Source Water Assessment Program (SWAP) Report
For
Post Office Place

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

Date Prepared:
March 21, 2001

Table 1: Public Water System (PWS) Information

PWS NAME	Post Office Place Realty
PWS Address	206 Worcester Road
City/Town	Princeton
PWS ID Number	2241015
Local Contact	Kevin Nelson
Phone Number	(508) 898-9993

Well Name	*Source ID#*	*Zone I (in feet)*	*IWPA (in feet)*	*Source Susceptibility*
WELL #1	2241015-01G	100	420	Moderate

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.

Maintaining Your Good 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.

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 septic systems, road maintenance, 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 contaminant sources, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. The 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. Attached Map of the Protection Areas

1. DESCRIPTION OF THE WATER SYSTEM

The Well

The well for Post Office Place Realty is located in the parking lot, east of the on-site building. The well has a Zone I of 100 feet and an Interim Wellhead Protection Area (IWPA) of 420 feet. Please refer to the attached Map of the Zone I and IWPA. The water serving the facility has no treatment at this time. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1.

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).

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. Please see Table 2.
Key issues include:

1. **Inappropriate activities in Zone I;**
2. **An aboveground storage tank (AST) with heating oil;**
3. **Potential discharge of hazardous waste to the septic system.;**
4. **Landscaping and lawn care; and**
5. **Utility substation transformer.**

The overall ranking of susceptibility to contamination for the well is Moderate based on the presence of only moderate to low threat land use or activity in the IWPA.

1**. Zone I** - Currently, the well does not meet DEP's restrictions for Zone I; only water supply related activities are allowed in the Zone I. The Zone I contains the on-site building, a portion of the road, and the parking lot. 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.

2**. The Aboveground Storage Tank (AST)** – The AST with heating oil is within the IWPA. The age of the tank, its construction, and materials all contribute to making this an important issue for drinking water source protection. The tank is about ten years old, with a capacity of 275 gallons, and is contained in a berm.

3. **Septic System –** The septic system for the facility is located within the IWPA. The system is pumped yearly.

4. **Landscaping and lawn care –** Well kept flowerbeds are located adjacent to the wellhead. Application of fertilizer to the plants pose a potential threat to the well.
Recommendation:
Fertilizer use on the flowerbeds should be discontinued within the Zone I.

5. **Transformer –** A transformer is located behind the building, within the IWPA. The unit is the newer version that does not contain the polychlorinated biphenyls (PCB) oil. The transformer is located on a concrete pad.

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

Facility Type	Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Commercial building	Parking lot, driveways & roads	Yes	Yes	Moderate	Limit road salt usage and provide drainage away from wells
	Utility substation transformer	No	Yes	Low	New version, located on impervious surface
	Septic System	No	Yes	Moderate	See brochure on septic systems in the appendices
	Fuel Storage Above Ground	No	Yes	Moderate	Tank is on paved surface

*** -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/.**

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 II. 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.

Implementing the following recommendations will reduce the system's susceptibility to contamination.

3. PROTECTION RECOMMENDATIONS

Post Office Place Realty should review and adopt the following recommendations:

Zone I:

- ✓ Remove all non-water supply activities from Zone I, to comply with DEP's Zone I requirements. Please note that water systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying system.
- ✓ Keep non-water supply activities out of the Zone I.
- ✓ Consider well relocation if Zone I threats cannot be mitigated. Please note that DEP permit approvals must be obtained prior to the installation of a new well.
- ✓ Conduct regular inspections of the Zone I and IWPA. Look for illegal dumping, evidence of vandalism and check any above ground tanks for leaks, spills or damage.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.

Training and Education:

- ✓ Instruct tenant on proper hazardous material transportation, disposal, emergency response, and best management practices; include custodial staff, groundskeepers, and certified operator.
- ✓ Post drinking water protection area signs at key visibility locations.

Facilities Management:

- ✓ Implement standard operating procedures regarding proper storage, use, transportation and disposal of hazardous materials and waste. To learn more, see the hazardous materials guidance manual at http://www.dep.state.ma.us/dep/bwp/dhm/dhmpubs.htm

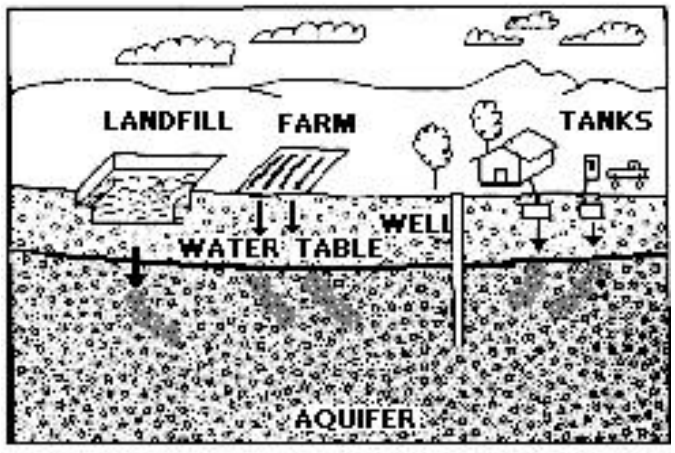

Figure 1: Example of how a well could become contaminated by different land uses and activities.

- ✓ Implement Best Management Practices (BMPs) for the use of fertilizer, herbicides and pesticides on the flowerbeds on the property.
- ✓ Upgrade all oil/hazardous material storage tanks to incorporate proper containment and safety practices.
- ✓ Make sure non-sanitary wastewater is not discharged into on-site septic systems.
- ✓ The septic system components should be located, inspected, and maintained on a regular basis. Refer to the attachments for more information regarding septic systems.

Planning:

- ✓ Work with local officials in Princeton to include the IWPA of Post Office Realty's IWPA in the Aquifer Protection Bylaws and other regulations and to assist you in improving protection.

For More Information:

Contact Josephine Yemoh-Ndi in DEP's Worcester Office at (508) 792-7650 x 5030 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on DEP's web site at: www.state.ma.us/dep/brp/dws.

Copies of this assessment have been provided to the water department, town boards, the town library and the local media.

- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a potential contaminant threat inventory to assist in setting priorities, focusing inspection.

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

Attachments:

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Fact sheet
- Your Septic System Brochure