

Wellhead Protection Area Delineation
Task I – Background Research
City of Lowell, Michigan
November 2003

1.0 INTRODUCTION

The 1986 Amendments to the Safe Drinking Water Act require states to establish a Wellhead Protection Program (WHPP) for communities to protect their Public Water Supply System (PWSS). Wellhead protection is a program that minimizes the risk of contamination to public groundwater supplies by managing the land area surrounding a well. The program protects areas around municipal wellfields from contamination through the identification of potential contamination sources, the development of contingency plans in the event of groundwater contamination, and by establishing standards to be considered in selecting new municipal well locations.

Currently the State of Michigan's WHPP is voluntary and is managed by the Michigan Department of Environmental Quality (MDEQ). A PWSS that chooses to participate in Michigan's WHPP performs activities and investigations to delineate the Wellhead Protection Area (WHPA) for their production wells, identify contaminant sources within the WHPA and develop a management plan for the WHPA. The WHPA is defined as the land surface and subsurface area surrounding a wellfield through which water, or contaminants, can enter the ground and move toward the wellfield within a specified time period. WHPA delineation provides a science-based assessment of the time-related groundwater capture zones for a well or wellfield, and provides the foundation for preventing groundwater contamination of the PWSS.

Peerless-Midwest has divided the SHPA delineation study for the City of Lowell, Michigan into three Tasks:

- Task I – Background Research
- Task II – Field Work
- Task III – Groundwater Modeling and Final Report

This report summarizes the Task I research and presents recommendations for Task II and Task III work. Final recommendations for Task III work will be developed after additional data are collected during the Field Work task and a conceptualization meeting is held with the MDEQ.