TECHNICAL SUPPORTING DOCUMENT

FIRST NATION AND MÉTIS INTERESTS AND CONSULTATION

PROPOSED NEW POST CREEK HYDROELECTRIC PROJECT

Submitted To:

Coral Rapids Power Inc.
and Ontario Power Generation Inc.

Prepared By:

SENES Consultants

November 2013

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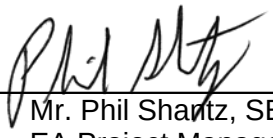
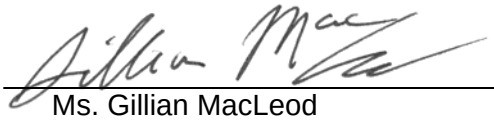
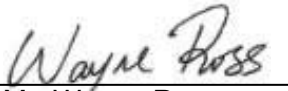
Submitted to:

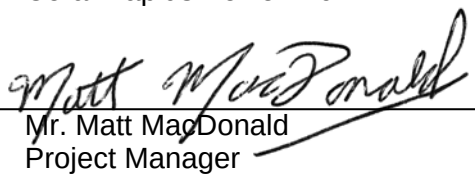
Coral Rapids Power Inc. 11 Elm Street North Timmins, Ontario P4N 6A3	Ontario Power Generation Inc. 700 University Avenue Toronto, Ontario M5G 1X6

Prepared by:
SENES Consultants

Prepared by:  November 2013
Mr. Phil Shantz, SENES
EA Project Manager
Consulting Team
Date

Reviewed by:  November 2013
Ms. Gillian MacLeod
Sr. Environmental Advisor
Ontario Power Generation Inc.
Date

Accepted by:  November 2013
Mr. Wayne Ross
President,
Coral Rapids Power Inc.
Date

Accepted by:  November 2013
Mr. Matt MacDonald
Project Manager
Ontario Power Generation Inc.
Date

EXECUTIVE SUMMARY

Ontario Power Generation Inc. (OPG) and its partner Coral Rapids Power Inc. (CRP), a wholly owned corporation of the Taykwa Tagamou Nation (TTN), are proposing the development of the New Post Creek Hydroelectric Project (New Post Creek Project or Project). The proposed Project is located in the District of Cochrane within the Geographic Township of Pinard, approximately 75 km north of the Town of Smooth Rock Falls and 15 km north of the former small community of Fraserdale.

The proposed New Post Creek Project was identified by the Ontario Ministry of Energy (2010) as being under consideration as a clean, renewable, cost-effective hydroelectric generation project in "Ontario's Long-Term Energy Plan".

In 1963, Ontario Hydro constructed the New Post Creek Diversion Dam on the Little Abitibi River in order to supply additional generating capacity at its Otter Rapids Generating Station (GS). The Otter Rapids GS is now owned and operated by OPG under the authority of a Water Power Lease. The dam allows flows to be diverted along the constructed New Post Creek Diversion Channel and New Post Creek to the Abitibi River upstream of Otter Rapids GS. The New Post Creek Project would take advantage of a portion of this diverted flow descending approximately 66 m between New Post Creek and the Abitibi River, all within TTN Traditional Territory to generate approximately 25 MW of electricity.

The proposed New Post Creek Project is subject to the "Class Environmental Assessment for Waterpower Projects" (OWA, 2012) under the Ontario *Environmental Assessment Act*. This First Nation and Métis Interests and Consultation Technical Support Document (TSD) was prepared as part of this Class Environmental Assessment process.

This TSD provides a summary of if and how First Nation and Métis interests including rights, resources and values may be affected by the proposed New Post Creek Project and the consultation undertaken as part of the Environmental Assessment (EA).

The proposed Project lies within the heart of the Traditional Territory of the TTN and this land is of high importance to them. TTN has been trying to pursue the development of a hydroelectric project for New Post Creek for many years; and therefore, has made a decision to partner with OPG in order to bring this to fruition. TTN's formal involvement on the proposed Project is through their company, CRP, which is devoted to hydroelectric development. The proposed Project has tremendous support within the community and has been endorsed by Chief and Council. Consultation with TTN members has been on-going for many years. Most of the members are anticipating the economic opportunities associated with the proposed Project. The proposed Project has many benefits for the First Nation, particularly contracting and employment opportunities, an opportunity for long term revenue, and capacity building in the hydroelectric generation field.

Extensive efforts have been made to work with the Moose Cree First Nation (MCFN) through the EA phase of the proposed Project. MCFN has a staff person dedicated to the proposed Project via the Joint Working Group, established between TTN, MCFN and OPG, and consultation sessions have occurred with the Community. The MCFN has made a Homeland Declaration as far as the western shore of the Abitibi River and the proposed transmission line for the proposed Project occurs within this area. A MCFN citizen has a trapline on the extreme western end of the proposed transmission line and he does hunt, trap and fish in the area. It is possible a few other MCFN people have also hunted, trapped and fished in this area. CRP/OPG and the MCFN Coordinator are working closely with the MCFN Trapper to mitigate any effects on his trapline.

In addition to TTN and MCFN, the MoCreebec Council of the Cree Nation (MoCreebec) based in Moose Factory has been included as part of the co-planning policy for the Moose River Basin. Based on CRP/OPG knowledge of the area and discussions with MoCreebec, it is opined that there are no MoCreebec interests that occur in or near the proposed Project. A letter has been provided by the MoCreebec in support of the proposed Project.

Out of courtesy, CRP/OPG have consulted with Wahgoshig First Nation (Wahgoshig) and are of the opinion that the Wahgoshig Traditional Territory does not encompass any area associated with the proposed Project. In a discussion with CRP, Chief Babin indicated that Wahgoshig has no concerns about the proposed Project.

The Métis Nation of Ontario (MNO) has also been consulted on the proposed Project and CRP/OPG have been supportive of any issues raised. Based on CRP/OPG knowledge of the area and discussions with MNO, it is opined that there are no Métis interests affected by the proposed Project.

In summary, CRP/OPG are of the opinion that all First Nation and Métis interests have been adequately consulted on the proposed Project; however, an “open door” policy will be maintained beyond the EA phase to deal with any issues or concerns as they may arise. TTN would re-iterate that making the proposed New Post Creek Hydroelectric Project a reality would be a very positive move for the Community.

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1.0 INTRODUCTION

In April 2006, a Memorandum of Understanding (MoU) was signed between Ontario Power Generation Inc. (OPG) and the Taykwa Tagamou Nation (TTN) to jointly explore hydroelectric development opportunities within the Abitibi River drainage basin, north of Highway 11. As a result of this initiative, a potential waterpower generation location was identified on New Post Creek, a tributary of the Abitibi River.

In 1963, Ontario Hydro constructed the New Post Creek Diversion Dam on the Little Abitibi River in order to supply additional generating capacity at its Otter Rapids Generating Station (GS). The Otter Rapids GS is now owned and operated by OPG under the authority of a Water Power Lease. The dam allows flows to be diverted from the Little Abitibi River along the constructed New Post Creek Diversion Channel and New Post Creek to the Abitibi River upstream of Otter Rapids GS. With a drainage area increase of approximately 9.5 times (from 319 to 3,025 km^2), mean flow in New Post Creek has increased from approximately 4.4 to 42 m^3/s (based on 1975-2012 data), with a 1:100 year flood event flow of 296 m^3/s. The New Post Creek Hydroelectric Project (New Post Creek Project or Project), proposed by OPG with its partner Coral Rapids Power Inc. (CRP), a corporation wholly owned by the TTN, would take advantage of a portion of this diverted flow descending approximately 66 m between New Post Creek and the Abitibi River, all within TTN Traditional Territory, to generate approximately 25 MW of electricity, or about 125 GWh annually.

The proposed New Post Creek Project was identified by the Ontario Ministry of Energy (2010) as being under consideration as a clean, renewable, cost-effective hydroelectric generation project in “Ontario’s Long-Term Energy Plan”.

The proposed New Post Creek Project provides some unique opportunities for economic and social development for TTN and its members. TTN’s equity share in the proposed Project will provide a steady flow of revenue to use as a source on which to build future development within TTN Traditional Territory. There will also be opportunities for employment during the Construction Phase of the proposed Project.

The utilization of water resources and the establishment of a GS in an area already manipulated by human influence represent a preferred option over a project proposed on an unaffected watercourse.

The proposed Project is located in the District of Cochrane within the Geographic Township of Pinard, approximately 75 km north of the Town of Smooth Rock Falls and 13 km northeast of Abitibi Canyon GS (Figure 1.1). The proposed New Post Creek Hydroelectric GS tailrace would be located on Abitibi River shore lands with the intake at New Post Creek approximately 3 km southwest of its outlet to the Abitibi River (Figure 1.2). The actual creek channel length between its outlet and the proposed intake location is approximately 5.7 km.

Figure 1.1 Proposed Project Location

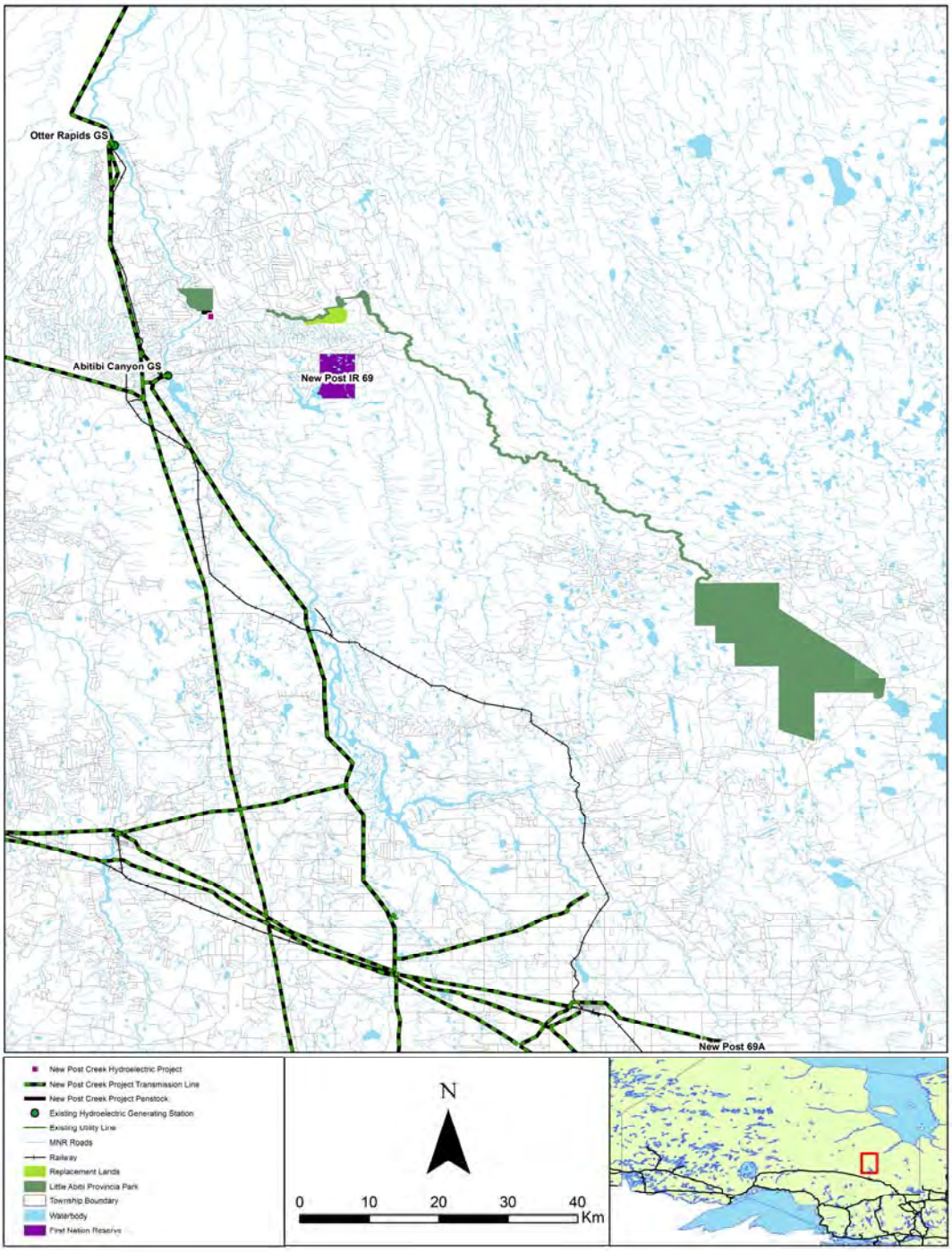
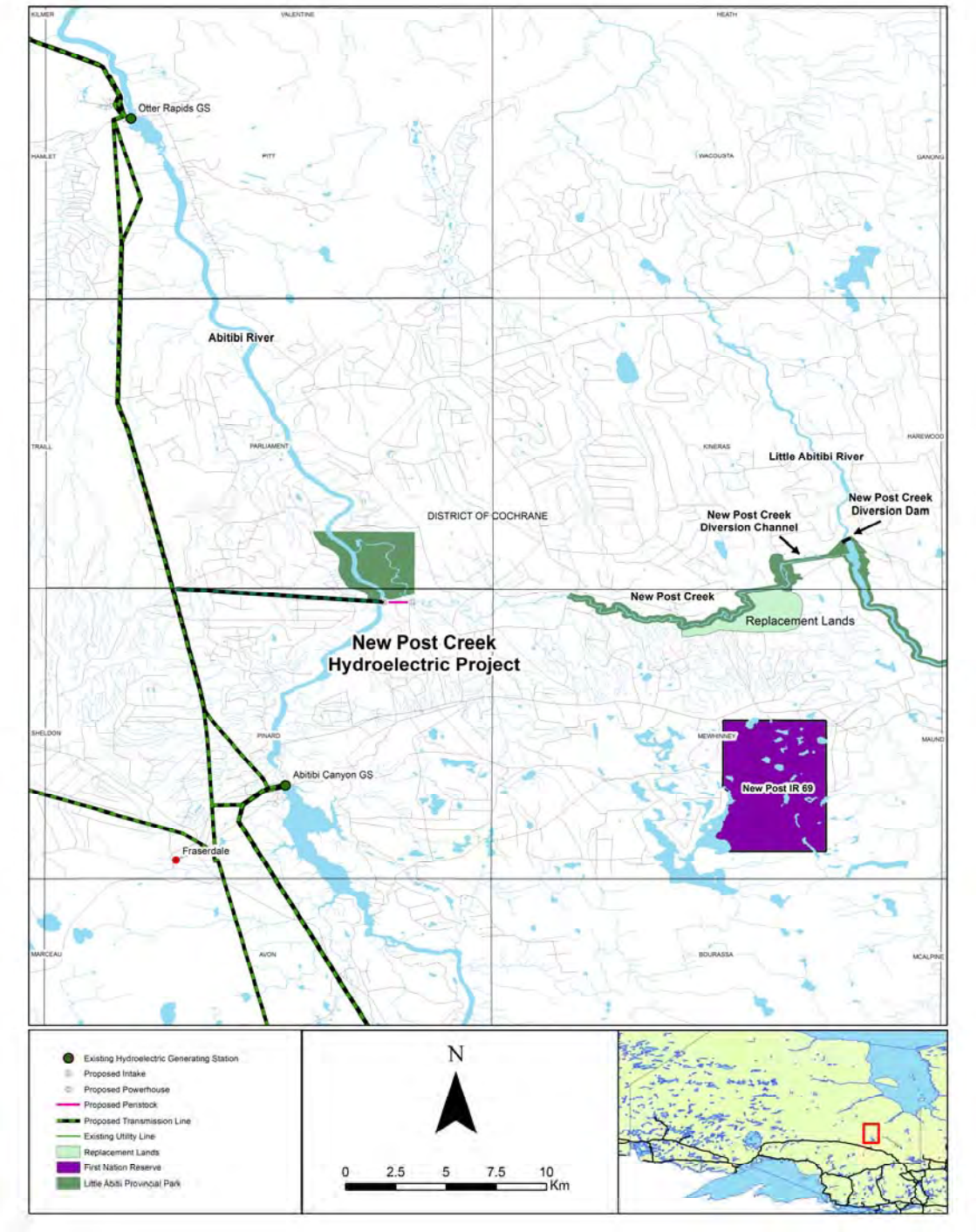


Figure 1.2 Proposed Project Site Location



This Technical Support Document (TSD) provides a summary of the First Nations and Métis communities/organization consulted on the proposed New Post Creek Project; the consultation program undertaken with each of them; and if and how their interests including rights, resources and values, may be affected. Other TSDs address the aquatic environment, terrestrial environment, cultural heritage, socio-economics and land-use, and public and agency consultation.

This report was prepared by SENES Consultants (SENES) as a TSD to the Environmental Report (ER) prepared according to the requirements of the Ontario Waterpower Association (OWA, 2012) Class Environmental Assessment for Waterpower Projects (OWA Class EA) under the Ontario *Environmental Assessment Act (EA Act)*. The ER provides a description of the proposed Project, summarizes the overall baseline environmental setting and anticipated environmental effects, recommends appropriate mitigation measures to minimize or obviate these effects, and describes agency, public, and First Nation and Métis consultation.

This First Nation and Métis Interests and Consultation TSD is organized into six main chapters:

- Chapter 1.0 **Introduction** – this section;
- Chapter 2.0 **Regulatory Framework, Project Description and Project Activities** – outlines the Environmental Assessment (EA) process and describes the proposed Project in detail;
- Chapter 3.0 **First Nations and Métis Organizations** – outlines and describes the First Nations and Métis peoples with a possible interest in the proposed Project;
- Chapter 4.0 **Involvement and Consultation** – summarizes the various consultation activities with each First Nation and Métis group;
- Chapter 5.0 **First Nations and Métis Interests** – summarizes the potential of the proposed Project to affect Aboriginal rights, resources, interests and values; and
- Chapter 6.0 **Summary and Conclusions** – outlines the summary conclusions with respect to the proposed Project and First Nations and Métis peoples consultation.

Chapters 7.0, 8.0 and 9.0 provide the References, Acronyms/Abbreviation and Glossary, respectively.

The Appendices provide supporting documentation including letters and presentation materials.

2.0 REGULATORY FRAMEWORK, PROJECT DESCRIPTION AND PROJECT ACTIVITIES

2.1 REGULATORY FRAMEWORK

In Ontario, proposed waterpower facilities are subject to the *EA Act*. The OWA (2012) developed the OWA Class EA process which was approved by the Ontario Minister of the Environment and the Lieutenant Governor in Council in 2008. The *EA Act* formally recognizes the OWA Class EA process which outlines the requirements for EA approval.

Under the OWA Class EA, the proposed New Post Creek Project is classified as a "New Project on Managed River System". Provided the requirements of the OWA Class EA planning process are met and a Part II Order request for a "bump-up" to an Individual EA is not made (or denied), a project is considered approved under the *EA Act*.

This First Nation and Métis Interests and Consultation TSD for the proposed Project ER was prepared as part of this OWA Class EA process.

Prior to July 2012, projects like the proposed New Post Creek Project that were subject to the Ontario *EA Act* may also have been subject to the federal EA process under the *Canadian Environmental Assessment Act* (*CEAA*) if they required federal funding, were located on federal lands and/or required any federal authorization, permit or approval ("triggers" of the federal EA process) enabling the project to be carried out in whole or in part. A "Project Description for Federal Agency Review – New Post Creek Hydroelectric Project" (SENES, 2011) was submitted to the Canadian Environmental Assessment Agency in July 2011 for determination of the applicability of the federal EA process. As part of the federal government plan for Responsible Resource Development, which seeks to modernize the regulatory system for project reviews, the *CEAA* (S.C. 1992, c.37) was repealed when the *Canadian Environmental Assessment Act, 2012* (*CEAA 2012*) came into force. The permit as "trigger"-based approach under *CEAA* has been replaced with a project list approach set out in regulation. As the proposed New Post Creek Project has not been listed under *CEAA 2012,* a federal EA is not required. All other applicable federal legislative, regulatory and constitutional requirements must still be fulfilled.

