



# Source Water Assessment Program (SWAP) Report For Optim, Incorporated

## 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.

## 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

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

|                      |                           |
|----------------------|---------------------------|
| <b>PWS NAME</b>      | Optim Incorporated        |
| <b>PWS Address</b>   | 64 Technology Park Road   |
| <b>City/Town</b>     | Sturbridge, Massachusetts |
| <b>PWS ID Number</b> | 2287021                   |
| <b>Local Contact</b> | Robert Griffin            |
| <b>Phone Number</b>  | (508) 347-5100            |

| <b>Well Name</b> | <b>Source ID#</b> | <b>Zone I<br/>(in feet)</b> | <b>IWPA<br/>(in feet)</b> | <b>Source<br/>Susceptibility</b> |
|------------------|-------------------|-----------------------------|---------------------------|----------------------------------|
| Well #1          | 2287021-01G       | 100                         | 418                       | 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

Optim Incorporated is a small medical assembly manufacturer. From parts, they assemble endoscopes used by hospitals and medical professionals. The well for Optim Incorporated is located behind the building, between the building itself and Route 20. The well has a Zone I of 100 feet and an Interim Wellhead Protection Area (IWPA) of 418 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 well may be significantly larger or smaller than the IWPA.

The well is 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 I and IWPA. The well serving the facility has no treatment

### 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).

at this time. For current information on monitoring results and treatment, please contact the Public Water System contact person listed above in Table 1. 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. **Inappropriate Activities in Zone I; and**
2. **Transportation Corridor.**

The overall ranking of susceptibility to contamination for the well is Moderate, based on the presence of only moderate threat land use or activity in the IWPA, as seen in Table 2.

1. **Zone I** – Currently, the well does not meet DEP's restrictions, which only allow water supply related activities in Zone Is. The facility's Zone I contains a portion of the on-site building, Route 20, and a local access road. The public water supplier does not own and/or control all land encompassed by the Zone I. 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:

- ✓ Remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements.
- ✓ Do not use road salt within the Zone I.

2. **Transportation Corridor** – Route 20 is located within the Zone I and IWPA. Route 20 is heavily traveled, which increases the chances of contamination from accidents or spills and road salt.

### Recommendations:

- ✓ Contact your local fire department to ensure that the IWPA is included in emergency response planning.
- ✓ Work with your local highway supervisor to encourage reducing road salt use in your IWPA.

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

| Potential Contaminant Sources | Zone I | IWPA | Threat   | Comments                                   |
|-------------------------------|--------|------|----------|--|
| Transportation corridor       | Yes    | Yes  | Moderate | Limit road salt usage, have emergency plan |
| Structures                    | Yes    | Yes  | -        | Non-water supply structures in Zone I      |

\* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associate d 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.

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

## 3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the well's susceptibility to contamination. Optim Incorporated should review and adopt the key recommendations above and the following:

### Zone I:

- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ Conduct regular inspections of the Zone I. Look for illegal dumping, evidence of vandalism.
- ✓ If Optim Incorporated intends to continue utilizing the building in the Zone I, use BMPs and restrict activities that could pose a threat to the water supply.
- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.
- ✓ Do not use pesticides, fertilizers or road salt within the Zone I.

### Training and Education:

- ✓ Train staff on proper hazardous material use, disposal, emergency response, and best management practices; include custodial staff, groundskeepers, and certified operator. Post labels as appropriate on raw materials and hazardous waste.
- ✓ Work with your community to ensure that stormwater runoff is directed away from the well and is treated according to DEP guidance.

### Facilities Management:

- ✓ Implement Best Management Practices (BMPs) for the use of fertilizer, herbicides and pesticides on facility property

### Planning:

- ✓ Work with local officials in Sturbridge to include the Optim Incorporated's IWPA in Aquifer Protection District Bylaws and to assist you in improving protection.

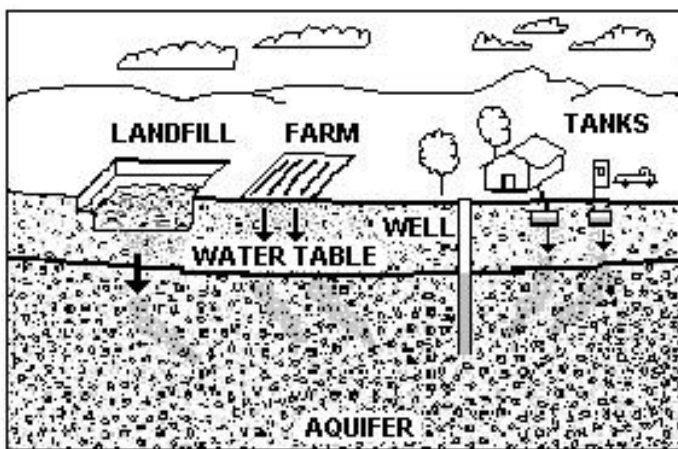


Figure 1: Example of how a well could become contaminated by different land uses and activities.

- ✓ 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.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational 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 the "Wellhead Protection Grant Program".

For additional information, please refer to the attached program fact sheet. Please note: each program year the Department posts a new Request for Response for the Grant program (RFR).

**For More Information:**

Contact **Josephine Yemoh-Ndi** in DEP's **Worcester Office** at **(508) 792-7650 x 4030** 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/)

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>.

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.

**4. Attachments**

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Wellhead Protection Grant Program Fact Sheet

**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

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