



Massachusetts Department of Environmental Protection Source Water Assessment and Protection (SWAP) Report For Crescent Valley 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

<i>PWS Name</i>	Crescent Valley Condominiums
<i>PWS Address</i>	Pleasant Street
<i>City/Town</i>	Granby, Massachusetts
<i>PWS ID Number</i>	1111025
<i>Local Contact</i>	Mr. John Sullivan
<i>Phone Number</i>	(413) 238-5344

<i>Source Name</i>	<i>Source ID#</i>	<i>Zone I (in feet)</i>	<i>IWPA (in feet)</i>	<i>Source Susceptibility</i>
Well #1	1111025-01G	210	520	Moderate
Well #2	1111025-02G	210	520	Moderate

Introduction

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

The Crescent Valley Condominium complex is located north of Route 202 and consists of two buildings with a total of 26 two-bedroom condominium units that are heated by a natural gas fuel source. Currently, approximately 78 people reside at the complex. Granby does not have a municipal water system or municipal sewer. However, South Hadley's sewer system has been extended into Granby along Route 202. In 1996, the condominium connected to the municipal sewer system, severed the lines to and abandoned their septic system. Since there is no available municipal water system, the

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).

complex is served by two wells, Wells #1 (01G) and #2 (02G). Well #2 serves as the primary source and Well #1 is used as a back-up or supplemental source.

The Zone I is the area immediately around the wellhead, while the Interim Wellhead Protection Area (IWPA) is a larger area that likely contributes water to the wellhead. The IWPA is only an interim protection area; the actual area of contribution to the wells may be smaller or much larger than the IWPA. The Zone I and IWPA radii for Wells #1 and #2 are 210 feet and 520 feet, respectively. The protective radii were based on approved withdrawal rates for the wells as determined through the New Source Approval Process pumping tests and property ownership. Please refer to the attached map that shows the Zone I and IWPA radii.

Well #1 is a 560 feet deep, 6-inch diameter well drilled into the bedrock aquifer; Well #2 is a 510 feet deep, 6-inch diameter well drilled that is approximately 50 feet from Well #1 and also drilled into the bedrock aquifer. Wells #1 and Well #2 are located in a field approximately 230 feet from the buildings and the casings extend greater than 18-inches above grade.

Mapping shows the complex is underlain by relatively thin (less than 50 feet) sand and gravel deposits over bedrock. The bedrock is mapped as Jurassic aged sedimentary rocks, conglomerate and arkose of the Portland Formation. There is no evidence of a protective till or clay layer in the vicinity of the wells. Wells drilled in these conditions are considered highly vulnerable to potential contamination from the ground surface because there is no significant hydrogeologic barrier, such as clay, to prevent surface contamination from migrating into the bedrock aquifer.

The Crescent Valley Condominium well water does not require and does not have treatment at this time. For current information on monitoring results, please review the Consumer Confidence report (CCR) that is issued annually by the water supplier or refer questions to the water supply contact listed above in Table 1.

2. Discussion of Land Uses in the Protection Areas

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

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

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Zone I	-	-	-	Contact DEP before expanding or modifying the system. DEP approved the Zone I with the concrete encased sewer line and/or the natural gas in the Zone I.
Transportation corridors/parking	No	Both Wells	Moderate	Continue to manage stormwater and limit road salt usage. Inspect for leaks and spills.
Sewer line/natural gas line	Both Wells	Both Wells	Moderate	Two sewer lines encased in cement are within Well #1's Zone I. The natural gas line is in the zone I of both wells. DEP the Zone Is.
High density/low density residential	No	Both Wells	Moderate	Provide BMPs for household hazardous waste management. Use IPM for lawn maintenance.

* -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 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.

Key issues include:

1. **Zone I;**
2. **Transportation corridors/parking; and,**
3. **Residential development.**

The overall ranking of susceptibility to contamination for the springs is moderate, based on the presence of at least one moderate threat land use or activity in the Zone I and/or IWPA, as seen in Table 2.

1. Zone I – Zone I restrictions allow only water supply related activities or non-threatening activities in Zone I. Currently, the system does meet DEP's Zone I requirements as the system was approved with a natural gas line and a concrete encased sewer line on the edge of the Zone I.