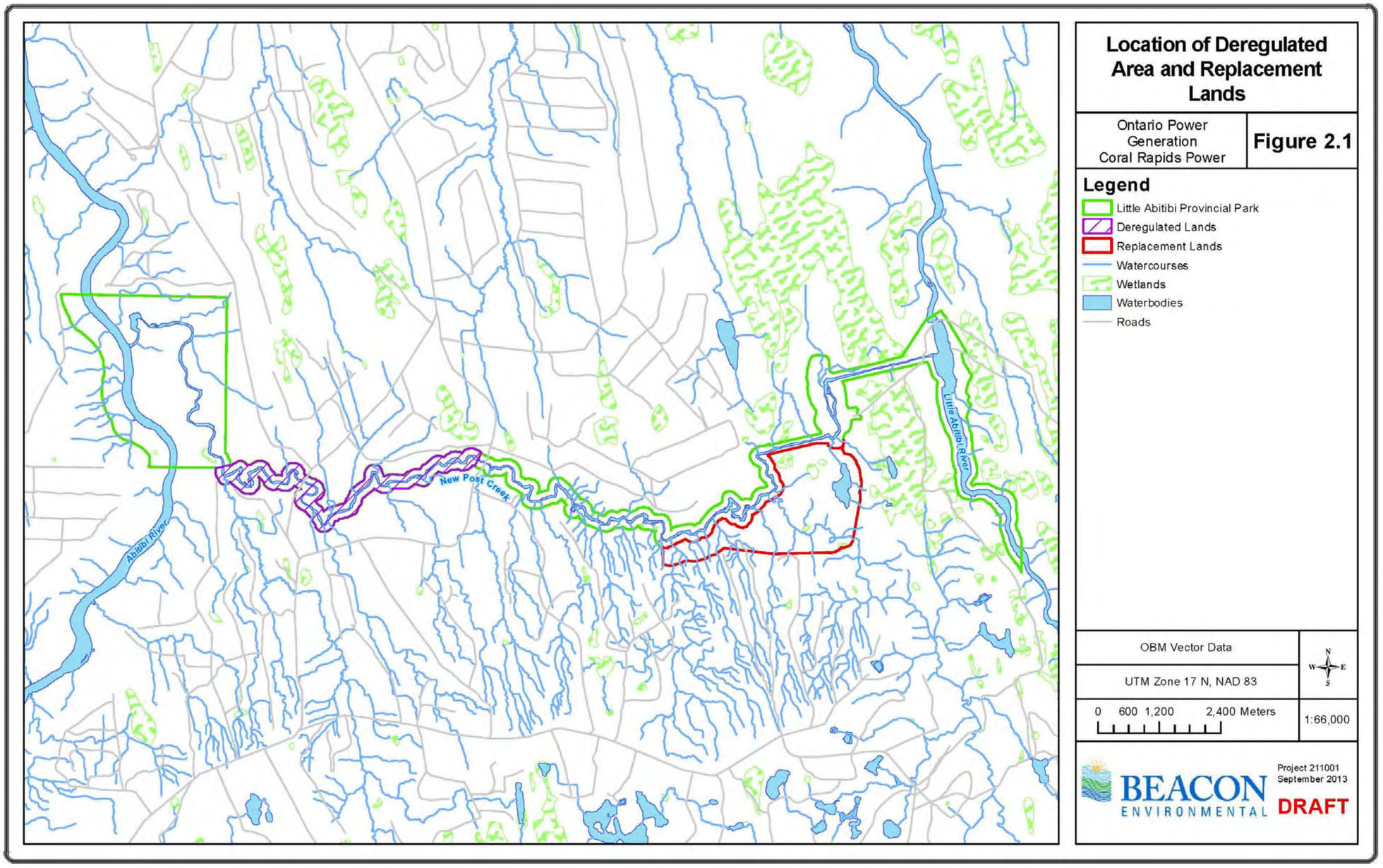
The generation of electricity is not permitted within a Provincial Park as stipulated by the *Provincial Parks and Conservation Reserves Act* (*PPCRA*). Since part of the proposed New Post Creek Project was located within Little Abitibi Provincial Park (LAPP), a deregulation of a small area of the specific Project site from LAPP accompanied by a concurrent regulation of suitable "Replacement Lands" was proposed and accepted in accordance with section 9(5)(c) of the *PPCRA*, and the agreed to Ontario Ministry of Natural Resources (MNR) processes for the deregulation. Section 9(5)(c) of the *PPCRA* enables the Lieutenant Governor in Council to dispose of an area in a provincial park that is 50 ha or more if the disposition is being made as part of a transaction that increases the size of the provincial park and enhances ecological

integrity. MNR and TTN participated in the identification of "Replacement Lands" that compensated for the removal of the small portion of land related to the proposed Project. OPG, CRP and TTN had been working with MNR and Ontario Parks since 2006 to (i) discuss mechanisms for allowing the hydroelectric facility to be built on lands currently within LAPP, and (ii) discuss the required site release process since the existing MNR Site Release Process does not allow for this. OPG, CRP and TTN came to an agreement with MNR and Ontario Parks for a coordinated process to deregulate a small portion out of LAPP and regulate the proposed Replacement Lands into LAPP. This required that the OWA Class EA for the proposed New Post Creek Project be coordinated with the MNR (2005) "Class Environmental Assessment for Provincial Parks and Conservation Reserves". Figure 2.1 shows the location of the Replacement Lands.

Through consultations between MNR, Ontario Parks and the TTN Community, an approximately 440 ha area, immediately south of LAPP in the vicinity of the New Post Creek Diversion Dam, was proposed as the Replacement Lands (Figure 2.1). The transaction was consistent with the provisions of the *PPCRA* that would allow for the deregulation of land to facilitate the proposed New Post Creek Project. The approximately 228 ha of land along New Post Creek within LAPP that was deregulated represents approximately 1.1% of the total LAPP area (20,296 ha). Basically, approximately 228 ha of land (including the creek bed and 120 m on either side of the high water mark) had been removed from LAPP and exchanged for an approximately 440 ha parcel of land referred to as the Replacement Lands. An Ecological Integrity Assessment was undertaken by Beacon (2010) which compared the land needed to be removed from LAPP and the Replacement Lands proposed by the TTN Community. Beacon (2010) concluded that the land exchange would increase the size of LAPP and enhance its ecological integrity. However, land deregulation resulted in the disjunction of LAPP as the waterway class portion is no longer a continuous system.

On November 21, 2011, MNR posted a policy proposal on the Environmental Registry for a major land use amendment to re-designate portions of LAPP and the adjacent Northern Resource and Commercial Recreation General Use Area to enable a boundary regulation change. Provincial, regional and local stakeholders were notified by mail of this policy proposal. No comments were received during this involvement opportunity. The land use amendment was approved on April 13th, 2013 and a decision has been posted on the Environmental Registry to reconfigure the park boundary that will increase the overall size and enhance ecological integrity of the park. The MNR boundary amendment process is proceeding internally with an expected date for regulation early in 2014.

Figure 2.1 Location of Deregulated Area and Replacement Lands



2.2 PROJECT DESCRIPTION

2.2.1 Alternatives Analysis

In 1982, Ontario Hydro carried out an assessment of the hydroelectric potential of the diverted flows on New Post Creek. The study focussed on two sections of the creek below the diversion dam, one of which was similar to that presently proposed.

In 1996, Ontario Hydro revisited the site and conducted another review. This study used a head of 68 m, with a plant capacity of 26.4 MW and annual energy production of 175.8 GWh. The location is believed to have been near the New Post Creek waterfalls, located approximately 4.5 km downstream of the proposed Project intake weir location and 1.2 km upstream of the creek outlet to the Abitibi River, but few supporting details are currently available.

In 2006, following the signing of the MoU between OPG and TTN to jointly explore hydroelectric development opportunities within the Abitibi River drainage basin, a concept study was performed for four potential hydroelectric development options (alternatives) on New Post Creek near the waterfalls and within LAPP (KGS Group, 2006). The previous studies maximized the available head by going to local topographic maximums using dykes up to 8 m in height, altering a portion (<1 km^2) of the watershed and shoreline. The 2006 concept study reduced the proposed forebay elevation to minimize flooding of the existing creek shoreline and the flooded shore area within LAPP, thereby also reducing potential impacts on those portions of the creek with erodible silt and sand banks. The locations of the four alternatives assessed by KGS Group (2006) are presented in Figure 2.2.

A summary description for each alternative is provided below:

- **Alternative 1**: Most of this option is located south of LAPP with only the intake and a small section of penstock located in the Park. The in-stream spillway and intake are located at a bedrock outcrop extending across the creek approximately 4.4 km upstream from the waterfalls.

- **Alternative 2**: Farther north of Alternative 1, Alternative 2 is entirely within LAPP. Compared to Alternatives 3 and 4, a smaller area of the Park would require deregulation. The spillway and intake for Alternative 2 are conceptually identical to Alternative 1. However, there is no exposed bedrock and the presence of an old river meander and oxbow indicates the bank and channel are erodible at this location.

- **Alternative 3**: This option required a smaller length of penstock; however, its location in the middle of LAPP and its proximity to the culturally significant Hudson's Bay Company (HBC) New Post site made it unattractive. The spillway and intake for Alternative 3 are conceptually identical to Alternative 1 and would be located on exposed bedrock.

Figure 2.2 Alternative Hydroelectric Development Locations on New Post Creek

- **Alternative 4:** This option is located at the northernmost section of the Park, adjacent to the New Post Creek waterfalls. This option had the smallest footprint, but was eliminated due to adverse impact to waterfalls aesthetics. In addition, this option would have required the deregulation of the largest area of LAPP. The spillway and intake for Alternative 4 are conceptually similar to that of Alternative 1.

The gross head available for each alternative decreases as one proceeds north along New Post Creek, with the riverbed at Alternative 1 being +59 m above the Abitibi River, while the riverbed at Alternative 4 is in the order of 53 m above the Abitibi River. Based on the technical and environmental data collected and presented in the KGS Group (2006) concept study, preliminary ranking indicated that constructing a project at or just south of the Park (Alternative 1) was the preferred development alternative, with a transmission line built to the west of the proposed powerhouse to connect with the Otter Rapids GS to Abitibi Canyon GS transmission line.

In 2009, a study was performed to update and refine the technical feasibility of the Alternative 1 option based on updated topography and surveys, field exploration and reconnaissance of the proposed site, updated project costs, and updated energy production estimates (KGS Group, 2010). On the basis of the 2009 geotechnical investigation (KGS Group, 2013a, b), as well as the feasibility update and review, the project layout was revised and updated. It confirmed that the hydroelectric development potential of New Post Creek at the preferred alternative location (the current proposed New Post Creek Project) appears technically and economically feasible. In addition to technical benefits, this preferred option (Alternative 1) required the least amount of footprint to be located in LAPP, therefore having the least impact on the Park when compared to the other alternatives.

2.2.2 Preferred Alternative

As indicated in Section 2.2.1, Alternative 1 is the preferred alternative. The proposed New Post Creek Project is a 25 MW facility utilizing historic flows diverted from the Little Abitibi River into New Post Creek by the New Post Creek Diversion Dam constructed in 1963 to augment hydroelectric generation at Otter Rapids GS, as well as the natural inflow originating within the New Post Creek catchment area. A small portion of the proposed Project was located within LAPP; however, with subsequent land deregulation and incorporation of the Replacement Lands, all of the proposed Project is located outside of LAPP (see Section 2.1). A transmission line approximately 7 km long will be constructed to the west of the proposed powerhouse to connect to the existing Hydro One Networks Inc. (Hydro One) 115 kV transmission line extending from Otter Rapids GS to Abitibi Canyon GS. The proposed transmission line is also located outside of LAPP.

2.2.3 Proposed General Layout

The location of and general arrangement for the proposed Project are shown in Figures 2.3 and 2.4, respectively. However, it should be noted that the final layout of the proposed Project would be selected by the successful Design Build Contractor (DBC), who is chosen based on a competitive bidding process.

The layout will consist of the following primary Project components/structures:

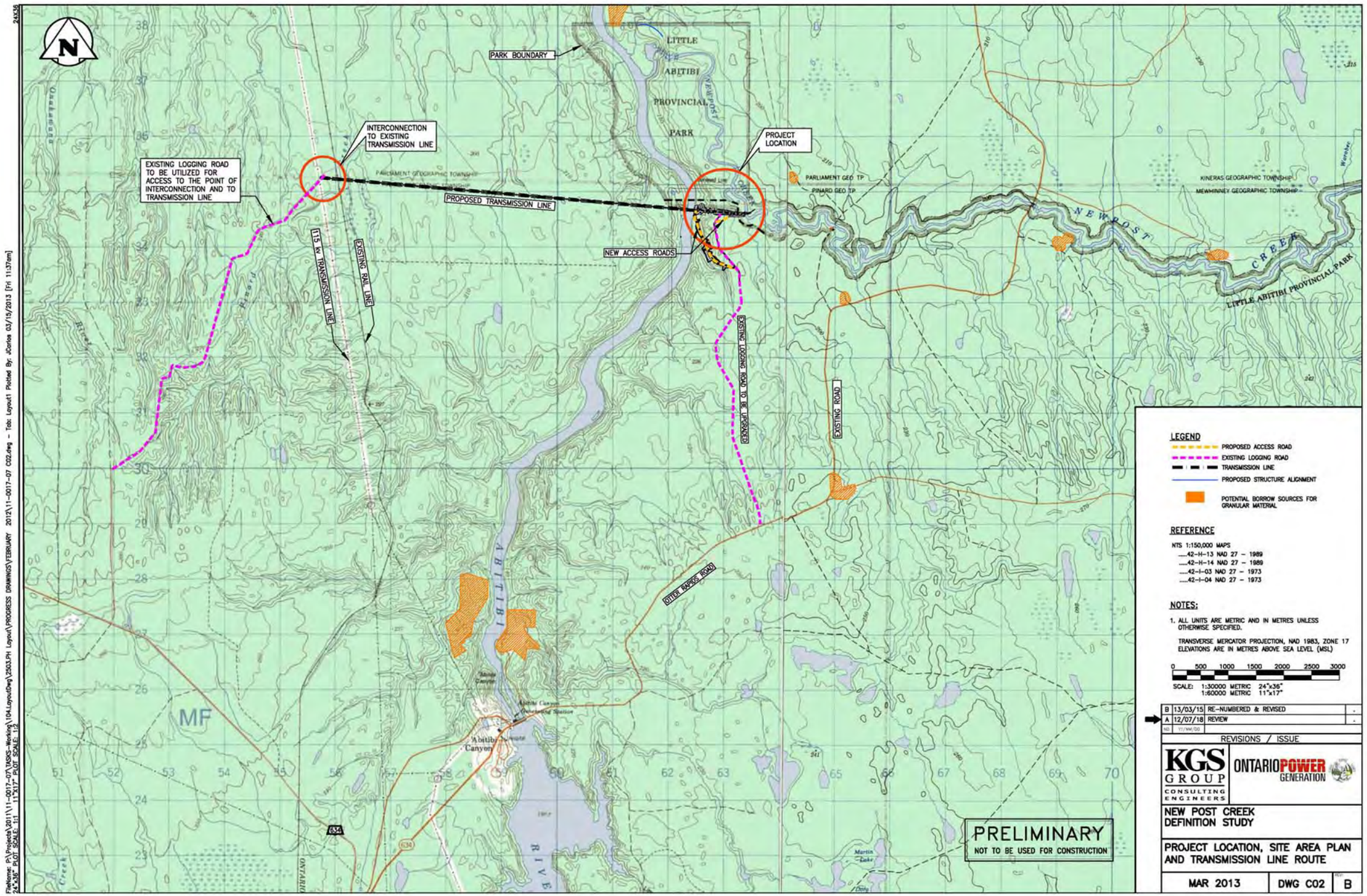
- intake headworks, spillway structures and earth embankments;
- water conveyance system that includes two shallow buried penstocks and potentially a portion of open water canal;
- powerhouse structures equipped with two Francis turbine units;
- tailrace between the powerhouse and the Abitibi River;
- cofferdams at the intake and tailrace during construction;
- substation adjacent to the powerhouse;
- transmission line; and
- interconnection switchyard.

The proposed Project general arrangement, i.e., from the intake structure to the powerhouse, and penstock profile are presented in Figure 2.5.

From the intake the flow will be carried by underground penstocks, or with a combination of a power canal and underground penstocks, and discharged through the powerhouse located on the east side of the Abitibi River. The anticipated powerhouse location is approximately 850 m west of the intake and just south of the Park boundary. Over 80% of the penstocks length (and potential power canal), the powerhouse and tailrace will be founded on sands, gravels and till, with bedrock located +15 m below the powerhouse draft tubes and tailrace.

Flow that is not utilized for power production will be discharged over the proposed spillway, taking into account prescribed minimum flow commitments downstream (see Section 2.3.2.2 and Aquatic Environment TSD for a full discussion), particularly at the base of the waterfalls. The proposed Project would utilize the flows and the head drop of approximately 66 m between the forebay elevation upstream of the spillway and the Abitibi River to generate sustainable power in the order of 125 GWh annually.

Figure 2.3 Project Location, Site Area Plan and Transmission Line Route[1]



[1] It should be noted that Figure 2.3 shows the previous LAPP boundary prior to land deregulation and replacement (see Section 2.1).

Figure 2.4 General Arrangement Project Site and Temporary Facilities

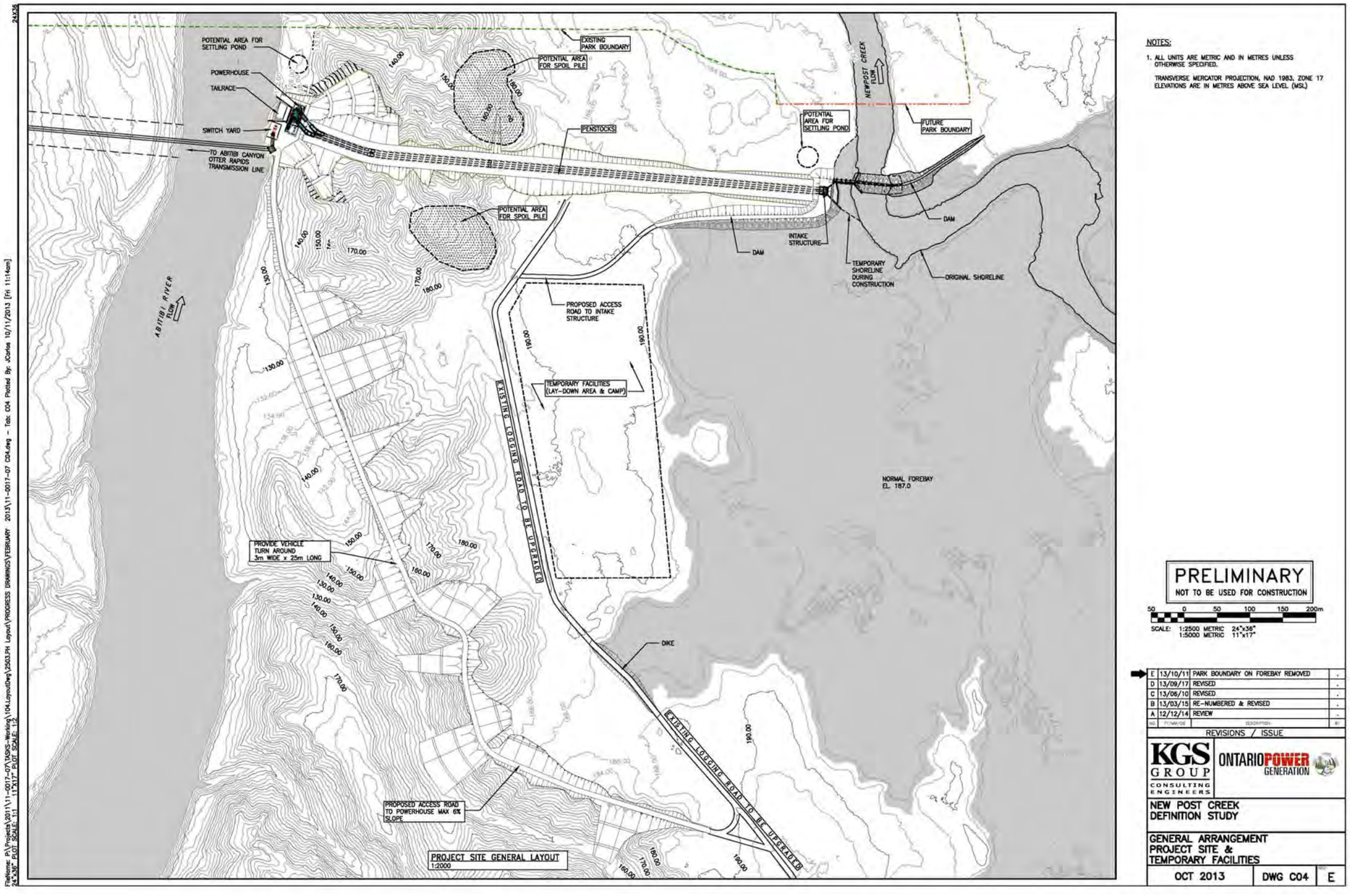
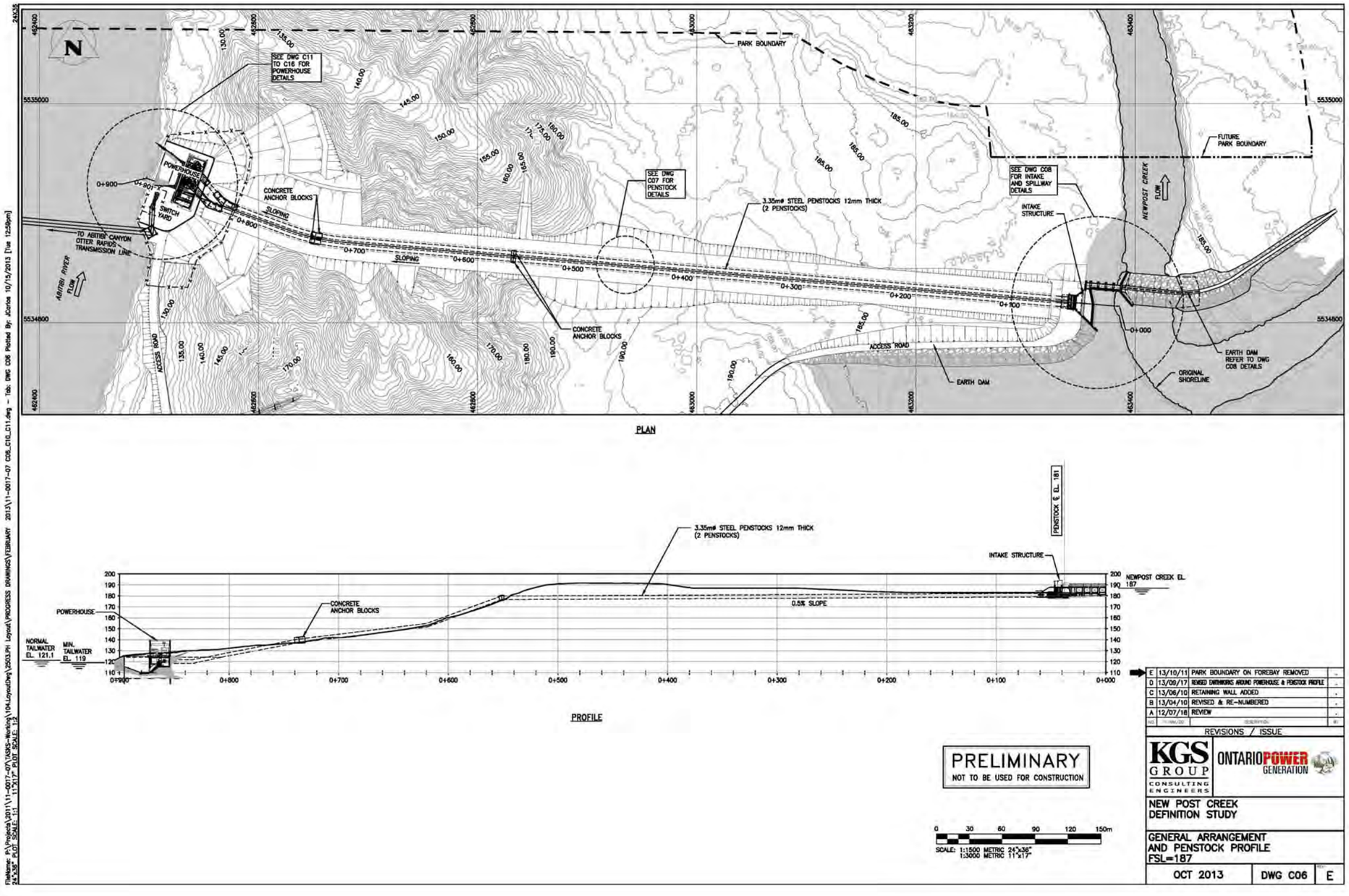


