

**DATE** April 13, 2018**PROJECT No.** 1535751**TO** Sasha McLeod  
Ministry of Environment and Climate Change**CC** Nancy O'Neill**FROM** Callum Squires, Golder Associates**EMAIL** callum\_squires@golder.com**WATAYNIKANEYAP PHASE 1 FINAL ENVIRONMENTAL ASSESSMENT – REVISED TRANSFORMER STATION LOCATION AND ASSOCIATED TRANSMISSION LINE RE-ALIGNMENT**

---

**1.0 INTRODUCTION**

A grouping of 22 First Nation communities have joined together (through the First Nation Limited Partnership [FNLP], formally known as the Central Corridor Energy Group [CCEG]), in partnership with Fortis Inc. (Fortis), to form a licenced transmission company, the Wataynikaneyap Power Limited Partnership (Wataynikaneyap) to develop, construct, operate, and own the Wataynikaneyap Power Project. The Wataynikaneyap Power Project is being developed in two phases. Phase 1, the New Transmission Line to Pickle Lake Project (the Project), is an approximately 300-kilometre (km) long, 230 kilovolt (kV) transmission line from the Dryden / Ignace area to Pickle Lake in northwestern Ontario. Phase 2 includes approximately 1,500 km of 115 kV and 44 kV transmission lines for subsystems north of Pickle Lake and Red Lake that will connect 17 remote First Nation communities, currently powered by diesel generation, to the provincial electrical grid. The Phase 1 Project enables the Phase 2 project by reinforcing the grid and increasing electrical supply capacity available at the Pickle Lake substation.

A Final Environmental Assessment (EA) Report for the Project was submitted to the Ministry of Environment and Climate Change (MOECC) on November 3, 2017. Various ministries have provided comments on the Final EA Report and Wataynikaneyap is currently working on responses.

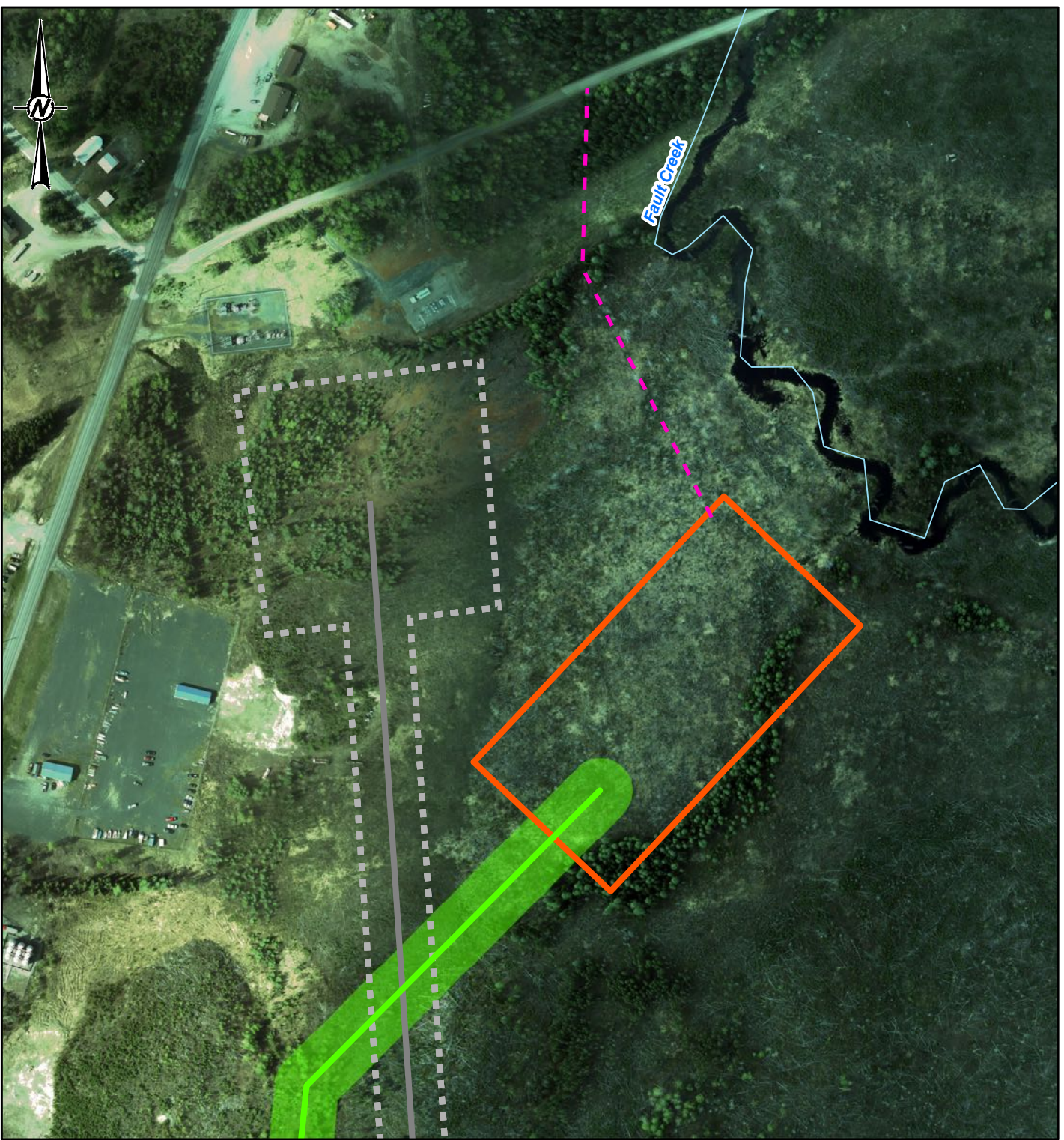
In the Final EA Report, Wataynikaneyap noted that Phase I and II environmental site assessments were completed in the summer of 2017 at the proposed Transformer Station (TS) site located in Central Patricia, north east of Pickle Lake. These studies subsequently identified contamination related to historical mine tailings near the proposed TS site. Wataynikaneyap determined that the contamination levels present at this location were not acceptable for the TS site due to various health, safety, and environmental considerations. As such, Wataynikaneyap completed additional Phase II environmental site assessments in December 2017 at two other potential sites within approximately 300 m of the originally proposed TS site. The footprints of both sites were determined to be free of historical contamination and Wataynikaneyap selected one of these sites as the new proposed TS site (Figure 1).

