

## **MANAGEMENT PLAN**

### ***Section A – Project Overview***

The Kwoiek Creek Hydroelectric Project (the Project) is a 50 MW, run-of-river, “green power” generation project located on the lower reaches of Kwoiek Creek, a tributary to the Fraser River, approximately 14 km south of Lytton, British Columbia. The developer of the project is Kwoiek Creek Resources Limited Partnership (KCRLP), a partnership between the Kanaka Bar Indian Band (KBIB) and Innergex II Inc. (Innergex), a subsidiary of Innergex Renewable Energy Inc. (IRE). KCRLP obtained an Energy Purchase Agreement (EPA) from BC Hydro in August 2006. In March 2009, the Project received an Environmental Assessment (EA) Certificate following the completion of a provincial and federal review led by the BC Environmental Assessment Office (BCEAO). The Management Plan for this Works Permit application includes the Kwoiek Creek Hydroelectric Project Amended Application for an Environmental Assessment Certificate (2008), and the prescriptions identified in the Table of Commitments within the Environmental Assessment Certificate.

The Project will include an approximately 80 km long, 138 kV transmission line that will connect the Project to BC Hydro’s Highland Valley Substation near Mamit Lake. As shown on Drawing No. 81.10-2100, road access for the construction of the transmission line will make use of an extensive existing road network, including existing forestry road tenures and existing non-maintained roads/trails, as well as new roads/trails. A Licence of Occupation (LOO) application for the General Area of the Project, including an approximately 600 m wide transmission line corridor, has been submitted under Land File No. 3411656. With the exception of some forestry road tenures, roads on Crown land within the General Area will be tenured under the LOO and outside of the General Area under a Works Permit. This application is for a Works Permit for access roads outside of the General Area required for the construction of the proposed transmission line, which will take approximately two years.

### ***Section B – Project Description***

#### **Purpose**

The purpose of this Works Permit is for access roads on Crown land outside of the General Area to provide access for the construction of a proposed transmission line. The Works Permit includes several segments of roads, with a total length of 24.9 km. The roads will have a right of way width of 20 m. With the exception of an approximately 100 m long section of proposed trail (as shown on Drawing 81.10-2111), the Works Permit application includes only existing roads or trails identified using trim mapping, LIDAR data, and/or orthophotos.

The attached drawings, prepared in support of our land application requirements, show the access plan for the Project, including both existing and proposed roads/trails. Drawing No. 81.10-2100 is an overall plan of the road use for the Project. Drawings No. 81.10-2101, -2102 and -2112 show access linkages between the Project and nearby communities. Drawings No.

81.10-2103 to -2111 show a more detailed plan of the existing and proposed roads to be used along the transmission line corridor. A description of the access features identified in the access plan drawings follows.

1. Proposed Access Road (LOO) – Proposed new temporary roads to be built within the Licence of Occupation boundary for the purpose of constructing the Project.
2. Proposed Access Trail (LOO) – Proposed new temporary trails to be built within the Licence of Occupation boundary for the purpose of constructing the transmission line.
3. Public Road – Existing public roads to be used to access the Project.
4. Private Road – Existing and proposed new private roads to be used to access the Project.
5. Existing Non-Maintained Road/Trail (LOO) - This represents an existing road or trail within the LOO boundary to be used for constructing the Project. These roads/trails were identified using trim mapping, LIDAR and/or orthophotos.
6. Road Use Permit (Existing Forest Service Road) – This is an active Forest Service Road (FSR) to be used to access the Project. In some cases, a road use permit will be required with Ministry of Forests and Range (MOFR). Where a road use permit or maintenance agreement on the FSR already exists, KCRLP will need to enter into a road use agreement with the affected party.
7. Road Use Agreement (Active Road Permit) – This is a road with an active Road Permit. KCRLP will need to enter into a road use agreement with the Road Permit Holder.
8. **Works Permit (Existing Non-Maintained Road/Trail)** – **This represents an existing road or trail (identified using trim mapping, LIDAR and/or orthophotos) outside the LOO boundary to be used for constructing the Project.**
9. **Works Permit (Proposed Access Trail)** - **Proposed new temporary trails to be built outside of the Licence of Occupation boundary for the purpose of constructing the transmission line.**

Shapefiles of the Works Permit roads are included in the attached cd-rom.

All roads included as part of the Works Permit application will be restored to their pre-Project condition following the construction of the transmission line, with the exception of roads currently under a Ministry of Forests and Range road tenure (i.e., Road Permits).

## Construction

Construction, upgrades and maintenance to the Works Permit roads includes:

- clearing of overgrown trees and vegetation on the existing non-maintained roads/trails and along the sides of the road;
- clearing of trees and vegetation on the 100 m section of new trail;
- removal of danger trees along the edge of the road right-of-way;
- grading of the road surface;
- snow removal;
- restoration of existing drainage ditches and culverts;



- installation of new sediment control measures, including ditching and culvert installation where required;
- some cut and fill sections to reduce grades or improve site lines for safety;
- landslide protection at areas that pose a high potential risk;
- removal of slide material, as required;
- widening of some corners to accommodate year-round delivery of material and equipment; and,
- inspection of all existing bridges along the access road will be undertaken by qualified engineers and maintenance undertaken on the bridges as required, including repair or replacement of existing bridges.

Construction upgrades and regular maintenance of the access roads will be included as part of the transmission line contract. The contractor will require the following equipment and labour:

- supervisor;
- grader and operator;
- heavy equipment and operators;
- snow plough and operator;
- gravel trucks and drivers; and,
- general labourers.

KCRLP will retain an independent environmental monitor, to the satisfaction of the Regional Water Manager, who will be responsible for the environmental monitoring and reporting during construction.

## **Materials**

Minimal clearing and excavation will be required for the proposed upgrades, as existing roads are predominantly being used, with the exception of an approximately 100 m section of proposed trail. Wastes generated during construction will include: packaging (wood, metal and plastic) of the facility components; rock and soil associated with road construction upgrades; solids and fluids associated with equipment operation; and, domestic waste and sewage from the construction workers. All solid wastes will be collected on site and recycled or reused where possible. Solid waste that cannot be recycled or reused will be disposed of in an approved landfill. Portable toilets will be used during construction and a contractor will be responsible for the removal and disposal of sewage. Other liquid wastes, such as lubricants for equipment, will be collected and disposed of at an approved facility.

## **Environment**

As the construction activities proposed predominantly include upgrades to existing roads (i.e., no new roads will be constructed as part of this Works Permit application), minimal additional impacts to land, atmospheric, aquatic, and fish and wildlife habitat resources are anticipated.



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