Figure 2.5 General Arrangement and Penstock Profile



As presented in Figure 2.3, there are existing access roads south and east of the site that would be upgraded and extended (approximately 2,500 m) to the powerhouse and intake site. The access road to the intake will also serve as a water retaining dyke under high flood flow conditions.

As shown on Figure 2.4, the site will require some areas to be used for construction purposes. This includes settling ponds in the vicinity of the proposed powerhouse and intake for the dewatering of the excavations, an area to be used for lay down, trailers, equipment maintenance and possibly the batch plant, space to accumulate the extra excavated material, and new and upgraded access roads.

Intake and Spillway Structures

The proposed intake and spillway structures are located approximately 4.5 km upstream of the New Post Creek waterfalls near a bedrock (granitic gneiss) outcrop that extends across New Post Creek (Photograph 2.1). Due to its competence and good quality, the bedrock will provide an excellent foundation for the intake and spillway, with no settlement concerns

The proposed intake and spillway structures are separate but immediately adjacent to each other. The general arrangement of the spillway and intake structures is presented in Figure 2.6. The intent of the spillway and intake layout selected is to minimize inundation upstream while still ensuring flow withdrawals during all flow periods.

Photograph 2.1 Bedrock Outcrop

The spillway structure consists of gates to maintain minimum flow requirements, gates or devices to manage high flow periods and maintain forebay levels and possibly an additional gate to provide means to evacuate sediment accumulation. The final choice of the type of equipment used will be determined by the DBC but the current concepts consist of either a series of stop logs (see Figure 2.6) or of an in-stream low (3.7 m high) steel crest gate section and an uncontrolled (fixed) concrete weir. The steel crest gate would be an Obermeyer type, which is operated by a pneumatic bladder. The combination of a gated or rubber dam section with a fixed concrete weir results in minimal incremental inundation upstream.

Control of the forebay water level is somewhat different when different types of spillways are considered. In the case of inflatable weirs (Obermeyer style equipment) the forebay water level is maintained automatically by the station controller by establishing a defined water level setpoint. The operator does have access to override the automatic control if necessary from a remote location. The water level is controlled by instrumentation which monitors the elevation of the weir crest and forebay water levels with the relative difference maintained by the operator by adjusting the inflation of the bladders. This difference controls the flows over the spillway to maintain the forebay level.

In case of stop logs the forebay level is maintained by the manual addition and removal of stop logs as required. In this approach the water levels are monitored remotely by the operator and instructions are issued when flows change sufficiently to warrant an adjustment in order to remain within the operating range of the forebay.

Normal operation of the proposed Project will increase the water level in New Post Creek by 5 m at the intake to a Full Supply Level (FSL) of 187.00 metres above sea level (m.a.s.l.), resulting in a total inundated area of approximately 170 ha (KGS Group, 2012). The upstream extent of the inundated area (approximately 7,166 m from the proposed intake weir location) is limited by the rather steep gradient at the rapids (see Figure 2.7). Under normal operating conditions, the inundated area will occur within the deregulated park area of approximately 228 ha upstream of the proposed Project spillway (Figure 2.1). Most of the flooding outside of the deregulated park area within Crown lands will encompass the unnamed tributary (MNR ID#523) that discharges to New Post Creek approximately 150 m upstream of the proposed Project intake location (Figure 2.7).

Considering the planned dimensions of the spillway the 1:100 year flood levels would be expected to rise by 0.5 m to 187.50 m.a.s.l. The corresponding discharge to the 1:100 year event is 296 m^3/s.

Figure 2.6 Intake, Spillway and Dam General Arrangements

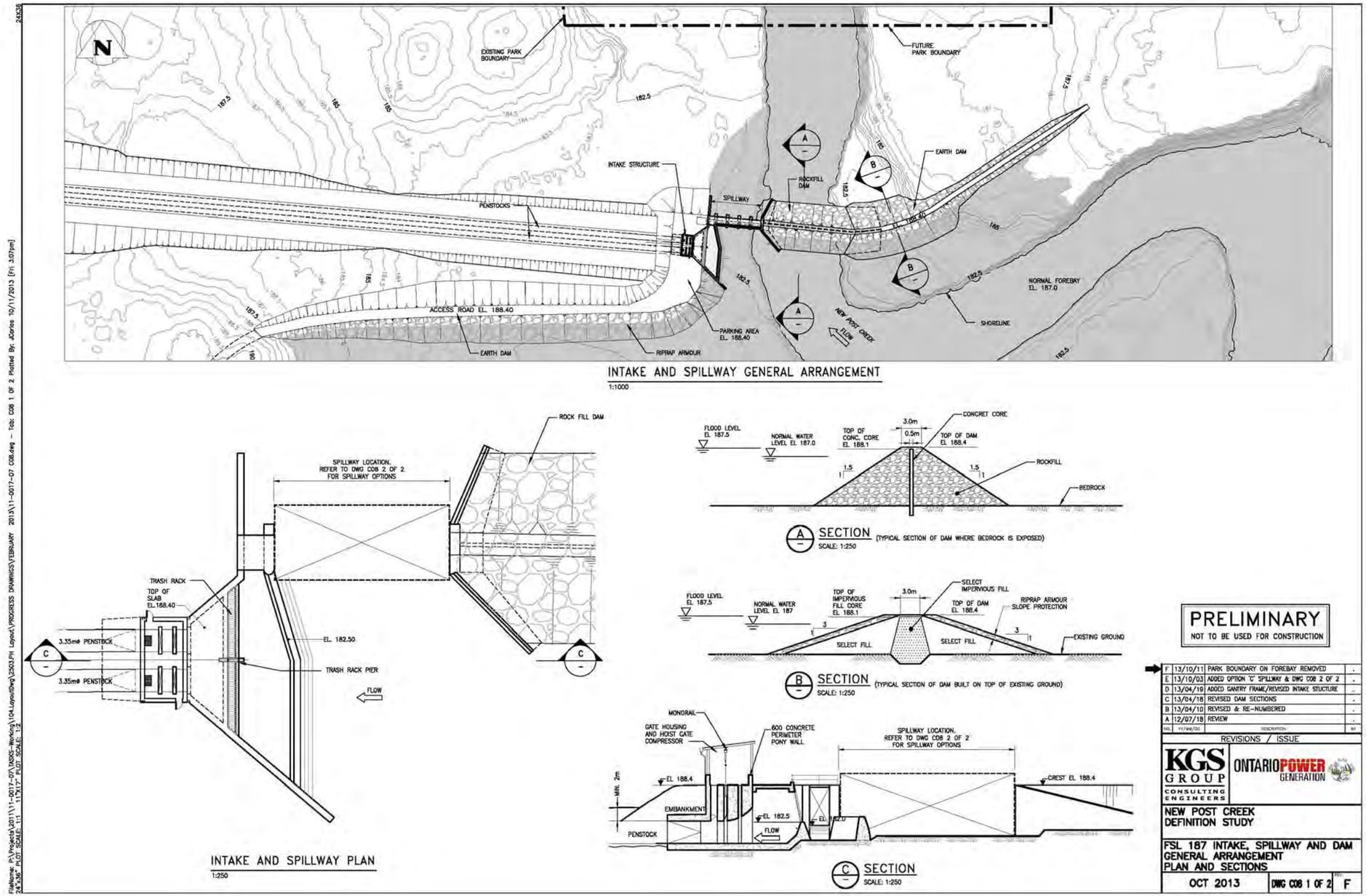
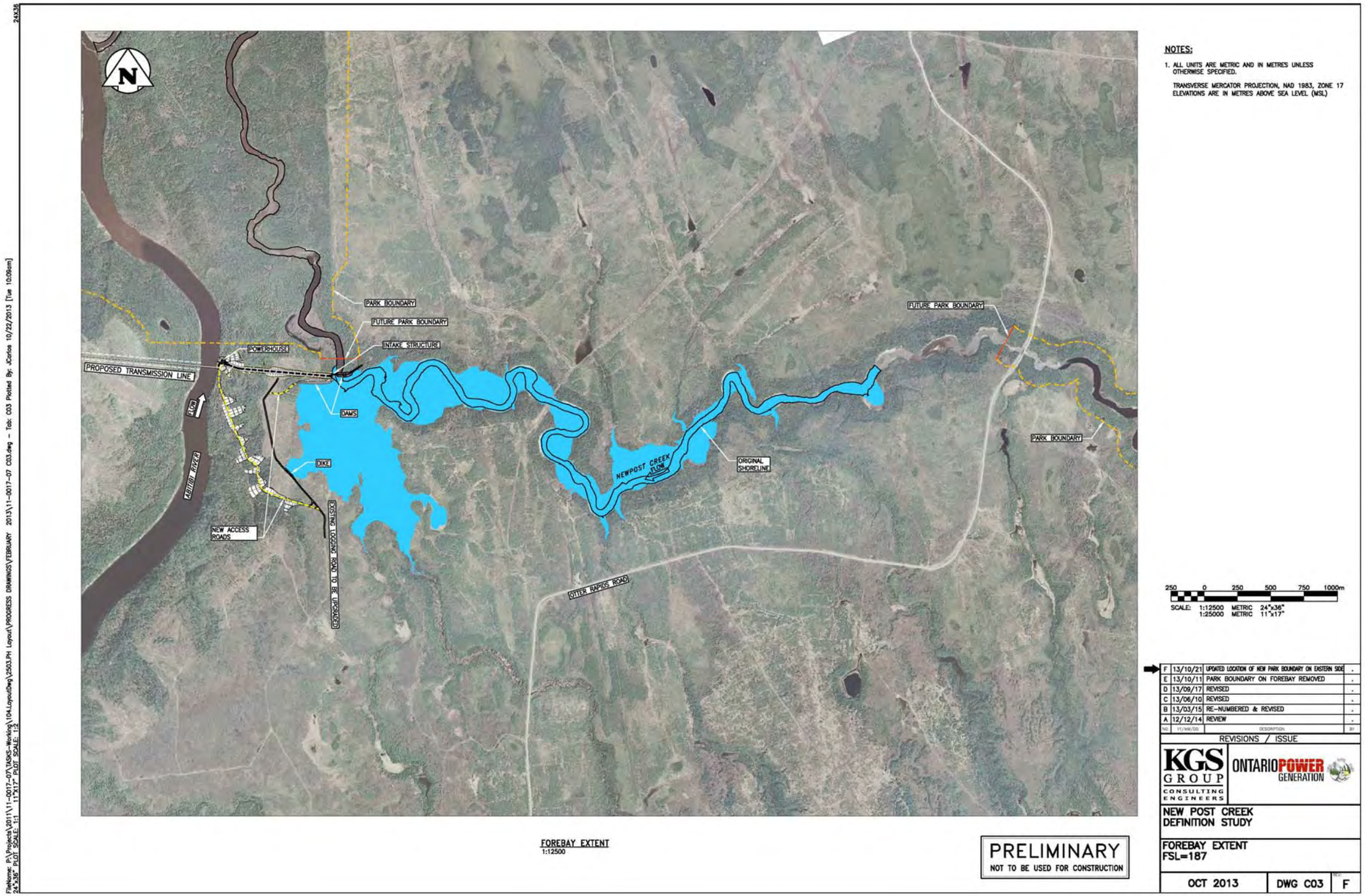


Figure 2.7 Forebay Extent for FSL = 187 m.a.s.l.



A low head earth dam will be constructed on the eastern shore adjacent to the fixed concrete weir to contain flow within the creek channel. The access road and parking areas at the intake and at a location approximately 800 m south of the penstock will also serve as water-retaining dykes under high flow flood conditions. The western edge of the excavation downstream of the spillway will be in rock and not susceptible to erosion. Grouting of the bedrock may be required in areas where the tie-ins for the proposed low head earth dams and spillway structures are on bedrock to minimize the potential of groundwater seepage through the abutments.

The proposed spillway structure will include a gravel trap and a sluice consisting of either a set of stop logs or an Obermeyer style crest gate. In addition, another gate may be required as a sediment sluice and outlet for continued minimum flow requirements downstream to the waterfalls (see Section 2.3.2.2).

The intake structure to the two shallow buried penstocks will be protected by trash racks and set to submerge the intake to the penstocks to minimize potential vortex problems. A sediment trap and a low level sluice gate may be included in the design to reduce the potential for suspended sediment and bedload entrainment in the diverted flow to the powerhouse. The sluice gate will allow for flushing of any sediment deposits at the intake during high flows downstream into the existing creek channel with appropriate permits and approvals.

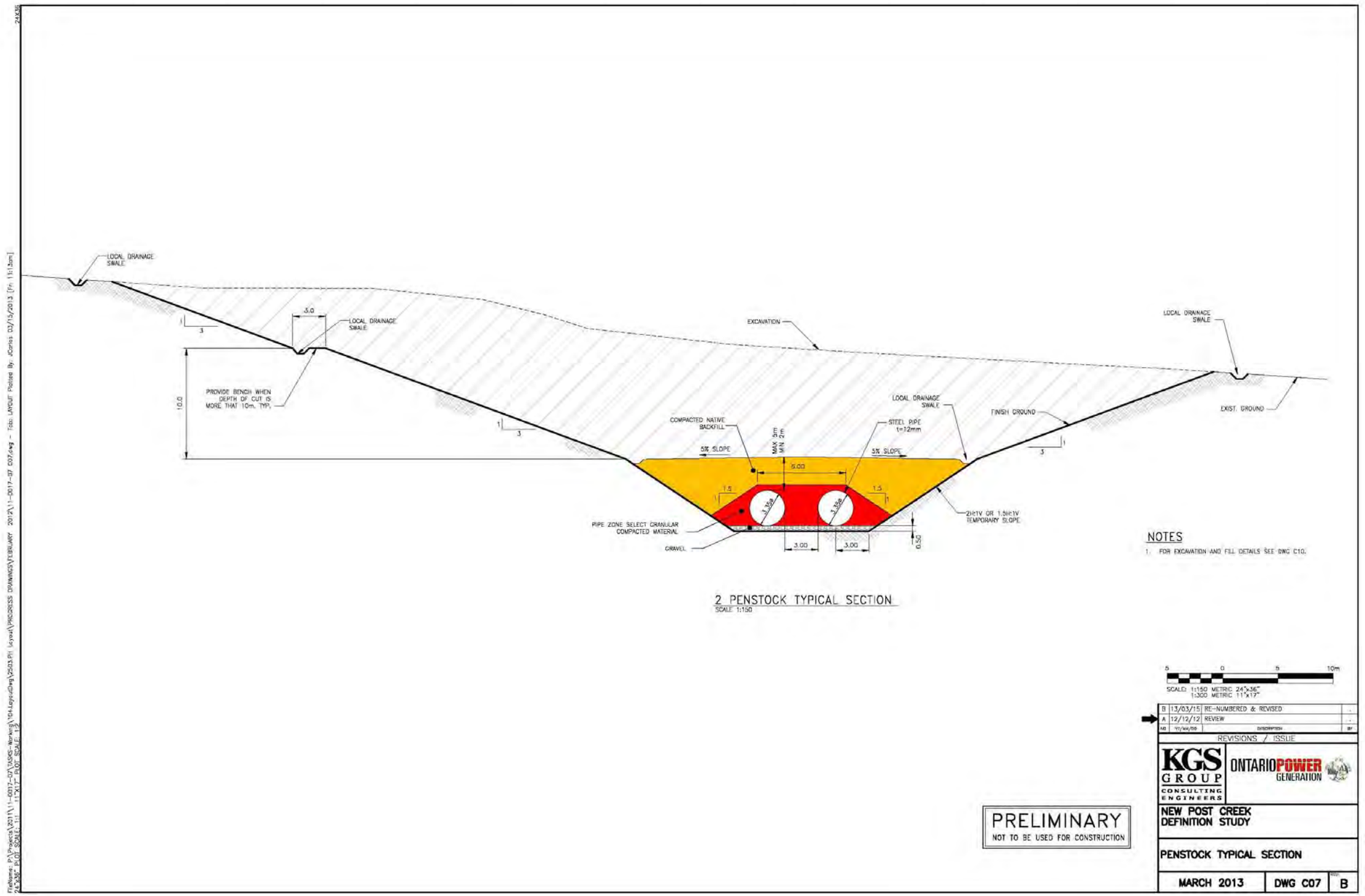
The operation of the sediment gate will consist of opening the gate, likely manually. The actual need to clear the sediment trap would be with a frequency in the order of years if not decades. However, CRP/OPG has considered this issue and is suggesting that a yearly flushing occur during near the start of the freshet. A yearly flushing would reduce the effect of a larger less frequent (e.g., every 10 years) flushing event and may also help in providing sediment bank stabilization for the by-pass reach that otherwise may be starved of sediment.

Water Conveyance System

The proposed water conveyance system includes two buried penstocks with the potential of a portion of open water canal. The two side by side buried steel penstocks, each 3.35 m in diameter, would extend approximately 820 m from the intake structure to the powerhouse. The twin penstock will extend from the intake area sloping very gently for about 650 m with minimal submergence below the forebay level and then drop approximately 61 m over 290 m down to the powerhouse at the Abitibi River shore. A head drop of just over 66 m occurs from the intake on New Post Creek to the Abitibi River. Figure 2.8 shows the penstock profile.

