

# WEBEQUIE SUPPLY ROAD (WSR) PROJECT

## Groundwater and Surface Water Study Plan

### Fact Sheet

#### What is the primary purpose of this study plan?

- Collect information and data to describe existing surface water and groundwater conditions in the Project area to identify and consider potential effects as a result of the WSR Project; and
- Provide provide recommendations to minimize or avoid negative effects to groundwater and surface water during construction and operation/maintenance of the Project.

#### What is the study area for the potential effects on groundwater and surface water?

**Study areas are used to define the geographic boundaries in which the Project may have environmental effects. At this stage, there are three general study areas:**

- **Project Footprint (PF):** The area of direct disturbance (i.e., the physical area required for Project construction and operation);
- **Local Study Area (LSA):** The area where largely direct, and indirect effects of the Project are likely to be measurable; and
- **Regional Study Area (RSA):** The area where potential, largely indirect and cumulative effects of the Project in the broader, regional context may occur.

#### Where will information be gathered from?

##### Secondary sources:

- Geological Survey of Canada physiographic regions map;
- An Assessment of the Groundwater Resources of Northern Ontario;
- Webequie monitoring and water quality data from community water supply (Winisk Lake), as well other potable wells;
- Environment Canada, Water Survey of Canada Monitoring Stations;
- Archived and updated hydrometric data, Water Survey of Canada (WSC) and Environment and Climate Change Canada;
- Review of other EAs and studies in broader study area; and
- Indigenous Knowledge and community information.

##### Field surveys:

- Groundwater Field Program; and
- Surface Water Field Program

## **What is the timeline for potential effects on groundwater and surface water?**

The EA process will consider both the short and long-term effects of the Project on groundwater and surface water. The project will occur in two phases:

- Construction phase; and
- Operations phase

### **What is the Groundwater Field Program?**

The purpose of this program is to collect groundwater samples to analyze their quality and composition in comparison to federal and provincial water quality guidelines. Sixteen groundwater monitoring wells are proposed to be installed along the proposed corridor for the WSR and within the aggregate extraction areas. The program will be supervised by engineers and geologists, along with a hydrogeologist who will design the work plan and provide expertise throughout the execution of the field program.

### **What is the Surface Water Field Program?**

The purpose of this program is to collect surface water samples from 26 of the identified waterbody crossings that exist along the proposed corridor for the WSR. The quality and composition of these water samples will be analyzed and compared to federal and provincial water quality guidelines. Surface water sampling will occur at different times of the year (excluding winter) to capture seasonal and annual variability.

## **What is being analyzed from these water samples?**

- General chemistry and inorganics (alkalinity, pH, turbidity);
- Metals;
- Nutrients;
- Organic compounds; and
- Sediment.

## **What are the potential effects of the Project on groundwater and surface water?**

- Changes to groundwater levels, quality and flow movement; and
- Changes to stream flows, water quality, water levels (flooding) and natural erosion processes at waterbody crossings.