Recommendations:

- ✓ Do not allow any additional no-water supply activities in the Zone Is.
- ✓ Keep the immediate area around the wells clear of brush and inspect the casings regularly to ensure the integrity of the cap and seal and to ensure there is no standing water near the casing. Install a berm sloping away from the casing if water is evident.

2. Transportation corridor/parking – The internal transportation and parking are located within the IWPA. Accidents and normal use and maintenance of corridors and parking areas may pose a potential threat to water quality. Catch basins transport stormwater from roadways and adjacent properties to the ground, streams, rivers or reservoir. As flowing stormwater travels, it picks up de-icing materials, petroleum chemicals and other debris on roads and contaminants from streets and lawns. Common potential contaminants in stormwater originate from automotive leaks, automobile maintenance and car washing, accidental spills, as well as, waste from wildlife and pets.

Recommendations:

- ✓ Prepare an Emergency Response Plan that includes coordination among town emergency responders to be sure they area aware of the location of your wells.
- ✓ Continue to manage on-site stormwater to ensure it flows away from the Zone Is.

3. Residential Land Uses – The condominium uses the municipal sewer and natural gas for fuel. However, it is unknown what fuel sources and wastewater disposal method the surrounding residences utilize. If managed improperly, activities

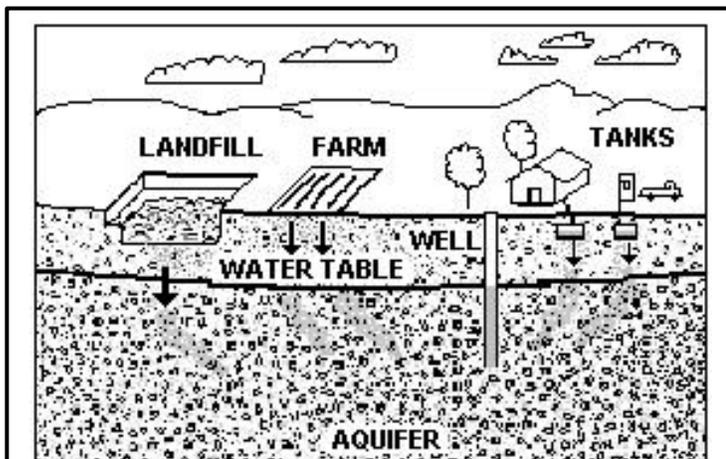


Figure 1: Example of how a well could become contaminated by different land uses and activities.

associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Household Hazardous Materials** - Hazardous materials may include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil/Kerosene Storage** - If managed improperly, Underground and Aboveground Storage Tanks (USTs and ASTs) and their associated fuel lines can be potential sources of contamination due to leaks or spills of the fuel oil/kerosene they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.

For More Information:

Contact Catherine Skiba in DEP's Springfield Office at (413) 755-2119 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/

Additional Documents:

To help with source protection efforts, more information is available by request or online at 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

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

Residential Land Use Recommendations:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" available on the following DEP website www.mass.gov/dep/brp/dws/protect.htm, and in attached to this report, which provides BMPs for common residential issues.
- ✓ Promote BMPs for stormwater management and pollution controls.

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

3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will help to reduce the wells' susceptibility to contamination. Crescent Valley Condominium is commended for current practices of limiting access to the wellhead area and the original facility design. Review and adopt the key recommendations above and the following:

Facilities Management:

- ✓ For utility transformers that may contain PCBs, contact the utility to determine if PCBs have been replaced. If PCBs are present, urge their immediate replacement. Keep the area near the transformer free of tree limbs that could endanger the transformer in a storm.

Planning:

- ✓ Work with your community to ensure develop a Wellhead Protection District and include your IWPA in the District along with other public water supplies in town.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Consider long term planning for the system that includes maintenance of the system.

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 the "Wellhead Protection Grant Program". For additional information, please refer to the attached program fact sheet. Each program year, if funds are available, the Department posts a new Request for Response for the Grant program (RFR). Other funding opportunities are described in "Grant and Loan Programs: Opportunities for Watershed Protection, Planning and Implementation" at the DEP website: <http://www.state.ma.us/dep/brp/mf/files/glprgm.pdf>.

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

4. Attachments

- Map of the Public Water Supply (PWS) Protection Areas
- Recommended Source Protection Measures Fact sheet