Due to shallow overburden, the penstock would be founded on competent bedrock along its first 150 m length from the intake structure with the remaining portion constructed within overburden. As the overburden sands and silts are erosion prone, the penstock system will be provided with granular drainage layers and drains that can be monitored for leak detection.

Figure 2.8 Penstock Profile



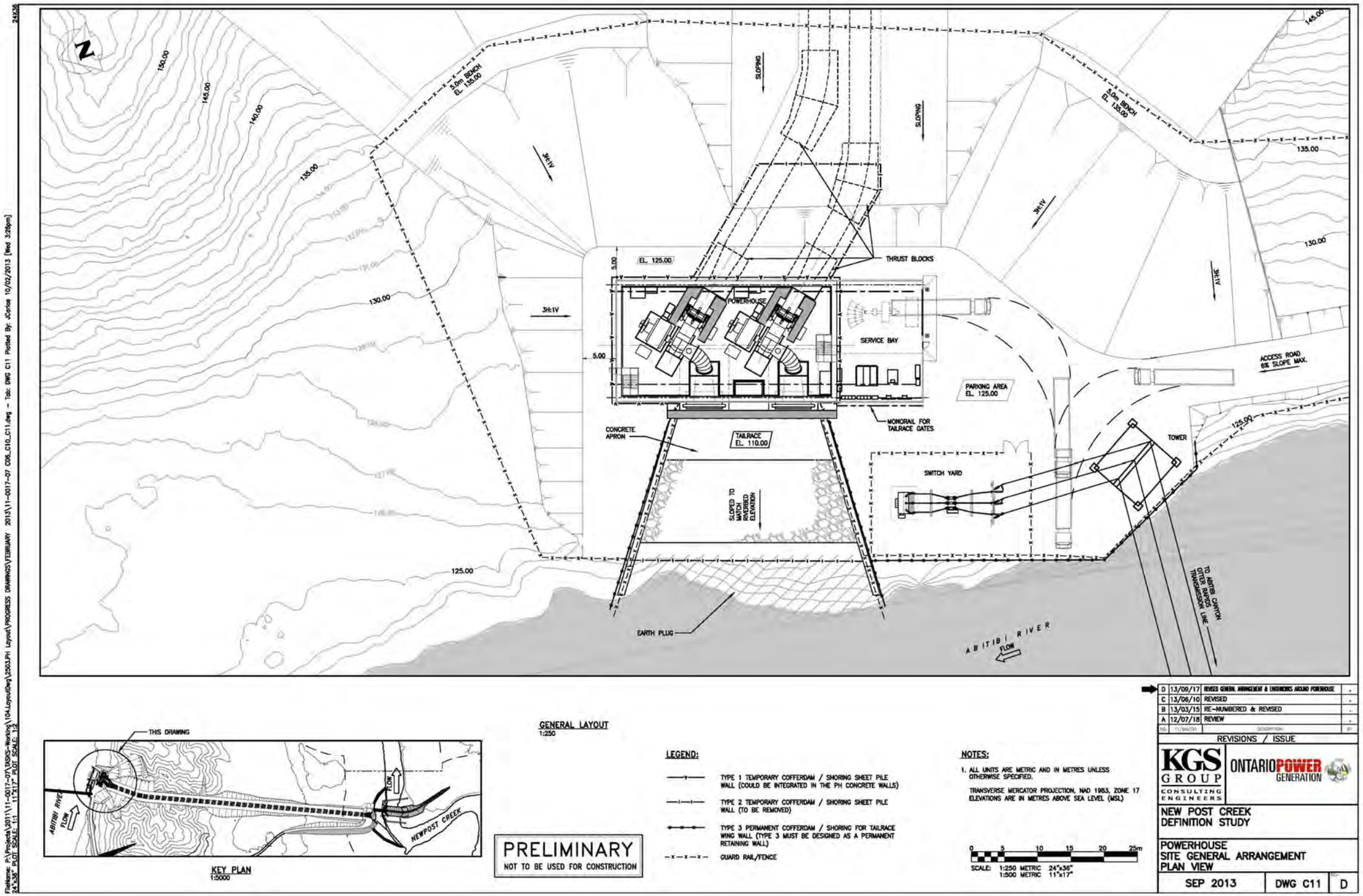
The proposed penstocks may be equipped with manhole access along the route near the end of the shallow sloping section and above the steeper portion. Impressed current or sacrificial anode cathodic protection will be provided along the penstock.

Powerhouse Structures

The proposed powerhouse will have a concrete substructure for the turbine draft tubes, with potentially the two identical horizontal Francis turbine/generator sets (approximately 12.5 MW each) and all required ancillary equipment mounted on the powerhouse floor. Each turbine is expected to have Francis type runners with 13 blades operating at nominal speeds between 277 to 360 rpm depending on the final runner dimensions. The turbine units may be mounted near or below the normal tailwater level. The turbine shutoff valves will have gravity trip counterweights located within the powerhouse. The layout and details of the powerhouse facility are presented in Figure 2.9.

The powerhouse foundation structure will be constructed on a dense sand deposit with sufficient load bearing capacity. The powerhouse and tailrace area will be excavated and founded on dense sands and gravels (Photograph 2.2), with bedrock located more than 15 m below the powerhouse draft tubes and tailrace. The surficial overburden material above the water table is relatively firm and can be excavated and temporarily sloped back at a 2H:1V slope angle, or 3H:1V for slope height higher than 10 m (KGS Group, 2013a). The firm sand deposit will be saturated below the water table reflecting the proximity to the Abitibi River. Therefore, it will be necessary to dewater the area prior to excavating below the water table. Temporary construction shoring will be required due to the depth of the required excavation and groundwater condition, and to minimize the footprint that would be disturbed. The sand deposit can be excavated using standard soil excavation equipment such as bucket excavators, bulldozers and similar equipment, in combination with an appropriate and effective dewatering procedure. A properly designed sheet pile wall, diaphragm wall and/or contiguous bored pile wall can be used to support and dewater the excavation. Groundwater depressurization/dewatering will be required for powerhouse foundation excavation below the river water level. In addition, long-term seepage control, if necessary, can be provided by the use of cut-off walls, low maintenance gravity drains and relief wells.

Figure 2.9 Powerhouse General Arrangement



Photograph 2.2 View Along the Abitibi River Shoreline in the Vicinity of the Proposed Tailrace

Cofferdams

A series of cofferdams will be required during construction at both the intake/spillway structure and at the powerhouse tailrace.

The cofferdams will generally be low structures (1.5 to 2 m) and will be constructed utilizing several methods. The tailrace and powerhouse excavation is expected to be done behind a cofferdam consisting of an earth plug or a section of unexcavated shoreline with sheet piling to improve the water barrier given the existing soil conditions.

At the intake the cofferdams will also be low structures consisting of either rock plugs of unexcavated shoreline on the west side of the creek or rock fill berms that may include some membranes or grouting to improve imperviousness.

Transmission Line

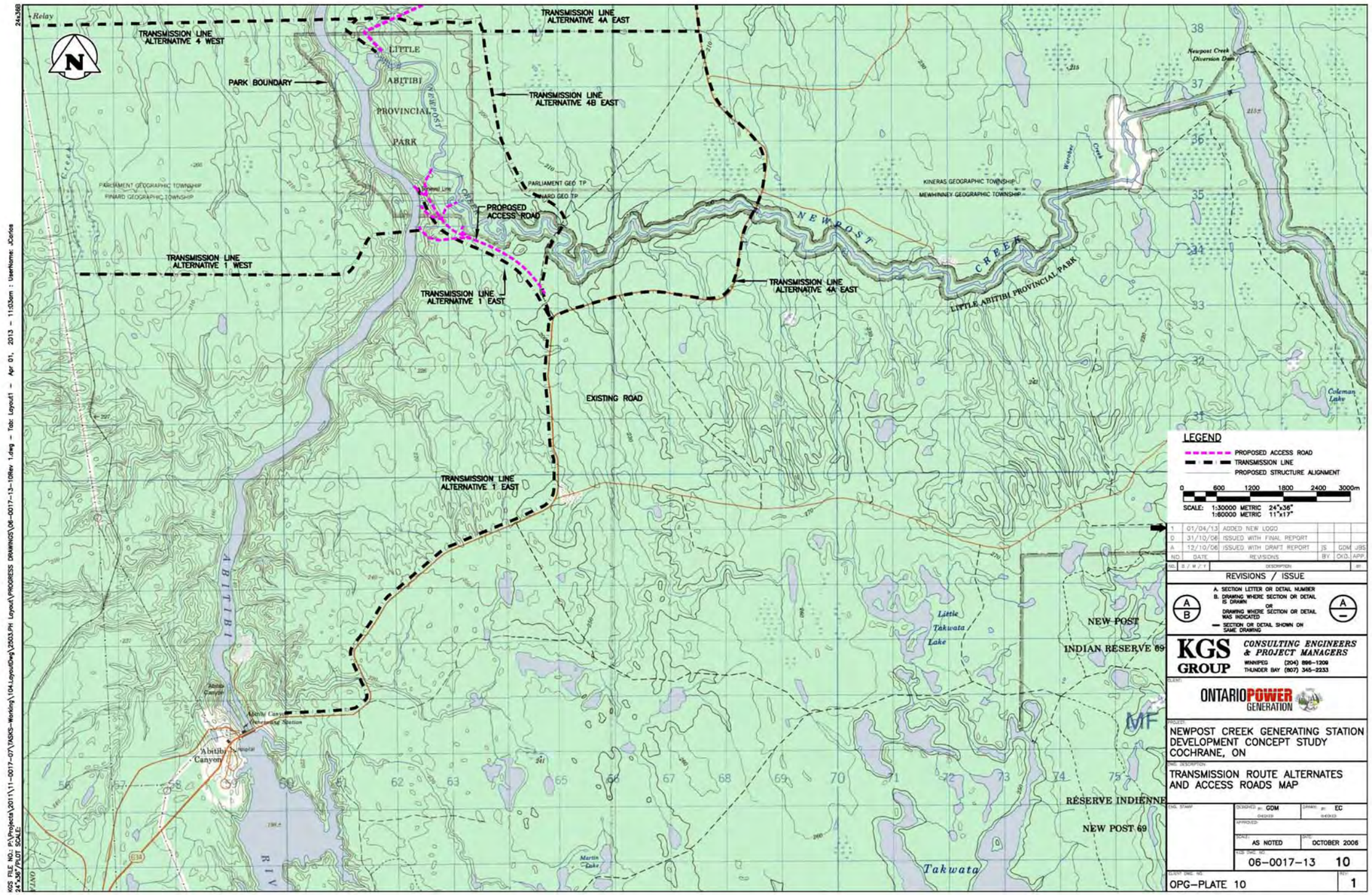
A number of alternative transmission routes were assessed before selecting the preferred route (see Figure 2.10). The alternate routes shown correspond to the alternative powerhouse

locations assessed in 2006 (see Section 2.2.1 and Figure 2.2). Both alternative "east" and "west" routes were considered. The "east" routes would follow access roads back to Abitibi Canyon GS, whereas the "west" routes would cross the Abitibi River and mainly recently harvested forest areas to the existing Hydro One 115 kV transmission line between Abitibi Canyon GS and Otter Rapids GS.

Once Alternative 1 had been selected for the powerhouse location (see Section 2.2.1), a "west" route was selected on the basis that it was the shortest route with fewer bends. The route of this alternative, designated as "Transmission Line Alternative 1 West" in Figure 2.10, was later modified to locate the point of interconnection with the existing Hydro One transmission line at an existing road (see Figure 2.11). The proposed transmission line right-of-way (ROW) is located outside of LAPP.

The proposed single-circuit 115 kV transmission line extending from the powerhouse switchyard directly west over a distance of approximately 7 km to the existing 115 kV Otter Rapids GS/Abitibi Canyon GS transmission line is the technically preferred connection option (see Figure 2.11). Based on available information, the preferred interconnection would involve a T-tap direct with protection provided by a circuit breaker at the new switchyard outside the powerhouse. Based on a System Impact Assessment (SIA) by the IESO (2010), the proposed connection to the existing 115 kV transmission line is acceptable conditional on a number of requirements that have been incorporated by KGS Group (2013c). Based on the Customer Impact Assessment, Hydro One (2010) concluded that the proposed New Post Creek Project can be incorporated with minor impact to Hydro One customers conditional on adherence to the requirements identified in the IESO (2010) SIA.

Figure 2.10 Alternative Transmission Line Routes[1]



[1] It should be noted that Figure 2.10 shows the previous LAPP boundary prior to land deregulation and replacement (see Section 2.1).

Figure 2.11 Proposed Transmission Line Route

The proposed transmission line begins at the substation located adjacent to the powerhouse on the east bank of the Abitibi River (see Figure 2.12). The proposed transmission line will cross the Abitibi River and extend in a direct route to a point near the intersection of the existing Hydro One transmission line and access road. The western shoreline of the Abitibi River has a fairly rapid rise in elevation with few changes in elevation to the interconnection point. The proposed transmission line will cross over land that has been subject to previous forest harvesting, some wet areas and the Ontario Northland Railway (ONR) rail line.

The proposed transmission line will be constructed within a minimum 30.5 m (100 feet) wide ROW (KGS Group, 2013d). Any non-compatible trees outside of the 30.5 m ROW will also be removed to prevent their fall over the transmission line conductors. The remaining vegetation (compatible trees, shrubs, understory) will remain intact. The transmission line will consist of untreated wood (likely cedar) poles, aluminum conductor steel reinforced cables, polymer insulators, and optical ground wire, as well as guy-wire and anchors, as necessary. The aerial cable crossing of the Abitibi River is approximately 150 m wide.

Access for transmission line construction is provided by an existing road network between the interconnection point and the west bank of the Abitibi River (see Figure 2.11) considered to be adequate for construction equipment use.

A small switchyard is to be constructed at the point of interconnection which will require the construction of a small access area from the existing road (see Figure 2.12). No permanent roads will be constructed to or along the remainder of the proposed transmission line route. It is expected that the DBC selected for this work will execute the construction of the transmission line in the same manner as other such work in this region with the work likely being done in the winter to minimize the impact on the natural environment, particularly wet areas.

A fibre optic cable will be installed by trenching directly west from the point of interconnection switchyard (see Figure 2.12) to the Ontera-owned fibre optic communications trunk, located within the existing Hydro One transmission line ROW.

The selected DBC will be responsible to secure the necessary licences and permits including those for timber removal along the ROW, watercourse crossing installations and overhead crossing of the ONR rail line. Amendments to the *Navigable Waters Protection Act* under Bill C-38 has resulted in the exemption of construction of any works in, on, over, through or across of water bodies from the provisions of the new *Navigation Protection Act* with the exception of those listed in Schedule 2 of the new Act. The Abitibi River is not listed in Schedule 2.

Proposed New Post Creek Project Technical Summary

The technical details of the proposed New Post Creek Project are summarized in Tables 2.1 and 2.2.

Figure 2.12 Transmission Line Plan and Profile/Interconnection General Arrangement

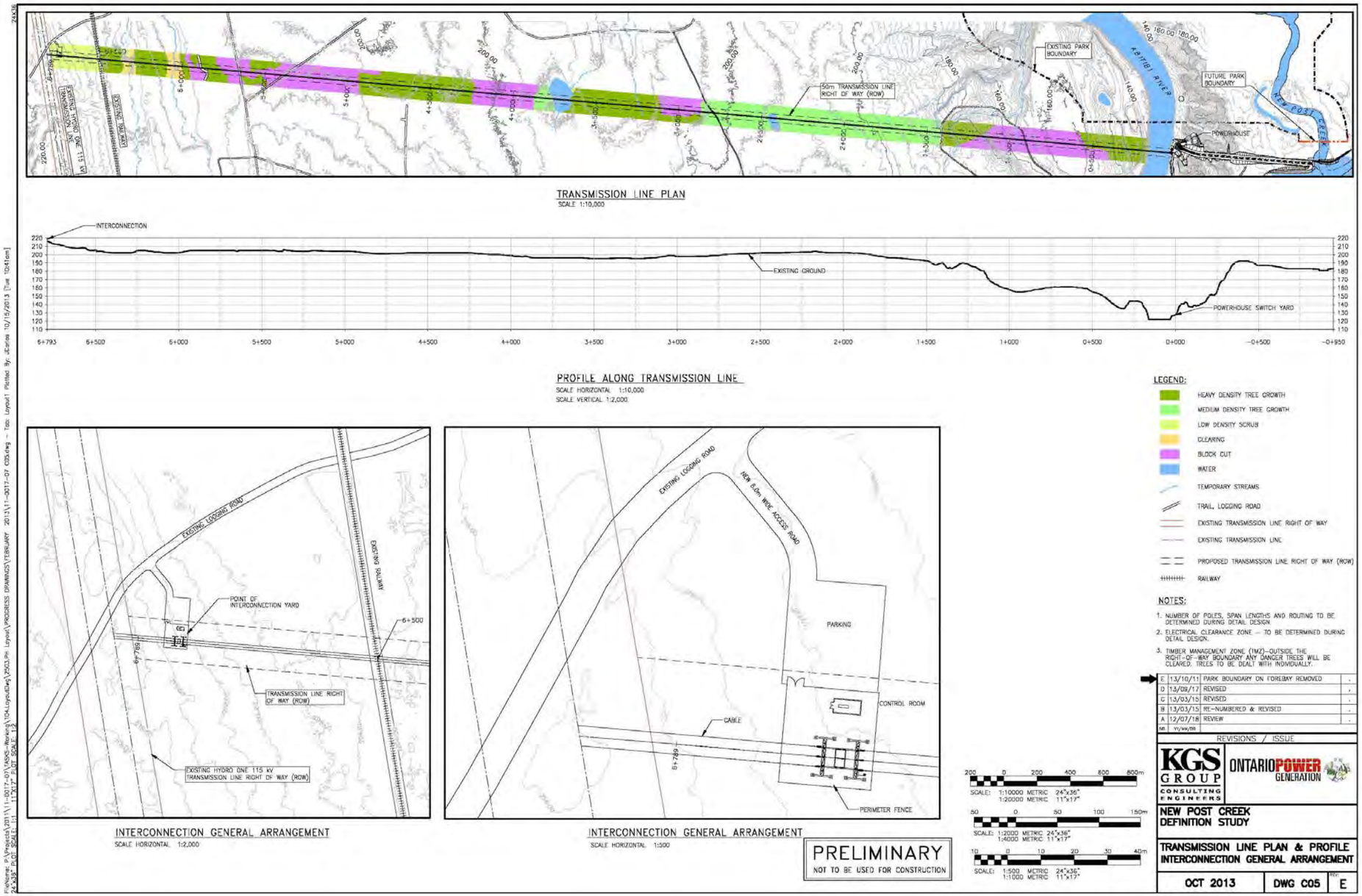


Table 2.1 Proposed New Post Creek Project Hydraulic Characteristics

Gross Head	66 m
Average Annual Flow	~42 m^3/s (based on 1975-2012 data)
Rated Plant Flow	50 m^3/s
Minimum Flow:[1] *May 1 to mid-June*	15 m^3/s
Mid-June to August 31	7.5 m^3/s
September 1 to 30	5 m^3/s
October 1 to April 30	2 m^3/s
Installed Capacity	25 MW
Average Annual Energy Output	125 GWh
Inundation	170 ha

[1] See Section 2.3.2.2 for more details.

Table 2.2 Proposed New Post Creek Project Components[1]

Earth Dam	
Type	Earthfill
Crest height	Approximately 7.1 m (varies)
Crest length	Approximately 500 m
Base width	Approximately 76 m
Crest width	3.0 m
Core height	Approximately 6.8 m (varies)
Headpond	
New inundation area	170 ha (extending 7,166 m upstream of dam)
Spillway Structure	
Type	Steel crest gate section with an uncontrolled (fixed) concrete weir or stop logs
Crest height	3.7 m
Length	32 m
Intake	
Number of intakes	Dual
Type	Concrete
Gates/intakes	2
Penstock	
Number of penstocks	2
Type	Steel
Diameter	3.35 m
Length of each penstock	Approximately 820 m
Powerhouse	
Type	Surface
Turbine-generator units	2 x 12.5 MW
Tailrace	
Type	Cut in overburden
Length	30 m

[1] Note: All dimensions provided are approximate and will be finalized during the detailed design of the proposed Project.

The spillway structure will facilitate year-round minimum flow requirements downstream of the spillway to the waterfalls (see Section 2.3.2.2).