The movement of the TS site also requires a corresponding realignment of the transmission line as well as changes to the associated access roads. The new proposed TS site will also require an access road connecting the TS site to the road north of the site. The new TS site, transmission line and access roads are collectively referred to herein as the amended Project footprint.

This technical memorandum provides an overview of the proposed design changes and an update to the baseline characterization and effects assessment included in the Final EA Report related to the adjustment to the location

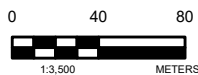
---





**LEGEND**

- Watercourse
- Amended Project Footprint**
- New EA Corridor Centreline
- - - New Access
- New Transformer Station Area
- New EA 40m ROW Alignment
- Former Project Footprint**
- Former EA Corridor Centreline
- Former EA Project Footprint



**NOTES**  
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
 2. ALL LOCATIONS ARE APPROXIMATE.  
 3. NOT FOR ENGINEERING PURPOSES.

**REFERENCE(S)**  
 1. BASE DATA - MNR/LI AND NTDB, OBTAINED 2015  
 2. PRODUCED BY GOLDNER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES. © QUEEN'S PRINTER 2008  
 3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

CLIENT  
**WATAYNIKANEYAP POWER L.P.**

PROJECT  
**PHASE 1 NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT**

TITLE  
**AMENDED EA PROJECT FOOTPRINT AT TRANSFORMER STATION**

|            |            |            |
|------------|------------|------------|
| CONSULTANT | YYYY-MM-DD | 2018-04-13 |
|            | DESIGNED   | JMC        |
|            | PREPARED   | JMC        |
|            | REVIEWED   | CS         |
|            | APPROVED   | AE         |

PROJECT NO. 1771849      CONTROL -      REV. A      FIGURE 1

of the TS site and the realignment of the transmission line. Note, this technical memo only includes the environmental criteria where there is expected to a change to that criteria. For example, the socio-economic environment (e.g., labour market, regional economy, and government finances) will not be affected by the proposed design changes and is not discussed in this document.

## 2.0 PROJECT DESCRIPTION UPDATE

The potential to encounter contamination related to historical mine tailings near the proposed TS site necessitated a change to the location of the TS and associated infrastructure. As noted above, this amendment includes updates to the Project design that were described in the Final EA Report including:

- moving the proposed TS site approximately 50 m to the southeast;
- increasing the transformer station footprint;
- addition of an access road to the TS site; and
- realignment of the northernmost portion of the transmission line Right-of-Way (ROW) between Dona Lake and where it connects to the new TS site; and
- reduction in the length of associated access roads along the re-aligned portion of the transmission line ROW.

A summary of these changes are described in Table 1 and additional details are provided in the sections below. The new proposed TS site is shown on Figure 1 and the revised transmission line alignment is shown on Figure 2.

