

## EXECUTIVE SUMMARY

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The Shakopee Mdewakanton Sioux Community, hereinafter Community, is a federally recognized Indian Tribe with land in Prior Lake and Shakopee, Scott County, Minnesota. Reservation boundaries contain approximately 3000 acres in the Eastern Broadleaf Forest province (Big Woods) of Minnesota. The Community's land base contains over 200 acres of wetlands, two lakes and several intermittent streams.

Currently there are three public water supply wells in use that provide consumers with water. The McKenna system includes Minnesota Unique Well (MUW) #554090, which provided water to 95 residences in 2008. The Sioux Trail system includes MUW #525938 and MUW #253021. The Sioux Trail System provided water to 117 residences, several businesses including an RV park, Dakota Mall, Dakota Sport and Fitness, Playworks, two casinos and one hotel complex in 2008.

Where possible, this Wellhead Protection Plan (WHPP) follows the recommended guidelines from both the Environmental Protection Agency and the Minnesota Department of Health regarding such a plan. Regular communication between the Community and surrounding local units of government and the general public allowed for public involvement during the preparation process.

The Wellhead Protection Areas (WHPAs) for the Jordan aquifer public water supply wells (PWSs) were originally delineated by the Minnesota Department of Health using a groundwater flow model developed using the U.S. Geological Survey's finite-difference code MODFLOW. The WHPA for the Franconia-Ironton-Galesville aquifer public water supply well was originally delineated by the Minnesota Department of Health using the Metropolitan Area Groundwater Lower Aquifers Model - Layers 4 and 5. This model was developed using the Multi-Layer Analytic Element Model (MLAEM) software. These existing WHPAs were modified using a groundwater flow model built by Barr Engineering Company (Barr). This model code was again based on the U.S. Geological Survey's finite-difference code MODFLOW-2000, and the modeling program GMS 6.0 was used for pre- and post-processing.

Drinking Water Supply Management Areas (DWSMAs) were defined based on the Wellhead Protection Area delineation, and the vulnerability of each DWSMA was assessed. The DWSMAs for both Jordan aquifer wells (MUW #554090 and #525938) were found to have a vulnerability rating of **moderate**. The surficial geology and chemical data were the determining factors for these ratings, because the surficial geology around those wells lacks a consistent protective layer, but age dating indicates slow recharge. The DWSMA for the Ironton-Galesville aquifer well (MUW #253021) was found to be **non-vulnerable** due to the extensive protection offered by the overlying St. Lawrence Formation and the upper part of the Franconia Formation.

The Community Land Department completed a search for all known and possible contaminant sources in the McKenna and Sioux Trail wellfields' DWSMAs. This search included a review of existing environmental databases, the completion of an inner wellhead management zone contaminant source inventory and a potential contaminant source survey conducted by staff in

the Community Land, Public Works, Maintenance Departments, Community businesses and the SMSC Gaming Enterprise (GE) which oversees the operation of the casinos and associated businesses.

A Plan of Action was adopted based on the vulnerability assessments and contaminant survey results. It is a three-part strategy based on education, services, and regulation. This approach has been applied to all of our primary and secondary goals.

Our primary goals include safe management of wells and underground storage tanks which pose a potential threat to groundwater resources within wellhead protection areas. Secondary goals include managing stormwater runoff, hazardous waste, and septic systems. Secondary goals are included in this plan to increase the protection of ground and surface water resources above what is offered through the primary goals.

This Wellhead Protection Plan complements other plans adopted by the Community for the management of nonpoint source pollution, wetlands, surface water and groundwater, these plans include the *Non-point Source Pollution Management Plan*, *The Wetland Management Plan*, *the Separate Storm Sewer System Spill Response Contingency Plan*, and others.

It is the hope of the SMSC Wellhead Protection Committee that members of the public will be better informed by the information contained herein, and that they will be moved to take action in their individual daily lives to minimize potential problems with the quality of water currently enjoyed by residents of the Shakopee Mdewakanton Sioux Community.