Safety devices, such as booms and buoys, will be placed in the water upstream and downstream of the spillway, and downstream of the tailrace. A risk assessment exercise will be undertaken to identify requirements and locations for signs, booms and buoys prior to operations. Figure 2.13 provides preliminary fencing, signage and safety boom locations, but is subject to change based on the risk assessment results.

2.3 PROJECT ACTIVITIES

2.3.1 Construction

It is assumed that a temporary construction camp will be needed to accommodate the workers for the approximate 2 to 3 year construction period. It is anticipated that this construction camp could house up to 100 workers depending on the particular phase of the proposed Project. Workers at the construction camp will not be permitted to fish, hunt or use ATVs while they are working at the camp. A concrete batch plant is also likely to be required in the vicinity of the proposed Project.

Work areas will be cleared of trees and the camp, construction, laydown and concrete batch plant areas would be grubbed and levelled. After construction, the temporary work areas would be re-planted with native tree species and allowed to re-vegetate naturally.

As indicated in Section 2.1, the proposed intake and spillway structures will be constructed adjacent to each other on competent bedrock. At the intake and spillway location, New Post Creek is currently 1 to 4 m deep and approximately 50 m wide.

An initial perspective on what might be the intake and spillway construction method that would be employed by the DBC is presented below. However, it should be noted that the final sequencing of excavations, cofferdams, construction and dewatering methods used would be defined by the successful DBC on the basis of environmental requirements and constraints outlined in the tender documents.

The intake and spillway are integrated, and consequently construction of the two works requires close coordination. The initial intake and west portion of the spillway could be excavated in “dry” conditions behind a rock plug serving as a cofferdam (Figure 2.14a). This rock plug may be topped with a low level berm to achieve the desired freeboard. The access road will form a permanent berm along the west creek edge when completed.

Figure 2.13 Preliminary Fencing, Signage and Safety Boom Locations

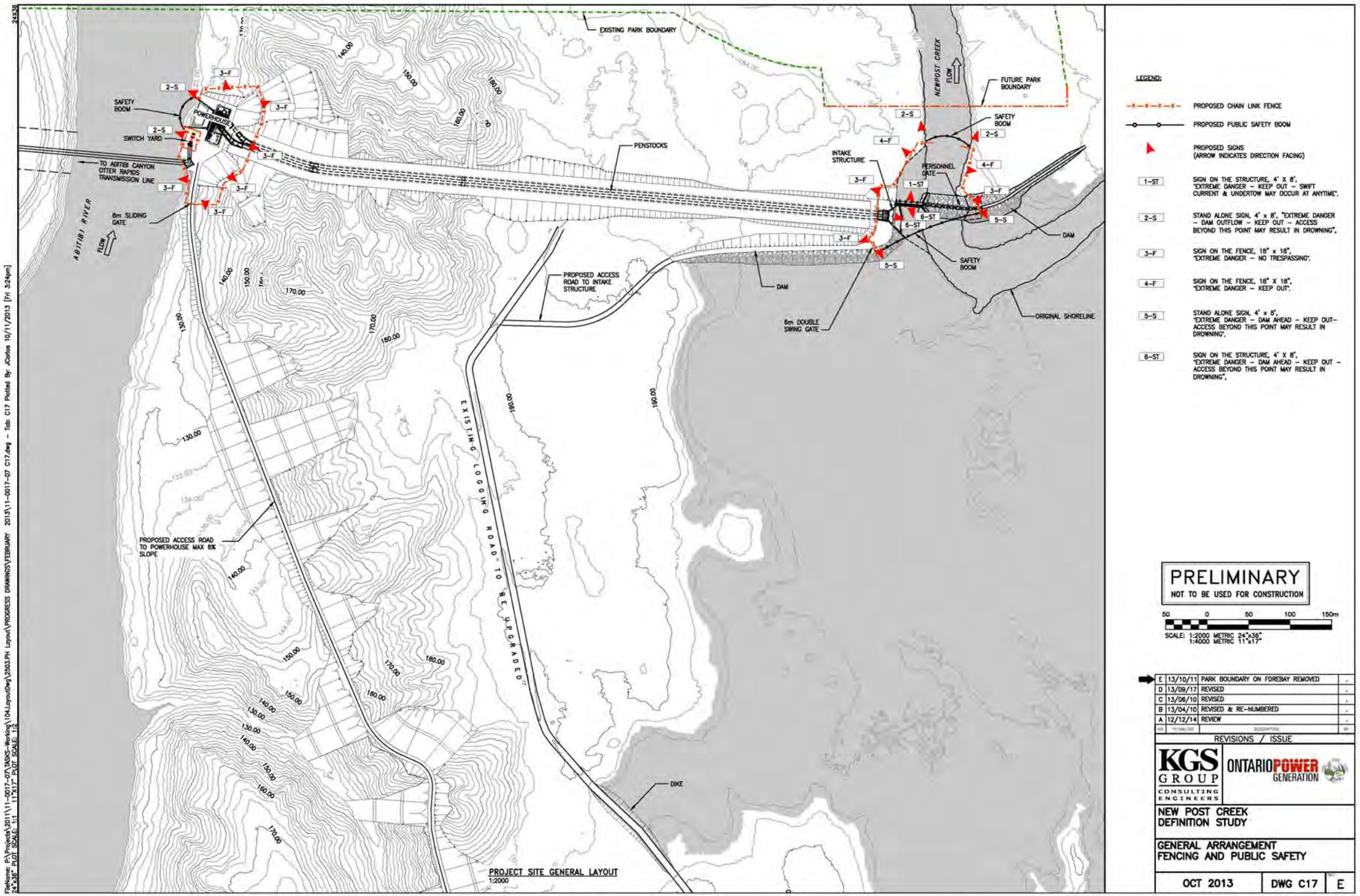
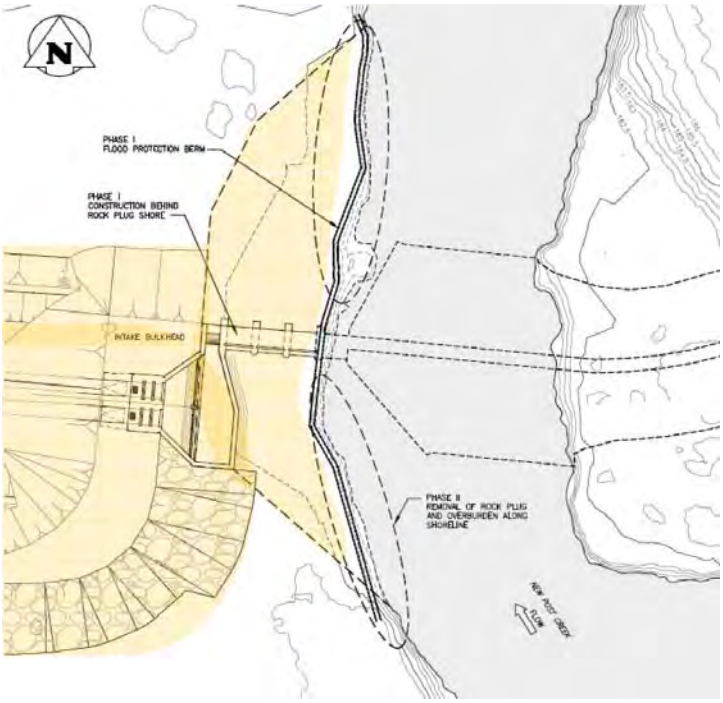
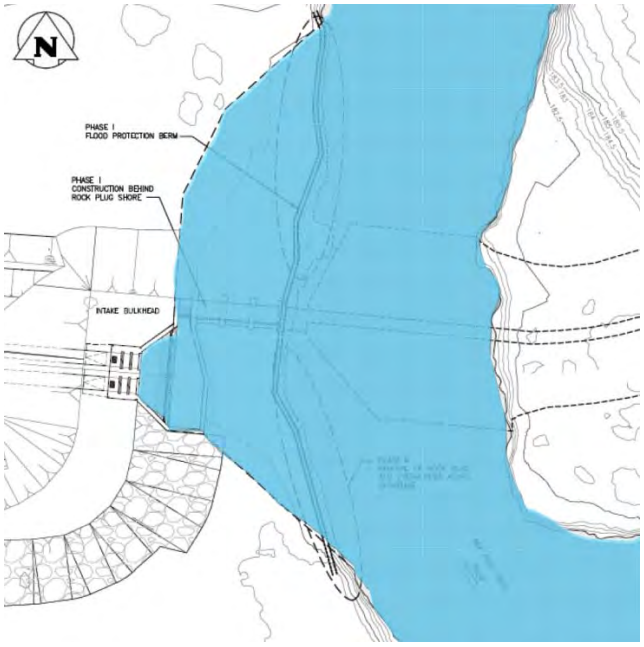


Figure 2.14a Phase I – Excavations



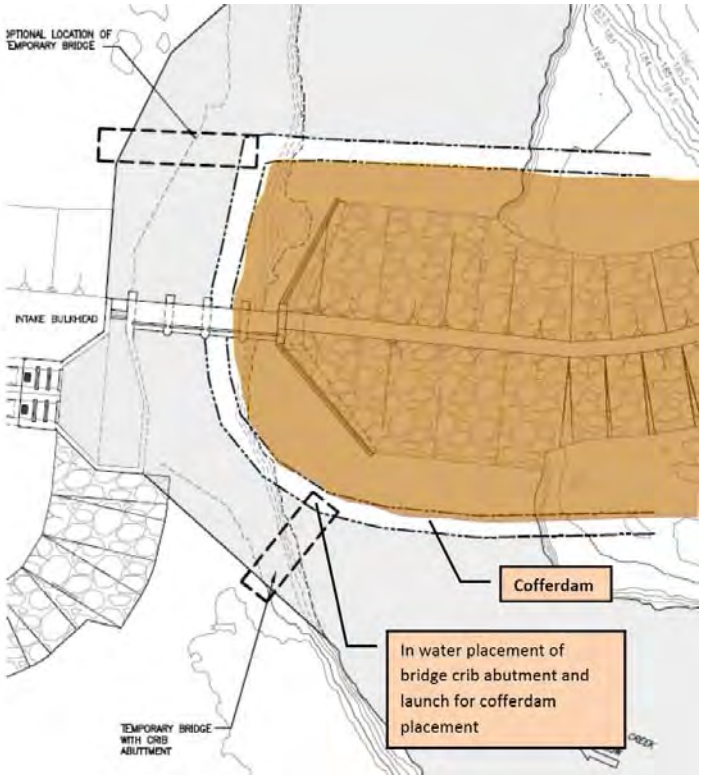
Upon completion of the intake and the concrete spillway work, the cofferdam and remaining rock plug would be removed and the new spillway bay on the west side will be used to pass creek flows downstream (Figure 2.14b).

Figure 2.14b Phase II – Removal of Rock Plug



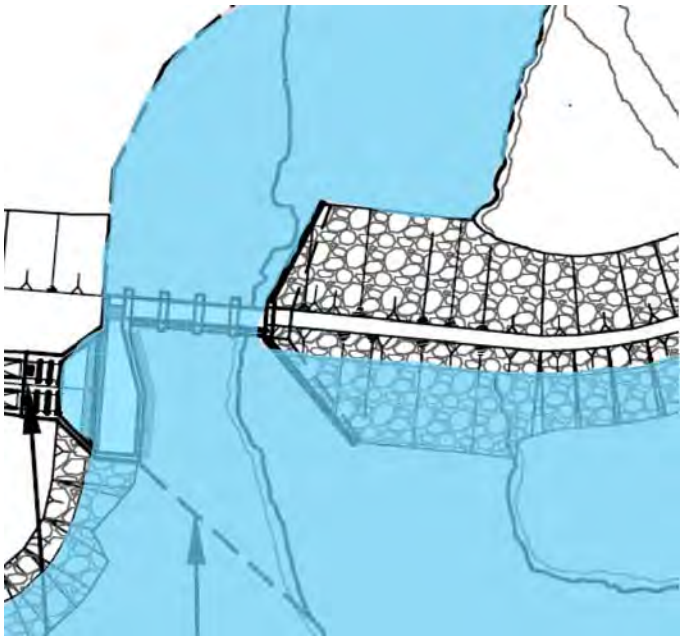
A small cofferdam for the construction of the earth dam could be constructed from the eastern shoreline (Figure 2.14c). It is anticipated that an access trail from Parliament Loop Road to the east abutment could be enhanced to facilitate construction (see Section 2.3.1.2). Alternatively, a temporary bridge could be used to cross the open portion of diverted flow, in combination with limited in-stream work for timber crib abutments. In either case the cofferdam would be quite small, with a dewatered river channel area in the order of 150 m by 50 m using a cofferdam in the order of 1.5 to 2 m high. The cofferdam selected by the DBC is anticipated to be either an in-stream water tight barrier (e.g., aquadam), or constructed of granular fill with a water retaining core (membrane or silty sand). In this phase of construction the spillway concrete components would be completed and the earth dam would be put in place.

Figure 2.14c Phase III – Construction of Earth Dam



In the final phase the cofferdam would be removed and the forebay eventually flooded as shown in Figure 2.14d. The material from the cofferdam may be used as part of the earth dam, or placed in designated spoil piles.

Figure 2.14d Phase IV – Removal of Cofferdam



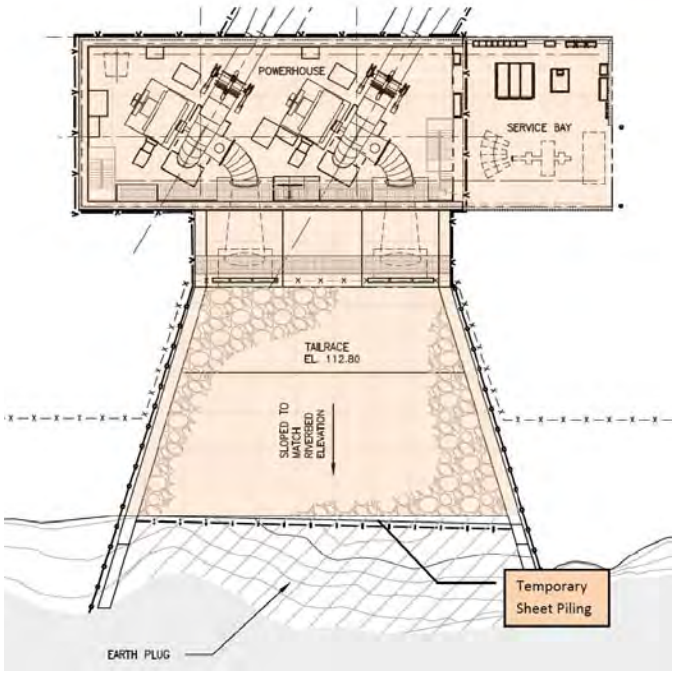
Existing slopes along the Abitibi River and inland at the proposed Project site are relatively steep. Some slope angles were near 1V:1H locally, with overall slopes of 1V:3H, reflecting fairly high strength materials in the *in-situ* sands, silts and tills and limited groundwater pressure influence. There was no evidence of deep-seated slumping or slides occurring at the proposed Project site. For preliminary design purposes, a slope angle of 1V:2H could be used for temporary construction excavations above the groundwater table. As the native soils are highly erodible, extensive stabilization works may be required to prevent vegetation removal, drainage pattern alteration and slope destabilization by heavy loads. Freshly exposed surfaces due to construction activities will require erosion control measures such as granular material placement over exposed surfaces, surface water diversion from slopes and French drain installation for water control in water-bearing granular areas.

The proposed penstocks will extend approximately 820 m from the intake to the powerhouse and will be buried with a minimum 2 m cover to provide thermal insulation during winter operation. Blasting of surface and near-surface bedrock along the initial 150 m distance from the intake will be required to facilitate penstock burial.

Groundwater depressurization/dewatering will be required for powerhouse foundation excavation. This may be achieved by installation of a pump well system or a low permeability seepage barrier such as sheet pile walls or slurry trench to reduce seepage gradients at the downstream face of the natural cofferdam (dyke) around the powerhouse foundation excavation.

Construction of the proposed powerhouse and a portion of the tailrace will be set back from the Abitibi River shoreline (see Figure 2.9). Due to the presence of sand, it is anticipated that a pumped dewatering system possibly combined with a trench cut-off and/or sheet pile cut-off will be required during excavation and construction (Figure 2.15).

Figure 2.15 Powerhouse Excavation behind Earth Plug and Sheet Piling Cofferdam



It is anticipated that tailrace construction in the channel involving overburden excavation would be undertaken after completion of the powerhouse substructure. Once the cofferdam is constructed, the area enclosed by the cofferdam will be pumped dry to facilitate nearshore sediment excavation and extension of the tailrace. The tailrace area will require rip-rap lining to protect against erosion and sloughing of the overburden. Portions of the Abitibi River bank in the immediate vicinity of the tailrace area may also require shoreline rip-rap protection to minimize toe erosion due to scouring and lower bank sloughing along the river bank. A retaining wall or a tied steel sheet pile wall will extend out from the powerhouse draft tube piers to assist in reducing the excavated quantities. After construction completion the final shoreline plug/sheet pile will be removed in the wet.

The final site grading and elevations will be designed to minimize erosion and manage stormwater in accordance with the Stormwater Management Plan prepared by the DBC based on the Ontario Ministry of the Environment (MOE, 2003) report “Stormwater Management Planning and Design Manual” and the conditions of the Environmental Compliance Approval under the *Ontario Water Resources Act*.

Upon construction completion, the site will be restored and re-vegetated based on the Site Rehabilitation Plan.

CRP/OPG currently envisions hiring a DBC that will be responsible for the detailed design and construction of the proposed New Post Creek Project. The DBC would also be responsible for obtaining construction-related permits and approvals that would be required for the proposed Project dependent on the final designs prepared by the DBC. The ER provides a list of anticipated permits and approvals required during construction and operation phases.

Construction is anticipated to last up to 30 months.

2.3.1.1 Inundation and Total Cleared Areas

As indicated in Table 2.2, the proposed Project is projected to result in an estimated inundated area of 170 ha. The inundation is limited to the portion of waterway and land upstream of the proposed spillway structures. The inundated areas associated with the proposed Project are a combination of riparian shoreline and moist forest-covered areas (see Figure 2.7). The total area affected by the proposed Project has been calculated from mapping and by adding up the areas of the various proposed Project components. The total area affected was apportioned into three categories:

1. Permanent Loss of Area – this is a permanent loss of existing habitat to facilities and structures such as a road, dam, powerhouse and transmission line ROW.
2. Temporary Loss of Area – this is a temporary loss of existing habitat associated with land required for the construction period of the proposed Project.
3. New Water Area – is the total loss of terrestrial habitat due to the reservoir inundation and creation of aquatic habitat.

The areas affected by the proposed Project components are presented in Table 2.3.

Table 2.3 Quantification of Areas Affected by Proposed Project Components

Project Component	Permanent Loss of Area (ha)[1]	Temporary Loss of Terrestrial Area (ha)[1]	Creation of New Water Area (ha)
Camps (maximum)	NA[2]	8	NA
Borrow Areas (maximum)	NA	NA	NA
Access Roads	15	9	NA
Intake and Spillway Structures	<1	<1	
Power Canal, Penstocks, Powerhouse and Tailrace	7	7	NA
Switchyards and Substations	<1	<1	NA
Inundation	170[3]	NA	131
Transmission Line ROW (maximum)[4]	34	NA	NA
Total	225	24	131

[1] Includes New Post Creek, associated tributaries and land base.
[2] NA=not applicable.
[3] Including permanent conversion of riverine habitat to lacustrine habitat.
[4] Based on 50 m width.

The final total area to be cleared will be refined as detailed design of the proposed Project progresses. It is assumed that all temporary construction roads will be included in the footprint identified in Table 2.3. It also assumes that borrow areas would not be a permanent loss from the land base, since once the resources are depleted, site restoration will be undertaken by the borrow operators.

Vegetation clearing will involve a combination of manual and mechanical approaches. Based on commitments made to the Aboriginal communities, no chemical methods will be utilized for vegetation clearing.

