Eliot Woods Condominium is commended for protection the Wells' Zone Is as wooded conservation land. The Condominium Trust should review and adopt the key recommendations above and the following:

### Priority Recommendations:

#### Zone I:

- ✓ Keep non-water supply activities out of the Zone Is.
- ✓ Post water supply protections signs in the Zone Is and IWPA's.
- ✓ Conduct regular inspections of the Zone Is. Look for illegal dumping or evidence of vandalism.
- ✓ Use Best Management Practices (BMPs) and restrict activities that could pose a threat to the water supply.
- ✓ Keep road and parking lot drainage away from the wells.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.

### Training and Education:

- ✓ Train staff and residents on proper hazardous material use, disposal, emergency response, and best management practices. Post labels as appropriate on raw materials and hazardous waste.
- ✓ Post drinking water protection area signs at key visibility locations.

### Facilities Management:

- ✓ Inspect and maintain the integrity of fuel oil storage and associated containment structures.
- ✓ Septic system components should be located, inspected, and maintained on a regular basis.

### Planning:

- ✓ Work with local officials in town to include the facility's IWPA in the Aquifer Protection District Bylaw and to assist you in improving protection.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational

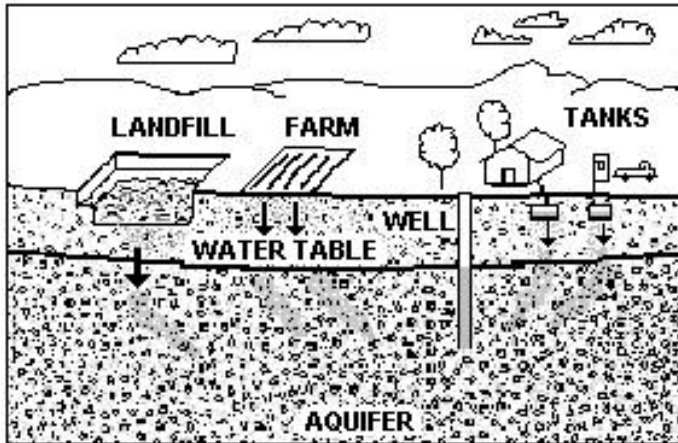


Figure 1: Example of how a well could become contaminated by different land uses and activities.

#### **For More Information:**

Contact Isabel Collins in DEP's Lakeville Office at (508) 946-2726 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:  
[www.state.ma.us/dep/brp/dws/](http://www.state.ma.us/dep/brp/dws/)

efforts. Use a land use inventory to assist in setting priorities, focusing inspections, and creating educational activities.

#### **Funding:**

The Department's Wellhead Protection Grant Program provides funds to assist public water suppliers in addressing wellhead protection through local projects. Protection recommendations discussed in this document may be eligible for funding under that program. For additional information, please refer to DEP's web site. Other funding opportunities are described in *Grant and Loan Programs: Opportunities for Watershed Protection, Planning and Implementation* at <http://www.state.ma.us/dep/brp/mf/files/glprgm.pdf>.

Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

### **3. Attachments**

#### **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

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Fact Sheet
- Residents Protect Drinking Water Factsheet
- Your Septic System Brochure
- Source Protection Sign Order Form

Copies of this assessment have been made available to the public water supplier and town boards.