**Table 1: Proposed Transmission Line Alignment Design Changes**

| Project Footprint Component                 | Original Project Footprint |           | Amendment Project Footprint |           |
|---|----------------------------|-----------|-----------------------------|-----------|
|   | Length                     | Area (ha) | Length                      | Area (ha) |
| Transformer Station                         | —                          | 2.2       | —                           | 2.6       |
| Transmission Line Alignment (40 m wide ROW) | 7.5 km                     | 30        | 6.7 km                      | 26.9      |
| Access Roads (6 m wide ROW)                 | 2.1 km                     | 1.3       | 0.4 km                      | 0.23      |
| Total <sup>(a)</sup>                        | —                          | 33.1      | —                           | 29.5      |

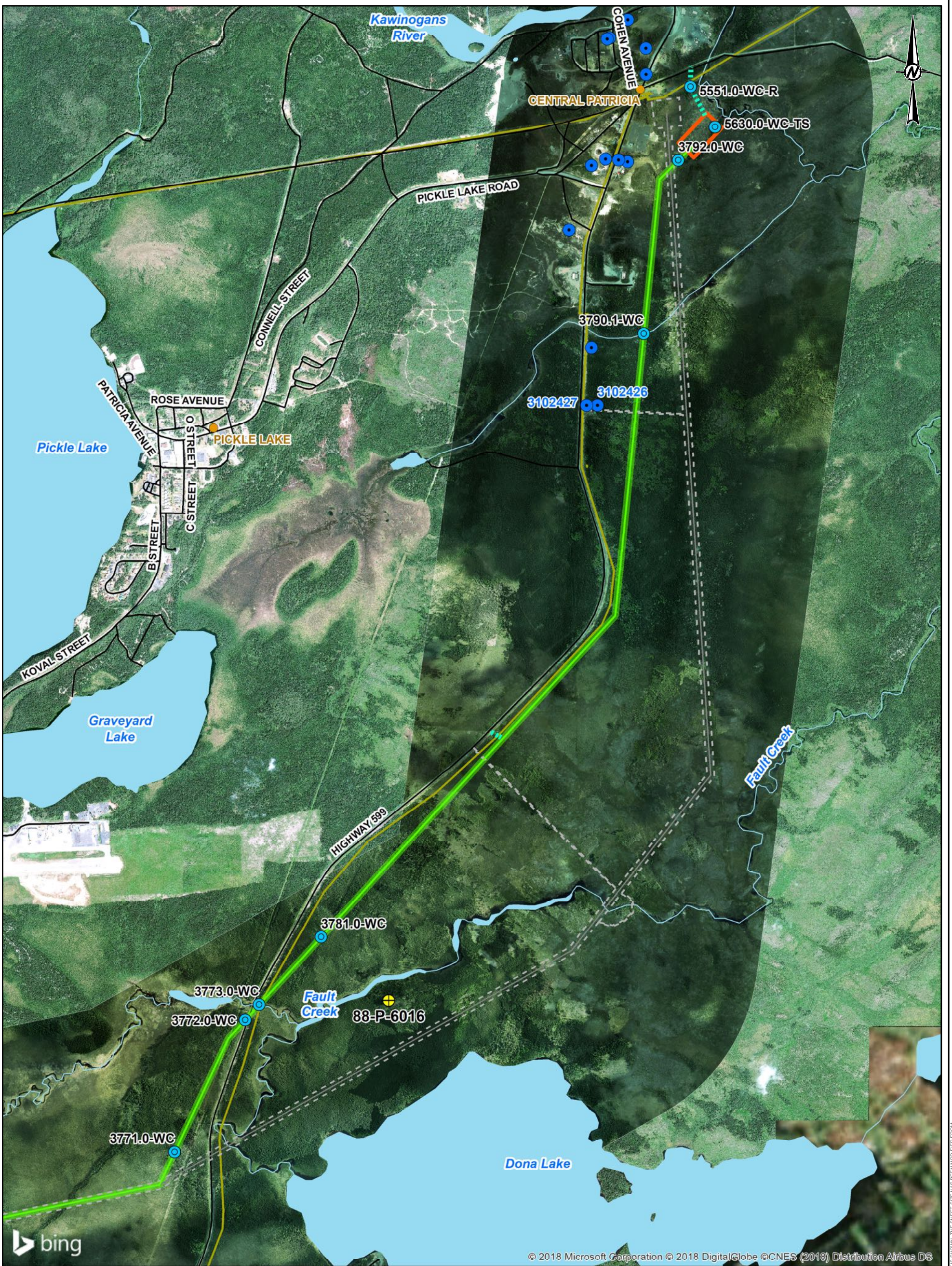
Note:

- a) The total area values are rounded for presentation purposes. In addition, the 40-m-wide ROW and access roads overlap in certain areas within the Project footprint. Therefore, the Project footprint area totals do not equal the sum of the individual values.