2.3.1.2 Requirements for Off-site Land Use and Other Ancillary Features

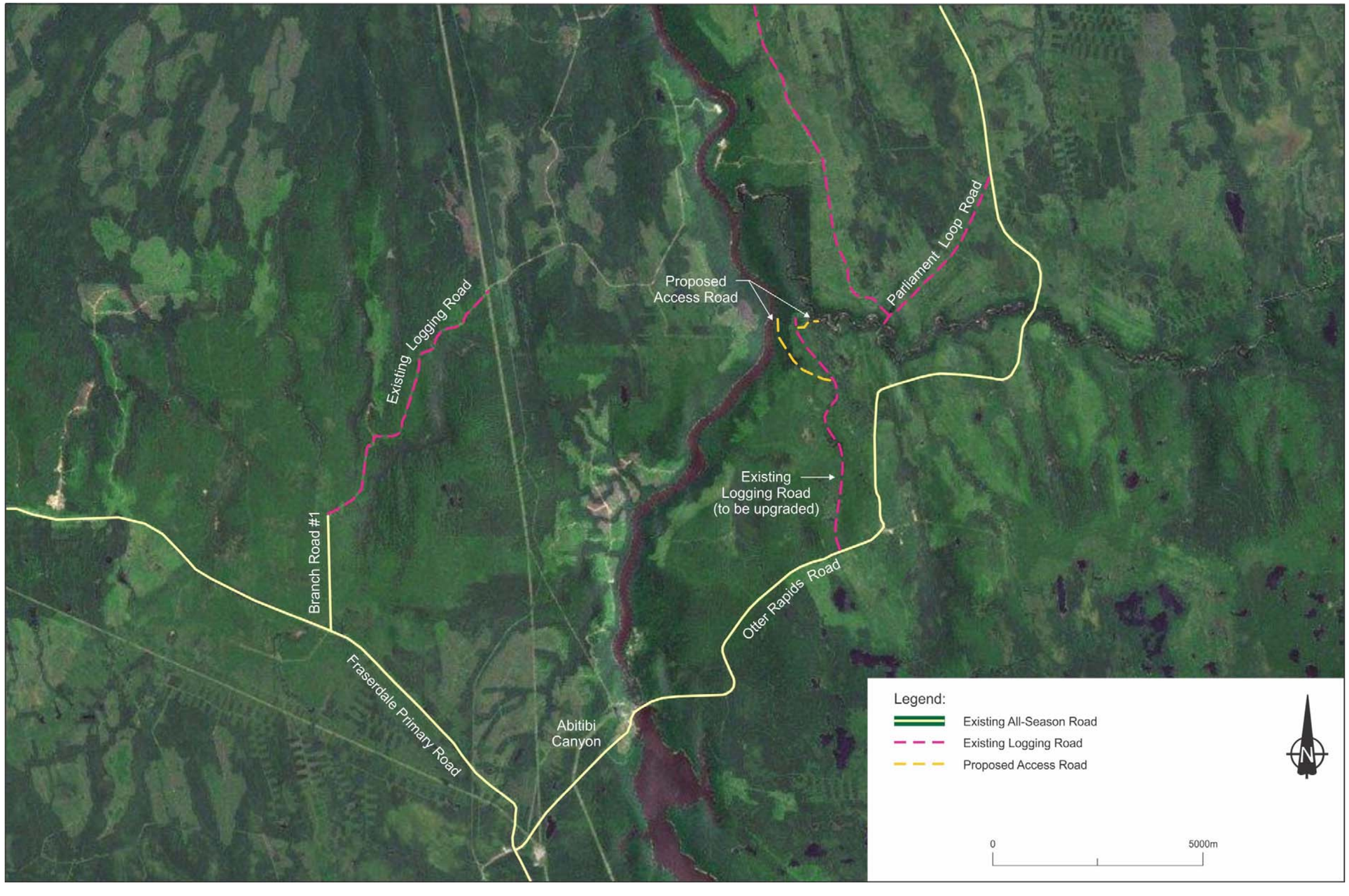
A number of ancillary facilities will be required for the proposed Project, including roads, camps for construction workers, lay-down/construction areas and borrow areas for construction materials.

Existing road access leading to the proposed GS Site is provided by Provincial Highway 634 to the Abitibi Canyon GS and a short section of the Otter Rapids Road (private road) which ends at the Otter Rapids GS (see Figure 2.3).

Further access to the proposed GS Site would be via a disused clay-topped forestry road, approximately 6.1 km in length, that would have to be substantially expanded and reinforced (see Figures 2.3 and 2.16). This is a single-lane road that was constructed by grubbing and heaping the clay soil to create a sub-grade, with portions topped with sand and/or gravel. This road is assumed to have been constructed in 1980 to provide access for harvesting and has subsequently not received maintenance. The existing road would have to be upgraded and extended approximately 530 m and 1,450 m to the proposed intake and powerhouse locations, respectively. This road traverses two permanent unnamed watercourses. In addition, there are six cross-drainage culverts along the operational road to facilitate seasonal water flows and avoid pooling along the road. Culvert replacement will require a permit from the MNR.

CRP/OPG presumes that access to the east bank of the New Post Creek, as may be necessary for the construction of the dam structures, will be provided with a temporary bridge across the creek at the intake area. Other old forestry roads north of the Otter Rapids Road bridge over New Post Creek such as Parliament Loop Road may also provide access to the east bank of the creek. Figure 2.16 shows the potential access route along Parliament Loop Road. These roads would require construction and environmental mitigation measures by the DBC prior to use, and would be upgraded in accordance with permit approvals from MNR.

Figure 2.16 Proposed Project Access



Access to the west bank of the Abitibi River for construction of the proposed transmission line is provided by an existing road network to the interconnection point with the existing Hydro One transmission line and is considered adequate for construction equipment traversal (see Figure 2.11). Proposed transmission line construction is expected to be carried out in winter with no additional access road creation. In any case, the DBC will have to secure permits and approvals regardless of the season of proposed transmission line construction.

The proposed interconnection point will be accessed using the Fraserdale Primary Road (#634), Branch Road #1 and an unnamed operational (logging) road (see Figures 2.3 and 2.16) that bisects the Pinard Moraine Conservation Reserve which was regulated by the MNR in 2005. Upon regulation, this road continues to be used by the forestry industry as per agreement with the MNR. An Area of Concern (AoC) prescription for use of this road during proposed Project construction may be required from the MNR.

A construction camp will likely be required to accommodate up to approximately 100 workers for the three-year duration of proposed Project construction. The DBC will decide the camp location and have responsibility for acquisition of relevant permits. It is anticipated that the camp would be constructed in the Abitibi Canyon GS area where OPG currently has a Water Power Lease and a Licence of Occupation.

Construction staging or lay-down areas will be required and are expected to be close to the main construction sites, e.g., intake and spillway structures, penstocks and powerhouse. These areas will be used for vehicle and equipment parking, materials storage, construction facilities (e.g., site office, security buildings/cabins) and construction access provision. CRP/OPG has identified from a practical perspective a number of areas that will likely be used during construction (see Figure 2.4). In some cases, the DBC will use areas that will be permanently lost to infrastructure for temporary uses. These opportunities can occur during proposed Project staging. The DBC will be required to obtain any land use permits and licences for temporary construction activities.

Borrow areas will be required primarily for the earth fill dam and dykes and other aggregate use. CRP/OPG anticipates that aggregate from the excavations would be used and supplemented from several nearby existing borrow areas for which the DBC would have to secure permits or procurement from those already holding the permits. Figure 2.3 shows the locations of potential borrow areas.

CRP/OPG will provide as much information as possible regarding the locations of borrow areas which might be used during the construction phase. Confirmation of the specific borrow areas is not possible for CRP/OPG to provide at the EA stage, as the final selection and permitting for use of these areas will be the responsibility of the DBC.

Any waste generated by the proposed Project will be disposed of in accordance with federal and provincial requirements.

2.3.1.3 Construction Schedule and Strategy

The proposed New Post Creek Project is currently completing the Definition Phase, which includes:

- completion of the OWA Class EA process;
- selection of a DBC for construction; and
- procurement of a revenue agreement or contract with the Ontario government.

When all Definition Phase tasks are complete, CRP/OPG will complete a final review of the proposed Project and make a decision to proceed into the "Execution Phase". This phase includes CRP and OPG obtaining respective board approval to proceed.

The earliest time frame in which construction would start is 2014 and it is expected that construction phase will last approximately 30 months.

In the Execution Phase, CRP/OPG currently envisions hiring a third party contractor, i.e., DBC, who will be responsible for the detailed design and construction of the proposed Project. The DBC would be responsible for completing detailed final stamped designs and obtaining all construction-related permits and approvals, e.g., Permits-to-Take-Water for cofferdams and construction-related activities, road use and watercrossing approvals, aggregate permits, etc.

CRP/OPG is committed to working with federal and provincial agencies to address information requirements related to construction and operation approvals or authorizations.

At this point, CRP/OPG does not know the specific equipment that will be required for the proposed Project; however, it is likely that it will include typical construction equipment associated with large-scale civil works.

CRP/OPG anticipates that explosives will be required during construction. All necessary permits will be obtained by the DBC, who will also comply with all legal requirements in connection with the use, storage and transportation of explosives, including, but not limited to, the *Canadian Explosives Act* and the *Transportation of Dangerous Goods Act*. Environmental monitoring during construction will also occur to ensure commitments in the ER and other permits are being followed as intended.

2.3.2 Operation

2.3.2.1 Proposed New Post Creek Hydroelectric GS

Operation of the New Post Creek Diversion Dam has been designed in a manner which requires minimal intervention by OPG personnel. Since 1974, the dam has been operated by leaving the stop logs set at elevation 218.80 m to maximize diversion flow while eliminating the need for ongoing log operations at the dam (OPG *et al*., 2006). When the headwater exceeds this elevation, water spills over the stop logs and flows downstream along the old channel of the Little Abitibi River.

Operation of the proposed New Post Creek Hydroelectric GS will be unmanned. No permanent staff will be stationed at the facility. Operating and maintenance personnel will visit the site only to perform specific periodic routine inspection and servicing tasks, or to deal with necessary investigations and repairs, when these are required.

Once placed into service, the proposed GS will be operated from the OPG North East Control Centre (NECC) in Timmins. The station will be monitored on a continuous basis by OPG operators from a control room where all North East Plant Group units are controlled. As well as monitoring the operation of the station, the NECC control room operators will initiate such operations as starting, synchronizing and stopping the turbine generators and adjusting their loads, opening and closing sluice gates as required to manage the forebay operations and downstream flows, and responding to malfunctions of the equipment brought to their attention.

Maintenance of the trash rack and intake, such as removal of timber debris, will be performed manually or with mobile equipment from the intake deck. There is an option to add automated equipment for this activity in the future.

The intake bay for each penstock will have self-closing vertical lift gates to ensure that the penstocks and powerhouse can be safely isolated and dewatered under all conditions.

Maintenance of the draft tubes or turbines will require the use of a draft tube bulkhead system. Consequently, the powerhouse will be equipped with one set of draft tube bulkhead gates (for one unit at a time), with the gates to be installed using a monorail hoist travelling across the tailrace deck. The gates will be stored in the gate slots above tailwater level.

The base case operating scheme, as outlined in the feasibility update report (KGS Group, 2010), involves the passage of minimum flows downstream to the New Post Creek waterfalls and the remaining flow diverted from the creek and passed through the turbine units to generate electricity. During high flow periods, flow diversion will meet the maximum flow capacity of the turbines. Plant capacity will be 50 m^3/s. During spring, significant flows will continue downstream of the intake weir to the waterfalls, as the estimated average New Post Creek flows for May and June are 131 m^3/s and 71 m^3/s, respectively. During the rest of the year, the

minimum flow will first be released downstream of the weir with the remaining flow diverted to the turbines to generate electricity.

When the diverted creek flow is less than the lowest plant operating flow of the smallest turbine unit (typically 40% of the unit capacity for a Francis turbine), pulsed operation would occur. It is expected to occur primarily during the low flow winter periods and would use the limited storage available in the forebay to provide additional generation. Using a FSL of 187.00 m.a.s.l., sufficient storage would be available to augment low creek inflow in order to operate one turbine unit for several hours. This operation could be repeated throughout the day as flow permits, thereby generating additional energy during a period when the plant would otherwise be shut down. The plant will release flow in any day equal to the volume of inflow. This pulsing operation provides additional technical (and cost) benefits such as ensuring continued flow through the penstocks and station heating in the winter months. For example, for two equal sized turbine units with a capacity of 25 m^3/s each, the plant would operate in pulsed mode at riparian flows between approximately 2 and 12 m^3/s during parts of February and March (based on a 2 m^3/s minimum flow for this period). Pulsing will be undertaken during other times of the year when there is not enough flow to provide the minimum flow and run the turbines.

Annual water levels in New Post Creek vary by approximately 3 m. With pulsing, water level fluctuations will be less, but occur more frequently over short periods of time. Water level fluctuations will be limited to 0.5 m below the usual full headpond water level. Pulsing will be permitted at any time during the year within this operating range of 0.5 m provided minimum flows are directed over the spillway and no negative effects due to pulsing, that can not be otherwise mitigated, are observed (G. Funnell, MNR, 2013, pers. comm.).

2.3.2.2 Operating Regime

The existing Abitibi River Water Management Plan (WMP) (OPG *et al*., 2006) will need to be amended through an Administrative Amendment. Flows and levels for the proposed New Post Creek Hydroelectric GS will comply with the amended Abitibi River WMP.

Operation will be constrained by the minimum flow required in the existing channel mandated as required for the waterfalls downstream. This minimum flow was agreed to with MNR, Ontario Parks and Department of Fisheries and Oceans during the Definition Phase. All parties have been working towards the operating regime that:

a) continues to provide important ecological functions;
b) ensures that the proposed Project is economically viable;
c) respects TTN's historic and modern day interests;
d) ensures and enhances public safety; and
e) ensures continual flow down New Post Creek and over the waterfalls to maintain aesthetic value.

As a pre-condition, it was agreed that the proposed Project will not change the total volume of water flowing into the Abitibi River, or the operating considerations for OPG's Abitibi Canyon GS and Otter Rapids GS. Total flows from New Post Creek into the Abitibi River will remain unchanged (except that there will now be two discharge locations, i.e., at the proposed GS tailrace and the existing New Post Creek outlet). As a result, flow magnitude, frequency, timing, duration and rate of change will be different than current flow conditions at the New Post Creek outlet.

The minimum flows that must be maintained downstream of the spillway structure at all times are provided below:

Period	Minimum Flow (m^3/s)
Approximately May 1 to mid-June[1]; timing dependent on spring spawning and egg incubation period[2]	15
Mid-June to August 31	7.5
September 1 to 30	5
October 1 to approximately April 30; timing dependent on Walleye (*Sander vitreus*) spawning initiation	2

[1] To be expanded to include Lake Sturgeon spawning and egg incubation period if spawning occurrence is demonstrated.

[2] Brief transition of flows from 15 to 7.5 m^3/s from the end of egg incubation (based on thermal units accumulated) with the rampdown rate (m^3/s per day) to be determined in consultation with the MNR and DFO.

The proposed Project will have a relatively small headpond (approximately 170 ha) and will hold approximately 8,000,000 m^3 of water. However, all of the water within the headpond is not available to the proposed facility to use for generation since the facility is only permitted to vary the headpond water level by 0.5 m. Therefore, the headpond will have limited ability to store water and the intended operation of the facility is to utilize the water as it comes down New Post Creek, while maintaining a minimum flow through the downstream creek reach and over the waterfalls. For clarity, the proposed headpond will not be drained for generation and replenished.

The forebay fluctuations are intended to provide operation during low flow periods primarily in late winter and late summer. This pulsing will be an automatic process and will involve the following:

1. The turbines are expected to require a minimum of approximately 10 m^3/s to operate. Any time the total flow in New Post Creek is less than 10 m^3/s plus the minimum downstream flow requirement, the turbine units will not be able to operate.
2. In such situations, the proposed GS will be allowed to draw down the forebay within the prescribed range at a flow rate that will optimize efficiency.

3. When the water level reaches its lower limit, the units will shut down until the forebay returns to its high level. This will not be co-ordinated with the time of day for increasing revenue but will be an automatic process.
4. The fluctuation is expected to be lower in the winter to maintain an ice cover on the forebay.
5. This cycle will repeat most frequently in situations when flows are just below the required 10 m^3/s plus the minimum downstream flow requirement. The situation that would cause the most frequent starts/stops would be during the winter. In such cases the cycle could be expected to repeat every 8 to 48 h, depending upon riparian flow.
6. In the prescribed period where a 50 cm band is achievable, the cycle would be expected to repeat every 48 to 150 h, depending upon riparian flow.
7. The flows downstream of the dam would not change during this process as they will remain as the defined minimum flow requirement.

The 7.5 m^3/s requirement between mid-June and August 31 is used as an example to better illustrate the minimum flow operation. Depending on the available inflow, there are basically three scenarios:

1. When there is not enough flow to provide the minimum flow of 7.5 m^3/s **and** run the turbines (requires approximately 10 m^3/s), the minimum flow of 7.5 m^3/s will continue to be provided down New Post Creek and over the waterfalls. Any remaining water will be held back within the headpond. The headpond has limited capacity to hold water within the 0.5 m band. Therefore, once enough water has collected in the headpond to run the station for a reasonable duration, it will restart and begin generation. When the lower limit of the band is reached, generation will stop. This cycle could happen several times a day during a low flow period; however, the 7.5 m^3/s minimum flow will be maintained.

2. For the majority of the summer period, it is expected that there will be enough flow to provide the 7.5 m^3/s and operate the proposed GS continuously. The proposed GS will be designed in a manner to run in low flow situations so that operations can continue as frequently as practical in order to minimize any stop/start cycles for the equipment. In this scenario, a constant flow of 7.5 m^3/s is provided down New Post Creek.

3. In situations where the flow exceeds the amount required to provide the 7.5 m^3/s minimum flow and the maximum flow that the proposed GS can utilize (approximately 50 m^3/s), the additional water will be spilled through New Post Creek increasing the flow above 7.5 m^3/s.

In all cases (other than a natural drought condition in which all available flow will be released down the creek), a minimum flow of 7.5 m^3/s will be provided during the summer period downstream in New Post Creek and over the waterfalls.

With respect to water levels, it is proposed that the upper FSL of 187.00 m.a.s.l. be used as the normal maximum operating level with a minimum operating level of 182.00 m.a.s.l. The proposed headpond water levels are summarized below:

- Maximum Operating Level (flood conditions): 187.50 m.a.s.l.
- Normal Maximum Operating Level: 187.00 m.a.s.l.
- Normal Minimum Operating Level: 186.50 m.a.s.l.
- Absolute Minimum Level: 182.00 m.a.s.l.
- Minimum Level for Periodic Headpond Maintenance: 182.30 m.a.s.l.

2.3.2.3 Transmission Facilities

The proposed transmission facilities would be inspected on an annual basis using a combination of aerial and/or ground reconnaissance. Additional inspections may be required after the occurrence of any harsh weather conditions or upon occurrence of any line faults. Emergency repairs could occur at any point in the year.

Vegetation control on the ROW will be required, involving a combination of manual and mechanical approaches. Based on commitments made to the Aboriginal communities, no chemical treatment will be utilized for vegetation management.

2.3.3 Decommissioning

The history of hydroelectric generating stations in Ontario is that they are typically not decommissioned. Rather, as the structures near the end of their engineered life, they are either re-developed or refurbished. The societal benefit of these hydroelectric assets and their associated infrastructure, e.g., transmission and distribution lines, is such that these re-investments are usually considered economically, socially and environmentally preferable to developing new energy projects. As such, no specific decommissioning activities have been identified. Rather, transmission and distribution structures and lines would be maintained and/or replaced as part of ongoing operations.

3.0 FIRST NATION AND MÉTIS INTERESTS DETERMINATION

This chapter describes the First Nation communities and Métis organizations with a possible interest in the Proposed Project and the process to identify them.

3.1 DETERMINATION OF FIRST NATION AND MÉTIS INTERESTS

The first step in developing a First Nation and Métis consultation program was to determine which First Nations and Métis groups should be consulted. This section describes that process and its outcomes.

This assessment was based on the local knowledge of CRP/OPG about traditional territories and users in the area. The assessment also considered other planning exercises having occurred in the area and previous consultations (e.g., forest management planning). Based on this assessment the following First Nations and Aboriginal organizations were identified as having or potentially having an interest in the area of the proposed Project:

- Taykwa Tagamou Nation (TTN);
- Moose Cree First Nation (MCFN);
- Wahgoshig First Nation (Wahgoshig);
- MoCreebec Council of the Cree Nation (MoCreebec); and
- Métis Nation of Ontario (MNO), Northern Lights Métis Council (NLMC).

As TTN is a co-proponent on the proposed Project it was obvious that consultation would need to occur with them. Determining the balance of First Nations and Métis interests to be consulted on the proposed Project required a more rigorous assessment process.

Based on a review of Wabun Tribal Council's members Traditional Territory map that appears on the Council website (http://www.wabun.on.ca/major-resource-development-initiatives), it was determined that all components of the proposed Project and any effects would fall outside of this Traditional Territory. Therefore, the decision was made that consultation was not required with Wabun Council First Nations.

