

Hamlet of Repulse Bay Water License Application for Construction and Operation of an Access Road and Borrow Sources

Application Summary

March 2011

The Hamlet of Repulse Bay has submitted an application to the Nunavut Water Board (NWB) for a new water license to permit construction and operation of an access road and borrow sources (the Project). The activities undertaken in the construction of the access road in relation to waterbodies, fisheries, and waterbody crossings are described in this summary.

The Hamlet of Repulse Bay needs to develop granular resource sites to allow for municipal road construction and other community projects. Six granular deposits (borrow sources) have been identified northwest of the Hamlet and a final design for an access road to these sites was prepared in 2010. The proposed access road is 8.729 km long, will be constructed of granular materials, and measure approximately 11 m wide at its base with additional width for shoulders and culverts in some areas.

The proposed access road will cross several waterbodies and authorization from the NWB is required before construction can begin. The Project route crosses six streams (Streams #1 to #6) and the tip of a sand and boulder tidal flat of the Tariugaq Inlet. Three ponds and three small lakes are also present within the Project area, located adjacent to or near the proposed access road. The Hamlet began construction of the access road in 2007 and completed approximately 2.9 km. Construction continued in 2009 and 2010 and approximately 4.4 km of the access road are currently constructed. A well-used ATV trail is also present along the majority of the Project route. This trail currently extends from the end of the constructed access road and leads to the North Pole River, an area frequented by community members. The ATV trail has not been constructed or improved, including trail stream crossing improvements, and ATV traffic traverses directly on the streambed; impacts from ATV traffic are apparent at all trail crossings.

Three of the six streams crossed by the proposed access road are expected to be ephemeral and flow during the freshet or significant precipitation events only. The remaining three streams were reported to flow throughout the ice-free season but would freeze to bottom in the winter. Fish were not observed within any of the waterbodies crossed by the proposed access road however ninespine stickleback were observed in two small waterbodies adjacent to the access road. Fish and fish habitat may be present within Tariugaq Inlet, and the headwater and/or downstream waterbodies of most streams.

Culverts will be installed at all waterbody crossings of the proposed access road. Culverts will be either 800 or 1600 mm diameter with varying lengths. The constructed portion of the access road presently crosses two streams (Streams #1 and #2) and the Tariugaq Inlet tidal flat. Rudimentary culverts were installed at the stream crossings, however no culverts were installed at the Tariugaq Inlet crossing and water presently drains through the large riprap of the constructed road. Culverts will be installed or replaced at these three crossings. The following mitigative measures are planned to protect water quality and potential fish habitat within or downstream of the waterbody crossings:

- restricting in-stream construction to a recommended timing window and to periods of low or no flow (e.g., Fisheries and Oceans Canada (DFO) Nunavut Operational Statement for In-Water Construction Timing Windows);
- using clean equipment and granular materials, and confining heavy equipment to the constructed portion of the access road;
- performing regular equipment inspections for leaks, cracks and weak hoses;

- where water flow is present during culvert installation (expected at three streams), install temporary cofferdams with a water pump-around system to enable work in-the-dry;
- installation of silt curtains around the culvert installation site of Tariugaq Inlet;
- installation of silt fences up-shore of ponds and lakes;
- implementation of the Project-specific Spill Contingency Plan and Dust Management Plan; and,
- implementation of additional mitigation measures outlined in the DFO Nunavut Operational Statement for Culvert Maintenance.