

CITY OF HARBOR SPRINGS WELLHEAD PROTECTION PROGRAM PLAN

EXECUTIVE SUMMARY

Throughout the State of Michigan, areas of polluted groundwater are present in almost every urbanized area. When contamination in groundwater becomes significant, human health and economic activities may be effected. As a result, communities have recognized the need for a systematic program of groundwater quality management. A Wellhead Protection Program develops long-term strategies to protect a community's drinking water supply. The long-term management of groundwater quality is endorsed at both the federal and state level. Specifically, the federal Safe Drinking Water Act was amended in 1986 to include wellhead protection. Additionally, the State of Michigan provides financial and technical resources for communities to develop a wellhead protection program. The City of Harbor Springs' Wellhead Protection Plan is a "living" document that details action being taken to ensure the long-term integrity of the City's water supply system.

Several years ago, the City of Harbor Springs recognized the importance of protecting the wells that supply drinking water to the City residents. In 2001, the City selected Fleis & VandenBrink Engineering, Inc. (F&V) to assist in developing a formal Wellhead Protection Program based on guidelines provided by the Michigan Department of Environmental Quality (MDEQ).

Subsequent development of the City's Wellhead Protection Program included public meetings that were held quarterly during active work periods beginning in 2002. These meetings provided an opportunity for City residents and elected officials to discuss the general nature of the Wellhead Protection Plan. Additionally, detailed explanations of the Wellhead Protection Area delineation and specific options in developing and implementing management strategies were discussed.

The overall goals of the City's program are included in this Plan. Previous reports detail the collection of available information on the hydrogeology of the Harbor Springs area, including the interpretation of numerous depth to water measurements and results from aquifer performance testing. The collected information was used to develop a groundwater model that was used to delineate the 10 year groundwater contribution zone for the City's well fields. These areas are known as the Wellhead Protection Areas.

Upon defining the Wellhead Protection Areas, sites of environmental contamination listed on state and federal databases as located within the Wellhead Protection Area were identified. Documenting these sites is important for several reasons, including identifying immediate risk to drinking water. This documentation is referred to as a Contaminant Source Inventory.

Collected information was used to analyze the "sensitivity" and determine "susceptibility" of the City's drinking water wells to potential sources of contamination. MDEQ has defined the aquifer supplying the City's wells as having a "moderate" geologic sensitivity to potential contamination. After review of the Contaminant Source Inventory information included in this Plan, a susceptibility determination will be made by the MDEQ.

Based on the City's goals, and on the delineated Wellhead Protection Areas, the City reviewed numerous options to manage the wellhead protection areas. Options reviewed included both regulatory (e.g. ordinances, site review criteria, existing programs) and non-regulatory options (e.g. public education).