As part of the determination process, CRP/OPG also needed to consider previous government policy on Aboriginal involvement in hydroelectric development in the Moose River Basin. In a letter to the Chairman of the Moose River/James Bay Coalition (which included TTN, MCFN and the MoCreebec), from then Minister of Environment and Energy, Bud Wildman, the provincial government agreed that "within the Moose River Basin north of Highway 11, there will be no hydroelectric development beyond Ontario Hydro's Mattagami River Hydroelectric Station Extensions project until such time as a co-planning process has been developed, agreed to and applied by the affected First Nations and Ontario". More recent correspondence (August 1, 2007) from A/Assistant Deputy Minister David de Launay of the MNR invited discussion on the

Moose River Basin Co-planning Commitment, and proposed to MCFN, TTN and MoCreebec that: (1) lands within the Moose River Basin north of Highway 11 could be directly allocated where such applications for new hydroelectric projects are proposed by the local First Nation and/or their development partner; (2) there not be a megawatt limit on the installed capacity of a project; and (3) the current Northern Rivers Policy for the Albany, Winisk, Attawapiskat and Severn Rivers remain in place for the time being. Subsequently, the MCFN, in a written agreement with TTN, acknowledged receipt of both of the above letters, and agreed to actively support the proposed New Post Creek Project. Therefore, based on this history but also recognizing that the MCFN self-described Homeland Declaration extends to the western bank of the Abitibi River which includes the lands proposed for the transmission line for this proposed Project, a decision was made to involve MCFN in the consultation process.

Because of the Moose River Basin policy discussed above it was also decided that MoCreebec should also be consulted on the proposed Project. Subsequently, MoCreebec has provided a letter of support to TTN for the proposed New Post Creek Project in light of the co-planning discussions (see Appendix A).

A decision was made to send a letter to Wahgoshig informing them of the proposed Project even though there was no information that indicated the Project and its extent of effects were located within Wahgoshig Traditional Territory. Wahgoshig is the nearest neighboring First Nation with its community located near the Québec border east of Iroquois Falls, and they were included as a matter of due diligence.

Through its experiences on other projects in northeastern Ontario, OPG was aware that the MNO would also likely express an interest to be consulted on the proposed Project. The NLMC based in Cochrane is the closest MNO Council to the proposed Project; therefore, they were also added to the list.

To ensure the list of First Nations, Métis and/or other Aboriginal organizations was adequate CRP/OPG consulted with government agencies and followed the direction provided by the MOE, with respect to projects subject to the *EA Act.* In that regard, the MOE website identifies a series of government agencies to which proponents can send letters to assist in potentially identifying First Nations communities and Aboriginal organizations. Letters were sent to the following government agencies:

- Indian and Northern Affairs Canada (INAC), Specific Claims Branch;
- INAC, Environment Unit;
- INAC, Comprehensive Claims Branch (Consultation and Accommodation Unit);
- INAC, Litigation Management and Resolution Branch;
- INAC, Office of the Federal Interlocutor for Métis and Non-Status Indians; and
- Ontario Ministry of Aboriginal Affairs, Consultation Unit.

Responses were received from the Specific Claims Branch, the Environment Unit and the Consultation and Accommodation Unit of INAC. There was no information provided from any of the three units that indicated other First Nation, Métis or Aboriginal groups to contact.

Other than the groups listed above, CRP/OPG have not identified any other First Nation, Métis or Aboriginal organization that would need to be consulted on the proposed Project.

3.2 TAYKWA TAGAMOU NATION

TTN is a partner on the proposed New Post Creek Project with OPG. CRP is the TTN owned company which pursues hydroelectric projects and is OPG's partner and co-proponent on the proposed Project.

In April 2006, a Memorandum of Understanding was signed between OPG and TTN to jointly explore hydroelectric development opportunities within the Abitibi River drainage basin, north of Highway 11. As a result of this initiative, a potential waterpower generation location was identified on New Post Creek, a tributary of the Abitibi River.

The proposed Project lies within the heart of the Traditional Territory of TTN and almost exclusively within traplines held by TTN members.

TTN has two reserves. The older Reserve is located approximately 14 km east of the Abitibi Canyon GS (see Figure 1.2). This Reserve was set aside for hunting, trapping and other activities, and has not served as the principal settlement location. A new reserve was created in the early 1980s, approximately 20 km west of Cochrane to provide a settlement location for TTN (TTN, 2012).

As of 2012, TTN has a total registered population of 460 individuals with slightly over 120 living on Reserve (AANDC, 2012).

The TTN people are Mushkegowuk Cree, the people of the muskeg, and have lived with and on the lands in what is now known as Ontario for time immemorial. TTN is formerly known as the New Post First Nation. It received this name because the community had been associated with the HBC post, named New Post, located on the Abitibi River, about 1 km north of the proposed Project. As noted by Wayne Ross of CRP, New Post Treaty No. 9 was signed in August 1905 at the New Post site; hence, "we were called Newpost Indians". TTN participated actively in trade with the HBC and provided a key location in the trade from the interior of the Moose River Basin to Moosonee on James Bay (TTN, 2012).

The proposed New Post Creek Project provides some unique opportunities for economic and social development for TTN and its members. TTN's equity share in the proposed Project will provide a steady flow of revenue for TTN to fund other projects/initiatives within TTN Traditional

Territory. There will also be opportunities for employment and contracts for TTN members and businesses during the Construction Phase of the proposed Project. Finally, the proposed Project also introduces TTN to the hydroelectric generation sector for future projects along the Abitibi River and its tributaries.

3.3 MOOSE CREE FIRST NATION

MCFN is a large First Nation with a population of 4,124 individuals as of January 31, 2013 of which approximately 40% are located on Reserve at Moose Factory Island just south of James Bay on the Moose River. The other approximately 60% of MCFN citizen live throughout Ontario and Canada but substantial numbers live in other communities such as Timmins, Cochrane and Kapuskasing in northeastern Ontario. The MCFN have Homeland Declaration interests on the west side of the Abitibi River.

The MCFN have agreed in writing to support the proposed New Post Creek Project.

3.4 WAHGOSHIG FIRST NATION

The Wahgoshig Community is located close to the Québec border west of Iroquois Falls. Wahgoshig has a registered population of 285 of which slightly less than half reside on the Reserve (INAC, 2011). Based on CRP/OPG knowledge of Wahgoshig interests, it does not appear that the Wahgoshig Traditional Territory extends as far as the proposed New Post Creek Project site. However, out of courtesy an initial letter was sent to Wahgoshig to ascertain their interests. In a discussion with Wayne Ross, President of CRP, Chief Babin indicated that Wahgoshig has no concerns about the proposed Project.

3.5 MOCREEBEC COUNCIL OF THE CREE NATION

According to the MoCreebec website, the MoCreebec Community is an association of Cree peoples originally from Québec and living in the Moose Factory-Moosonee area for generations. The MoCreebec Association was officially established in 1980. The MoCreebec (2013) website indicates that:

> "Originally, the members of MoCreebec trace their ancestry to the people along the East Coast of what is now known as James Bay, in the province of what is now Quebec. As in Ontario, these Cree people settled into communities because of the establishment of fur trading posts at various points around the bay. Many families from the east coast of James Bay were drawn to and settled in the Moosonee/Moose Factory region as it grew into a regional government and commercial centre. Employment, education, and health care were all major factors for the migration from ancestral territories.

> However, in 1905, MoCreebec families were not signatories to Treaty No. 9 in Ontario. The Federal Government chose not to include the people whose ancestry was in the province of Quebec - a decision not discouraged by the Government of Ontario or the trading companies operating in the region."

MoCreebec participated in the Moose River/James Bay Coalition and then subsequently was mentioned in the policy statement around co-planning associated with the Moose River Basin (see Section 3.1). With respect to this Co-planning Commitment referred to in Section 3.1, MoCreebec has provided TTN with written support for the proposed New Post Creek Project (see Appendix A).

To CRP/OPG knowledge MoCreebec has never had any interests as far south as the area of the proposed Project.

3.6 MÉTIS NATION OF ONTARIO

The MNO was formed in 1993 and, as stated in the MNO (2010) "Métis Consultation and Accommodation: A Guide for Government and Industry on Engaging Métis in Ontario", represents the collective aspirations, rights and interests of Métis people and communities throughout Ontario. The MNO is led by President Gary Lipinski and has a democratic, province-wide governance structure, which ensures the representation of Métis people at the local, regional and provincial levels.

The NLMC based in Cochrane is the closest MNO Council to the proposed Project. As such, CRP/OPG have corresponded directly with this Council and with the consultation officer of the MNO representing Region 3 (see Appendix A). The Region 3 MNO encompasses the NLMC but also includes Community Councils representing the Timmins, Chapleau and Timiskaming areas.

4.0 INVOLVEMENT AND CONSULTATION

Described below is the consultation and involvement activities associated with each First Nation and the MNO.

4.1 TAYKWA TAGAMOU NATION

TTN is a partner on the proposed Project, through the involvement of CRP, in every aspect of proposed Project development. CRP has been permanently staffed by a President (Wayne Ross) from TTN from 2011 to present. While he is the main conduit for TTN participation, he has made an extensive effort to keep the community informed of the proposed Project.

In May 2008, a newsletter series "*New Post Creek Project News*" was commenced by CRP for the purpose of providing information on proposed Project achievements, status and ongoing endeavors to the TTN Community. Several additional newsletters (October 2008, May 2009, November 2009, July 2010, February 2011, July 2011, April 2012, Fall 2012 and Summer 2013) have been distributed within the TTN Community and have been posted on the CRP website: www.coralrapidspower.com, which was set up in October 2008 to provide information and updates to the Community.

CRP keeps TTN leadership informed of the proposed Project by receiving invitations to CRP Board Meetings, specifically Peter Archibald Sr., who is CRP's ex officio who also sits on Council. OPG supplies a quarterly report that is commented on and approved by CRP before submitting to Chief and Council on the progress of the proposed Project. Finally, a briefing report is provided to TTN leadership at the Annual General Meeting, typically held every August. The President of CRP also has an open door policy to speak to individual TTN members on any issue pertaining to the proposed Project whether they are environmental, employment, contracting or business opportunities or equity issues.

Presentations on the proposed New Post Creek Project have been made by CRP, OPG and its consultants at the TTN Annual General meetings for several years running.

Community Meetings on the EA aspects of the proposed Project have been held in November/December 2011 and November/December 2012 at the Reserve outside of Cochrane and in Moosonee where many members reside (see Appendix B).

Furthermore, smaller group meetings have been held with key TTN members such as local trappers, or individuals interested in contracting or employment opportunities. Consultation has been undertaken formally and informally with the two local TTN trappers directly affected by the proposed Project and is ongoing.

A number of TTN members have been employed during the Concept and Definition Phases of the proposed Project whether as employees of CRP or employees or contractors to the engineering and environmental consultants on the Project.

In addition to the activities noted above, a Joint Working Group (JWG) including TTN, MCFN and CRP/OPG was created to serve as a forum to discuss the concerns of both TTN and MCFN as they relate to the proposed Project. The EA consultant and a representative from MNR and Ontario Parks is available to the JWG as a resource.

An Advisory Committee referred to as the Working Relationship Agreement between MNR, Tembec and TTN meets monthly to discuss any resource development issues within TTN Traditional Territory. This Committee was created to address forestry related issues, and while forestry is still the main focus, they deal with all resource development in TTN Traditional Territory. While CRP/OPG are not a part of these meetings, this committee serves to discuss resource management issues in Cochrane District and it can be a forum to pass on relevant information about the proposed Project to TTN and also CRP/OPG.

While TTN has been completely informed of the proposed Project and is a part of the planning team for all aspects, formal consultation notices were submitted to the Chief of TTN. All consultation letters appear as Appendix A to this TSD.

4.2 MOOSE CREE FIRST NATION

The MCFN agreed that the proposed Project could proceed as an exception to the Co-Planning Commitment. Subsequently, MCFN has had substantial involvement in the proposed Project. A MCFN Co-ordinator has been hired to work on the proposed Project acting as a community liaison and to identify relevant MCFN issues and concerns. The Co-ordinator is to facilitate MCFN interests, address environmental aspects, liaise with the MCFN Community on potential effects on aboriginal and treaty rights, and coordinate/facilitate MCFN input to the proposed Project.

As indicated in Section 4.1, the JWG involving TTN, MCFN and CRP/OPG was established as a collaborative forum for open dialogue regarding all environmental matters pertaining to the proposed New Post Creek Project. The role of the JWG is to:

- Act as a collaborative forum for open dialogue among members of JWG regarding all environmental matters pertaining to proposed New Post Creek Project;
- As is reasonably required engaging and coordinating with Government Authorities with respect to any environmental approval under the *CEAA* or the *EA Act* (Ontario) or any other Permit;

- As is reasonably required, acting as a collaborative forum for the Parties to review and consider applications for the Permits and preparing any future information reasonably required with respect to the Permits; and
- Acting as a collaborative forum for coordinating relevant research and data collection as may be reasonably required for the purpose of the proposed New Post Creek Project.

In addition to the above, two information sessions were held in Moose Factory on the proposed Project. These were held in November 2011 and December 2012. Approximately 10 to 15 people attended each of these sessions. The participants in the sessions had a number of concerns, questions and interests relating to business and employment opportunities, social and economic concerns, as well as environmental cumulative effects relating to all the hydroelectric projects in northeastern Ontario and their effects on treaty rights and their children's future. The questions raised were addressed at the meetings. SENES received one written comment sheet after the meetings. This individual was interested in knowing all the other hydroelectric development projects occurring in Cochrane District/northeastern Ontario. A response was given to this individual but CRP/OPG recognized this was really a response required from MNR (rather than a proponent) and therefore the concern was passed on to MNR to respond as well to this individual. As well, the MCFN Trapper who attended one of the Public Open Houses indicated that he was concerned with the potential use of herbicides for transmission line ROW maintenance. The CRP/OPG team has indicated to the Trapper and to the MNO that herbicides would not be used for transmission line ROW maintenance.

The MCFN citizen with the most direct interest in the proposed Project is the Trapper who resides in Cochrane and has a trapline on the west side of the Abitibi River. Consultation has been undertaken formally and informally with this individual and CRP/OPG are addressing his concerns and identifying mitigation and compensation measures for this individual. Further discussions between the MCFN Trapper, the MCFN Coordinator and CRP/OPG to address the effect on this trapline, and proposed mitigation /compensation are continuing.

In addition to the communications through the JWG, formal consultation notices were sent to the Chief of the MCFN and meetings were planned with the MCFN Community as requested and discussed with them. MCFN has requested that CRP/OPG present the final reports to the Community. This meeting is expected to occur after the Notice of Completion is issued.

4.3 WAHGOSHIG FIRST NATION

As indicated in Section 3.4, CRP/OPG has opined that Wahgoshig do not have Traditional Territory interests near the proposed Project. However, exercising the precautionary principle a letter was sent to Wahgoshig followed by a telephone call from the President of CRP (Wayne Ross) who personally knows the Chief of Wahgoshig. Chief Babin of Wahgoshig indicated in the telephone conversation that he appreciated CRP's call and had no concern with the proposed Project.

4.4 MoCreebec Council of the Cree Nation

As indicated in Section 3.5, MoCreebec has provided TTN with written support for the proposed New Post Creek Project. Nevertheless, consultation letters have been sent to MoCreebec to keep them informed about the proposed Project. Unfortunately, the former Chief of the MoCreebec Council passed away in November 2011 and there was no Chief in place for most of 2012. Nevertheless, information has been passed on to MoCreebec.

As indicated in Section 3.5, CRP/OPG has determined that MoCreebec have never undertaken activities or have interests in or near the proposed Project.

4.5 Métis Nation of Ontario

The MNO has been sent letters informing them about the proposed Project during the EA process. However, in order to enhance consultation a formal meeting was held among CRP/OPG, MNO, MOE and MNR in February 2012. The purpose of the session was to present the proposed Project, provide a background on the proponents, allow the MNO to describe its organization and people, and discuss issues of interest and concern (see Appendix B).

The meeting was very positive and issues of importance to the MNO were discussed. These included: some history on the HBC New Post, concerns around the possible use of herbicides and potential loss of existing native plants in the area. General information questions about the proposed Project were also discussed.

It was also discussed at the meeting that OPG has provided the MNO with funding through the Lower Mattagami Re-Development Project (Lower Mattagami Project) to undertake a Traditional Knowledge study (see Section 5.5).

Subsequent to the meeting OPG has maintained periodic communications with the MNO Region 3 Consultation Officer. Based on those discussions no further meetings were considered warranted. However, issues of interest to the MNO are discussed in Section 5.5.

5.0 FIRST NATION AND MÉTIS INTERESTS

5.1 TAYKWA TAGAMOU NATION

The area of the proposed Project lies in the heart of TTN Traditional Territory and almost exclusively within traplines held by TTN members. The area is well known, understood and used by various TTN members. While no TTN member has a trap cabin at or in the immediate vicinity of the proposed Project, there would be several cabins and/or camps within 10 to 15 km of the proposed Project site and the area is used for hunting and fishing purposes. TTN interests in the area around the proposed Project include trapping, hunting, fishing, historical interests and other possible uses.

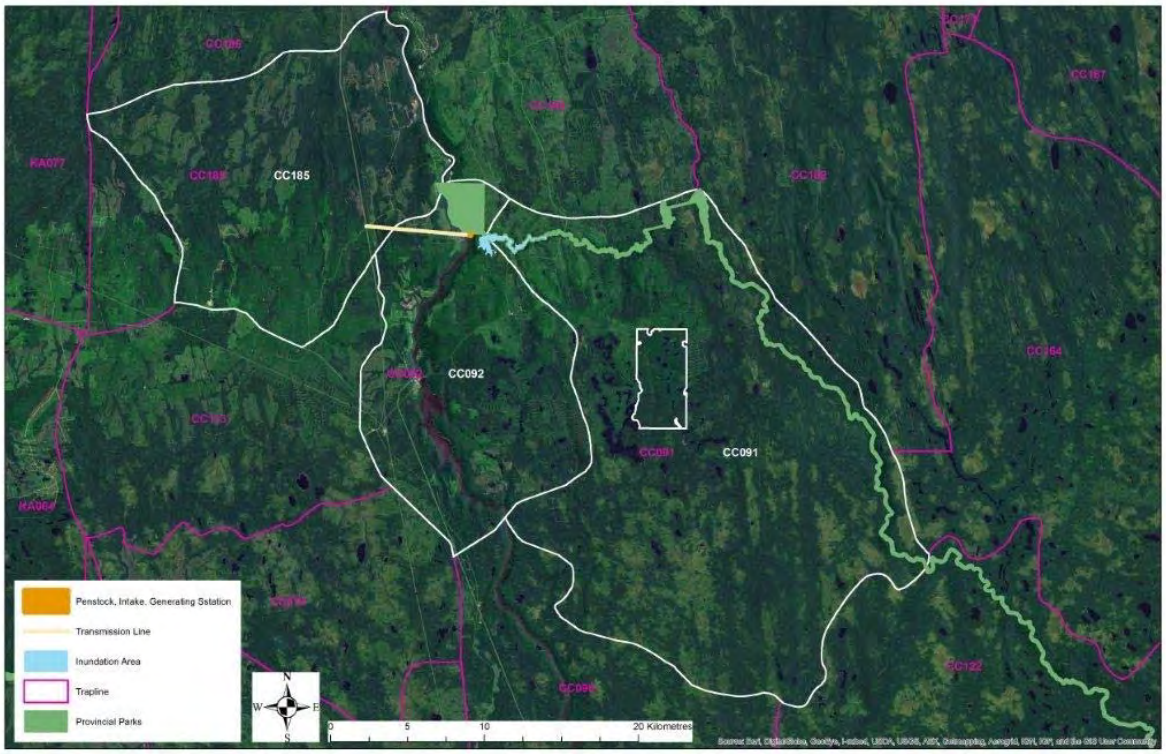
According to Wayne Ross, a TTN member and President of CRP, the proposed site of the New Post Creek Project is within the Traditional Territory (trapline) of Peter Sutherland Sr., the last TTN member to reside in the area. The trapline is currently held by Donald Ross a grandson of Peter Sutherland Sr. The site is a few kilometres from where the Treaty was signed. The New Post Creek Diversion Dam built in 1963 was done without prior consultation. LAPP was also established without prior consultation. These two occurrences do not sit well with TTN Membership. TTN realizes decisions were made in the past without prior consultation and some cannot be changed. In order to move on "we must forgive and leave the past behind". New relationships are being formed with various governmental entities. MNR and Ontario Parks are in agreement and working cooperatively with TTN in moving the proposed Project forward. When the OPG Past Grievance was in negotiations this idea of TTN and OPG forming a partnership in developing the proposed Project site was initiated. The community approved the Past Grievance settlement and partnership for the proposed Project. It has always been TTN's desire to develop this site, with the opinion that the effects of the proposed Project to the area would be minimal and mitigated to further reduce potential effects.

