

# LAKE MANITOBA LAKE ST. MARTIN

## OUTLET CHANNELS PROJECT

### HUMAN HEALTH

**Includes the assessment of health risks associated with conditions such as air, water, and soil quality, as well as noise level conditions**

Environmental Impact Statement—Summary by Valued Component (VC)

#### Why is Human Health a VC?

Human Health is a VC because it is inherently important to people, people have expressed health-related concerns associated with the Project, and because the Project activities have the potential to change environmental conditions that influence the health risk of people.

#### What is the current state of Human Health risks?

Human health risks are characterized based on potential exposures (inhalation, ingestion, skin contact) to chemicals from air, groundwater, and soils due to the Project. Noise exposure can also pose an annoyance risk to humans near the channels.

The existing air quality in the region generally meets appropriate air quality guidelines. Groundwater is generally of good quality, but there is little specific existing information on soil quality.

**Valued components (VCs)** are components of the natural and human environment that are considered by the proponent, public, Indigenous Peoples, scientists and other technical specialists and government agencies involved in the assessment process to have scientific, ecological, economic, social, cultural, archaeological, historical, or other importance.

The existing sound levels are assumed to be below the threshold suggested in Health Canada Guidance (35 dBA—similar to the sound of a whisper or water flowing in a creek).

#### What effects might the Project have on Human Health?

Air quality health risks may increase during construction activities such as clearing, channel excavation, and berm construction, due to exhaust emissions and dust particulates generated from traffic, ground disturbance, and exposed soils.

Soil quality health risks may increase during construction from dust deposits and chemical releases to soil, which could expose humans through skin contact and inhalation.

Water quality health risks were not measured as there are no anticipated alterations to chemical composition of water during construction or operation of the Project. Noise levels may increase above 35 dBA to 50–57 dBA during construction, due to the operation of heavy machinery, traffic, and other construction equipment, which may be an annoyance to people residing near the channels.

Possible accidents and malfunctions affecting human health could include construction-related risks, such as failure of erosion protection and sediment control measures, spills of hazardous materials, fires or vehicle collisions. Risks once the Project is operating, could include breaches or overtopping of the channel dikes, or failure of the control structures. Routine monitoring and inspection will aid in the rapid identification of potential concerns and implementation of emergency response plans.



# How will effects to Human Health be addressed?

## Air Quality and Soil Quality Health Risks

- Ensure Project off-road construction equipment complies with Canadian emission standards
- Properly maintain engines, exhaust systems, and noise abatement equipment
- Reduce construction vehicle and equipment idling times and cold starts to the extent possible
- Reduce emissions associated with transportation of staff during construction through the use of a work camp

## Water Quality Health Risks

- Develop a Surface Water Quality Monitoring Program
- Conduct a human health risks assessment should exceedances be detected during construction and operation

## Noise Levels

- Notify residents near to construction noise-generating activities before activities begin, and if necessary, use temporary noise abatement barriers to reduce noise levels
- Implement a complaint response procedure to address noise complaints should they arise

## FOLLOW-UP AND MONITORING

Follow-up and monitoring for human health will be based on monitoring of the quality of groundwater and surface water. If quality standards are exceeded, a human health risk assessment may be necessary to determine whether the noted changes represent a potential human health risk. Several Plans have been developed to reduce potential effects on people (e.g., Emergency Response Plan, Sediment Management Plan, Groundwater Management Plan).

## CONCLUSIONS

The anticipated effects on human health were characterized based on exposures that exceed acceptable levels determined by organizations such as Health Canada.

The Project is not expected to have human health effects associated with changes to air quality, surface water quality, groundwater quality, soil quality, terrestrial country food quality or aquatic country food quality.

The Project is not expected to cause human health issues related to airborne dispersion of contaminants.

Changes in noise levels are not expected to cause health concerns. Noise issues are limited to the construction phase and do not extend beyond the local area. Construction related changes in noise levels are sporadic and/or intermittent and will only persist while construction activities are occurring in any given area. Mitigation measures are in place to reduce the risk of annoyance to humans exposed to noise.

Risks of accidents and malfunctions have been mitigated through project design, routine monitoring and inspection, and implementation of emergency response measures, if required.

## For more information or if you would like to share your concerns:

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