Trapping

Trapping is a common traditional activity in northern Ontario undertaken by both Aboriginal and non-Aboriginal peoples. Today, trapping is perhaps more important as a social, cultural and personal activity than it is as an economic one. Typical furbearer species targeted by trappers on the Abitibi Forest includes marten, beaver, mink, muskrat, fox, lynx, fisher, weasel, red squirrel and otter.

Figure 5.1 below shows the traplines in and around the New Post Creek area.

Figure 5.1 Traplines Affected by the Proposed New Post Creek Project



All of these traplines in the local study area belong to First Nations individuals. All the traplines belong to TTN members except for one trapline held by a MCFN citizen (CC-185) on the west side of the Abitibi River in the area of the proposed transmission line.

The construction of the proposed GS including the intake, penstocks, powerhouse, a portion of the headpond and most of the transmission line is wholly contained within Trapline CC-092. A small segment of the transmission line would be located within Trapline CC–185. The Replacement Lands for LAPP are located wholly within Trapline CC-091 as is a portion of the headpond.

Table 5.1 shows the loss of land to each of traplines CO-092, CC-185 and CC-091.

Table 5.1 Traplines Affected by the Proposed New Post Creek Project

Trapline Area Lost to New Post Creek Project								
Trapline	**Area of Trapline (ha)**	**Area of Trapline that will be Inundated (ha)**	**Area of Trapline Lost to Transmission (ha)**	**Area of Trapline Lost to GS Footprint (ha)**	**Total Area Lost (ha)**	**Percent of Trapline Area Lost**	**Consideration for Adjacent Area Effects (ha)**	**Percent of Trapline Area Lost**
CC185	28413.9	0.0	9.0	0.0	9.0	0.03	26.9	0.19
CC092	23735.5	66.5	25.2	0.8	92.5	0.39	142.9	1.20
CC091	54388.5	102.9	0.0	0.0	102.9	0.19	102.9	0.38

The TTN Trapper of Trapline CC-092 will lose the greatest trapline area, estimated to be 92.5 ha. However, given that his trapline includes the proposed GS footprint, an allowance for further additional effect has been included (see column "Consideration for Adjacent Areas Effects"). During the full two to three year construction period, it is expected that fur bearing wildlife will leave the area of construction due to noise and heavy equipment disturbance. This effect could be extended up to 1 km from the footprint. This same effect would occur for the one year construction period for the proposed transmission line approximately 1.2% of his trapline area.

The Trapper with Trapline CC-091 will be unaffected by the proposed Project except for a small area of inundation. Therefore, while this trapline will lose some forested habitat, aquatic habitat associated with the proposed headpond will be added and therefore there may be a slight change to the species composition with more aquatic furbearers (e.g., beaver) versus interior forest furbearers (e.g., marten).

As indicated above, the proposed Replacement Lands occur within Trapline CC-091. MNR has already indicated that a Treaty 9 First Nation trapper would not lose any rights to trapping and/or uses of trails, cabins, etc. because of the addition of the Replacement Lands to LAPP. This trapper has documented his cabin, trails, boat launches and other uses that would be located within the Replacement Lands to ensure they will not be affected by any Park policy or use.

CRP/OPG are having direct discussions with the Trappers with respect to any mitigation and compensation associated with the effects on their traplines. CRP/OPG will work with the Trapper with Trapline CC-092 to facilitate access to his trapline during the construction period.

None of the trap cabins will be affected by the proposed Project.

During the construction period it will be important for the DBC to control beaver populations around the proposed GS footprint during construction (e.g., to prevent major road washouts). It is therefore recommended that the DBC work with the Trappers to control nuisance beaver populations in areas affected by the proposed Project.

During the operation period, it will also be important for CRP/OPG to control beaver populations in and around the proposed GS. It is therefore also recommended that they continue to work with the Trappers to manage beaver in these locations.

Hunting

TTN members are known to hunt in the area around the proposed Project. It would not have any effect on game populations such as moose and therefore there is no likely effect on hunting during the operation period. During construction it is likely that noise and traffic associated with the proposed Project will scare and startle animals near the proposed GS site. However, this would be

confined to a small area and therefore result in only a very small loss of hunting area for a two to three year period.

Fishing

TTN members fish widely throughout their Traditional Territory. Fishing by TTN members in the Abitibi River between Abitibi Canyon and Otter Rapids GS is considered to be very limited as is fishing in New Post Creek. The proposed Project is not anticipated to have any effect on the overall abundance of fish in these watercourses. Therefore, no overall effect is anticipated.

Plant/Food Collection

To date TTN members have not indicated that their members collect any native plants or berries in the immediate area associated with the proposed Project. Should any TTN member indicate at some point that they do, it is recommended that CRP/OPG biologists identify other Ecosites in the vicinity in which these plant materials can likely be found.

Heritage and Cultural Resources

Based on the heritage assessment undertaken for the EA, there are no known artifacts or heritage values at the proposed Project location. The HBC New Post is an important historic site for TTN. The proposed Project is located approximately 1 km south of the New Post site, and its location and setting are such that it would not be affected. One historic (early 1900s) campsite and Culturally Modified Trees may be affected by the proposed Project inundation. CRP/OPG and its environmental team are recommending a Stage 3 archaeological assessment be undertaken to assess the potential effect should these cultural resources occur within the area of inundation.

5.2 MOOSE CREE FIRST NATION

The MCFN interests extend to the west shore of the Abitibi River and the transmission line for the proposed Project occurs within this area. MCFN citizens have identified their environmental interests and concerns specifically water quality and quantity, fish and fish habitat, transmission maintenance and noise pollution. Other interests include business and employment opportunities during the Construction Phase and other possible future hydroelectric development in the Moose River watershed. From historical map biographies, MCFN citizens have harvested in the proposed Project area and may have worked and/or lived in the Fraserdale area during the railway construction and other hydroelectric development.

Trapping

CRP/OPG are aware of and have consulted with the MCFN Trapper with Trapline CC-185. This Trapper and his helpers have actively trapped as a family in this area for approximately 40

years consecutively. Less than 0.1% of his total trapline area will be affected by the proposed transmission line. A small treed area along the proposed transmission line will be lost to the trapline as it will be converted to an open grassland type habitat. This Trapper has indicated to CRP/OPG that the road that would be used for access to construct the proposed transmission line is an area used for harvesting. Therefore, this Trapper will experience a short-term temporary disturbance effect and loss of access to his trapline during the proposed transmission line construction period. Furthermore, wildlife will leave the area due to noise and construction activities to return after construction. Therefore, as in the case of Trapline CC-092, consideration has been made for additional adjacent area effects (see Table 5.1).

The MCFN Trapper's cabin is located proximate to the ONR line approximately 500 m south of the transmission line interconnection and over 7 km from the proposed GS location. As the cabin is outside the 100 m AoC buffer, no adverse effects are anticipated.

Hunting

MCFN citizens (and other hunters) are known to frequent the area on the west side of the Abitibi River and specifically around the location of Trapline CC-185 for moose hunting during the fall to the early winter season. The MCFN Trapper hunts all year round. As proposed transmission line construction is expected to take place during the colder winter months and moose will relocate to other undisturbed areas, the re-directed hunting activities are not expected to be significantly affected.

Fishing

MCFN citizens are known to fish on the Abitibi River and Pinard Creek. Fishing in the cold waters of Pinard Creek is of significant interest to MCFN. Therefore, the construction of the transmission line to cross this creek will require special attention to not disturb fish habitat in this creek.

In summary, the proposed Project will have a very minor effect on the trapping and negligible effect on the hunting and fishing activities of MCFN citizens.

5.3 WAHGOSHIG FIRST NATION

Based on CRP/OPG knowledge of the area and discussions with Wahgoshig, it is opined that there are no Wahgoshig interests that occur in or near the proposed Project.

5.4 MOCREEBEC COUNCIL OF THE CREE NATION

Based on CRP/OPG knowledge of the area and discussions with MoCreebec, it is opined that there are no MoCreebec interests that occur in or near the proposed Project.

5.5 MÉTIS NATION OF ONTARIO

As indicated in Sections 5.1 and 5.2, the three Trappers affected by the proposed Project are First Nations trappers. There are no Métis trappers in the immediate area.

As indicated in Section 4.5, OPG has provided funding as part of the Lower Mattagami Project for the Region 3 (essentially northeastern Ontario) to MNO to undertake a Traditional Knowledge and historical study. The Terms of Reference for this study had been developed and the study is near completion. However, to date the MNO has not identified any traditional uses at the proposed Project site although it is recognized that MNO members widely hunt and fish throughout northeastern Ontario.

While no particular traditional sites or activities would appear to be affected by the proposed Project, the MNO has articulated some more general issues and concerns that were discussed at the MNO and TTN meeting in February of 2012.

The MNO have indicated on previous projects that they are opposed to herbicide spraying. At that meeting TTN indicated that they have the same concern and would be asking CRP/OPG to undertake manual and/or mechanical vegetation management for the transmission line ROW.

The MNO also expressed an interest in knowing if any of their traditional plants of interest may be affected by the proposed Project. Subsequently, OPG sent the fieldwork plant list to the MNO to determine if there were any plants of concern. To date the MNO has not indicated a concern or that its members harvest plants in that specific area. That being said, if the MNO does identify plants of concern and its members indicate that they harvest plants from an area affected by the proposed Project, CRP/OPG would ask their biologists to identify other Ecosites where these plants may likely be found.

In order to encourage a positive and on-going relationship, CRP/OPG are encouraging an open door policy with MNO to discuss issues or concerns as they may arise on the proposed Project. An example of this is that MNO has indicated on previous projects to tour the sites during construction and become aware of how the environment is protected. CRP/OPG would continue to provide such an opportunity.

6.0 SUMMARY AND CONCLUSIONS

This TSD provides a summary of and now First Nation and Métis interests including rights, resources and values may be affected by the proposed New Post Creek Project, and the consultation undertaken as part of the EA.

The proposed Project lies within the heart of the Traditional Territory of TTN occurring almost exclusively within traplines held by TTN members. This land is of high importance to TTN. TTN has been trying to pursue the development of a hydroelectric project for New Post Creek for many years; and therefore, has made a decision to partner with OPG in order to bring this to fruition. The proposed Project has tremendous support within the community and has been endorsed by membership and the Chief and Council. Consultation with TTN members has been on-going for many years. Most of the members are anticipating the economic opportunities associated with the proposed Project.

Extensive efforts have been made to work with the MCFN through the EA phase of the proposed Project. MCFN has had a staff person dedicated to the proposed Project and consultation sessions have occurred with the Community. The MCFN has made a Homeland Declaration as far as the western shore of the Abitibi River and therefore the proposed transmission line for the proposed Project occurs within this area. A MCFN citizen has a trapline on the extreme western end of the proposed transmission line and he does hunt, trap and fish in the area. It is possible a few other MCFN people have also hunted and fished in this area. CRP/OPG, and the MCFN Coordinator are working closely with the MCFN Trapper to mitigate any effects on his trapline.

In addition to TTN and MCFN, MoCreebec based in Moose Factory has been included as part of the co-planning policy for the Moose River Basin. Based on CRP/OPG knowledge of the area and discussions with MoCreebec, it is opined that there are no MoCreebec interests that occur in or near the proposed Project. A letter has been provided by MoCreebec in support of the proposed Project.

Out of courtesy, CRP/OPG has consulted with Wahgoshig and are of the opinion that the Wahgoshig Traditional Territory does not encompass any area associated with the proposed Project. In a discussion with CRP, Chief Babin has indicated that Wahgoshig has no concerns about the proposed Project.

The MNO have also been consulted on the proposed Project and CRP/OPG have been supportive of any issues raised. Based on CRP/OPG knowledge of the area and discussions with MNO, it is opined that there are no Métis interests affected by the proposed Project.

In summary, CRP/OPG is of the opinion that all First Nation and Métis interests have been adequately consulted on the proposed Project; however, an “open door” policy will be maintained beyond the EA phase to deal with any issues or concerns as they may arise. TTN would re-iterate that making the proposed New Post Creek Hydroelectric Project a reality would be a very positive move for the Community.

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8.0 ACRONYMS AND ABBREVIATIONS

&	And (ampersand)
~	Approximately
<	Less than
#	Number
+	Plus
AANDC	Aboriginal Affairs and Northern Development Canada
AoC	Area of Concern
ATV	All-terrain vehicle
Beacon	Beacon Environmental
c.	Chapter
CEAA	*Canadian Environmental Assessment Act*
CEAA 2012	*Canadian Environmental Assessment Act, 2012*
CRP	Coral Rapids Power Inc.
DBC	Design Build Contractor
e.g.	For example (exempli gratia)
EA	Environmental Assessment
EA Act	*Environmental Assessment Act*
EPSCA	Electric Power Systems Construction Association
ER	Environmental Report
etc.	And so on (et cetera)
et al.	And others (et alia)
FSL	Full Supply Level
GS	Generating Station
H	Horizontal
HBC	Hudson's Bay Company
Hydro One	Hydro One Networks Inc.
i.e.	That is (id est)
IESO	Independent Electricity System Operator
INAC	Indian and Northern Affairs Canada
Inc.	Incorporated
JWG	Joint Working Group
KGS Group	Kontzamanis, Graumaun, Smith, MacMillan Inc.
LAPP	Little Abitibi Provincial Park
Lower Mattagami Project	Lower Mattagami Re-Development Project
LP	Limited Partner
MCFN	Moose Cree First Nation
MNO	Métis Nation of Ontario
MNR	Ontario Ministry of Natural Resources
MoCreebec	MoCreebec Council of the Cree Nation
MOE	Ontario Ministry of the Environment

MoU	Memorandum of Understanding
NA	Not applicable
NECC	North East Control Centre
NLMC	Northern Lights Métis Council
ONR	Ontario Northland Railway
O.Reg.	Ontario Regulation
OPG	Ontario Power Generation Inc.
OWA	Ontario Waterpower Association
OWA Class EA	Class Environmental Assessment for Waterpower Projects
pers. comm.	Personal communication
PPCRA	*Provincial Parks and Conservation Reserves Act*
Project	New Post Creek Hydroelectric Project or New Post Creek Project
ROW	Right-of-way
S.C.	Statutes of Canada
SENES	SENES Consultants
SIA	System Impact Assessment
Sr.	Senior
TSD	Technical Support Document
TTN	Taykwa Tagamou Nation
V	Vertical
Wahgoshig	Wahgoshig First Nation
WMP	Water Management Plan

Measurement Units

GWh	gigawatt hour
h	hour
ha	hectare
km	kilometre
km^2	square kilometre
kV	kilovolt
m	metre
m.a.s.l.	metre above sea level
m^3	cubic metre
m^3/s	cubic metre per second
MW	megawatt
%	percent
rpm	revolution per minute

9.0 GLOSSARY

Anode Cathodic Protection	Technique use to control corrosion of a metal surface by making it a cathode of an electrochemical cell by connecting the metal to be protected with another more easily corroded metal to act as the anode of the electrochemical cell.
AoC Prescription	Mitigation direction prescribed by the MNR to minimize or obviate a potential adverse effect on a habitat value or feature.
Bedload	The solid debris transported in a stream on or near its bed; because this material is too heavy to be carried in suspension, it is moved by rolling, sliding or saltation (sudden jumps) along the bottom.
Bulkhead	A steep or vertical wall retaining an embankment, often used to line shorelines, maintain embankment stability and absorb the energy of waves and currents.
Canal	A channel dug or built to carry water.
Capacity	The greatest load which a unit, station or system can supply (usually measured in kilowatts, megawatts, etc.)
Cofferdam	A temporary dam made of concrete, rockfill, sheet-steel piling, timber/timber-crib or other non-erodible material and commonly utilized during construction to exclude water from an area in which work is being executed.
Crest gate (Control gate)	The gate that controls water flow into a hydroelectric dam.
Dam	A concrete or earthen barrier constructed across a river and designed to control water flow or create a reservoir.
Draft tube	The flared passage leading vertically from a turbine to its tailrace.
Dyke	Embankment against flooding.
Feldspar	A group of common aluminum silicate minerals that contains potassium, sodium or calcium; the most important group of rock-forming minerals, making up about 60% of the rocks of the earth’s crust.
Forebay	The part of a dam’s reservoir that is immediately upstream from the powerhouse.
Freshet	High flows caused by snow melt, runoff, heavy rains and/or high inflows.

Generator	A machine that changes water power, steam power, or other kinds of mechanical energy into electricity.
Geotechnical	Concerned with the physical properties of soil, rock and groundwater usually in relation to the design, construction and operation of engineered works.
Gneiss	A coarse-grained metamorphic rock commonly composed of quartz and feldspar, with lesser amounts of mica.
Granite	Medium to coarse grained igneous rock that is rich in quartz and potassium feldspar.
Head	The difference in elevation between the water surface at the intake and tailrace.
Headpond	The reservoir from which the hydroelectric facility draws water flow for generation.
Headwater	The section of a river or stream with the highest elevation above sea level.
Igneous	Rocks formed from the solidification of molten magma either beneath (intrusive igneous rock) or at (extrusive igneous rock) the earth's surface.
Intake	A structure which regulates the flow of water into a water-conveying conduit.
Lacustrine	Of lakes.
Lithification	Process by which sediments are consolidated into sedimentary rock.
Magma	Molten or fluid material generated from rock deep within the earth that may force its way upward into the crust (as igneous rock) or onto the surface (as lava).
Metamorphic	A rock that forms from the recrystallization of igneous, sedimentary or other metamorphic rocks through pressure increase, temperature rise, or chemical alteration.
Mica	Silicate mineral that exhibits a platy crystal structure and perfect cleavage.
Muskeg	A term describing a type of landscape, environment, vegetation and deposit; peatland and organic terrain are equivalent terms generally referring to northern landscapes characterized by a wet environment and vegetation (e.g., Black Spruce) botanically classified as mire (subdivided into bogs and fens).

Overburden	The soil, rock and other material which lie on top of the underlying mineral or other deposit, e.g., bedrock.
Penstock	A structure associated with a hydroelectric station designed to carry water from the intake to the turbine.
Pier	As part of a hydroelectric station, an abutment extending from the station, either upstream or downstream, and lending foundation support and directionality to water passed through the structure.
Pneumatic	Involving the mechanical properties associated with air or other gas pressure.
Powerhouse	A primary part of a hydroelectric facility where the turbines and generators are housed and where power is produced by falling water rotating the turbine blades.
Quartz	A mineral: an oxide of silicon which is abundant and widespread occurring as an important constituent in many igneous, sedimentary and metamorphic rocks.
Reservoir	A body of water collected and stored in an artificial lake behind a dam.
Riparian	Of or on a watercourse bank.
Runner	An enclosed water wheel that transforms the static and kinetic energy of the water into useful work.
Sedimentary	Rock formed by the deposition, alteration and/or compression and lithification of weathered rock debris, chemical precipitates, or organic sediments.
Sluice	An open channel designed to divert excess water which could be within the structure of a hydroelectric dam or separate of the main dam (see spillway).
Sluice gate	Gate used to regulate the flow of water through an opening usually used to pass water over or around dams.
Spillway	A passageway located near or at the top of a dam through which excess water is released or “spilled” past the dam without going through the turbine(s); as a safety valve for the dam, the spillwall must be capable of discharging major floods without damaging the dam while maintaining the reservoir level below some predetermined maximum level.
Stop log	A gate (sometimes made from squared lumber) which can be placed into an opening to shut off or regulate the flow of water.

Tailrace	A channel through which the water flows away from a hydroelectric plant following its discharge from the turbine(s).
Tailwater	The water from a generating station after it has passed through the turbine.
Till	Material derived from bedrock and overlying unconsolidated material and deposited directly by glacial ice with its characteristics dependent upon the source rock.
Trash rack	Bar screen with larger space openings installed to prevent logs, stumps and other larger solids from penetrating the intake.
Turbine	A mechanism in an electrical generation facility which converts the kinetic and potential energy of water (in the case of hydroelectric turbines) into mechanical energy which is then used to drive a generator converting mechanical to electrical energy.
Weir	A dam in the river to stop and raise the water.

APPENDIX A – CORRESPONDENCE WITH FIRST NATIONS AND MNO (CONFIDENTIAL – NOT INCLUDED)

APPENDIX B – PRESENTATIONS TO FIRST NATIONS AND MNO

(CONFIDENTIAL – NOT INCLUDED)