### 2.1 Transformer Station

As described in Section 3.4.4 of the Final EA Report, a TS at Pickle Lake is required to provide the connection and switching point between the Project 230 kV AC line, the existing E1C 115 kV transmission line from Ear Falls, the existing M1M 115 kV transmission line to Musselwhite Mine, and the new transmission line or lines serving loads at First Nation communities. Further, the TS area will be graded, fenced, include grounding conductors or other required means of grounding, and will be equipped with lightning protection.

The layout of the new TS is expected to be an area of approximately 226 m by 116 m (2.62 ha) compared to the old location which was expected to be approximately 2.2 ha. With the change in layout, the equipment configuration within the TS site fence line will change slightly; however, no new equipment will be required as a



**LEGEND**

|                                       |                              |
|---------------------------------------|------------------------------|
| Amended Project Footprint             | Water Body Crossing Location |
| New EA Corridor Centreline            | Water Wells                  |
| New Access                            | Surface Water PTTW           |
| New Transformer Station Area          |                              |
| New EA 40m ROW Alignment              |                              |
| <b>Former Project Footprint</b>       |                              |
| Former EA Corridor Centreline         |                              |
| Former EA Project Footprint           |                              |
| Town                                  |                              |
| Road                                  |                              |
| Watercourse                           |                              |
| Waterbody                             |                              |
| <b>Utility Lines</b>                  |                              |
| Existing Electrical Transmission Line |                              |

**NOTE(S)**  
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
 2. ALL LOCATIONS ARE APPROXIMATE.  
 3. NOT FOR ENGINEERING PURPOSES.

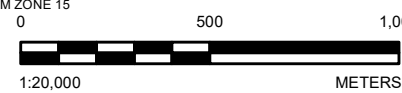
**REFERENCE(S)**  
 1. BASE DATA - MNRF LIO AND NTDB, OBTAINED 2015  
 2. CORRIDOR ALTERNATIVES - PROVIDED BY GENIVAR MAR-AUG 2012  
 3. PRELIMINARY PROPOSED 40-M-WIDE ALIGNMENT ROW - PRODUCED BY GOLDER ASSOCIATES LTD. OCTOBER 24, 2013  
 4. ACCESS DATA - PROVIDED BY POWTEL - POWTEL ACCESS STUDY 2015-08-28.ZIP, CAMPS PREFERRED ROUTE.KMZ, 599 ROUTE ACCESS.KMZ  
 5. CONNECTION FACILITY & TRANSFORMER STATION - PROVIDED BY POWTEL. STATIONS PREFERRED ROUTE.KMZ  
 6. FIRST NATION COMMUNITIES FROM INDIGENOUS AND NORTHERN AFFAIRS CANADA (WWW.AINC-INAC.GC.CA)  
 7. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2008  
 8. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

**CLIENT**  
 WATAYNIKANEYAP POWER L.P.

**PROJECT**  
 PHASE 1 NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT

**TITLE**  
 AMENDED PROJECT FOOTPRINT

|                   |            |            |
|-------------------|------------|------------|
| <b>CONSULTANT</b> | YYYY-MM-DD | 2018-04-13 |
|                   | DESIGNED   | JMC        |
|                   | PREPARED   | JMC        |
|                   | REVIEWED   | CS         |
|                   | APPROVED   | AE         |



PROJECT NO. 1535751 CONTROL - REV. A FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM 25mm

result of the proposed amendment. To access the new location, a new approximately 0.3 km of access roads will be constructed. The new TS and access road are shown on Figure 1.

## **2.2 Re-alignment of Transmission Line and Access Roads**

Moving the TS site requires an adjustment to the proposed transmission line alignment where it connects to the new TS site. Further, as part of the Final EA Report, Wataynikaneyap committed to minimizing the Project footprint where possible during the detailed design stage. As part of this process, Wataynikaneyap identified an opportunity to adjust the transmission line alignment to more closely follow Highway 599. Therefore, the northernmost portion of the transmission line ROW has been re-aligned between Dona Lake and where it connects to the new TS site. The realignment occurs where all three corridors (Preliminary Proposed Corridor, Corridor Alternative Around Mishkeegogamang, and Corridor Alternative Through Mishkeegogamang) overlap. This re-alignment reduces the total length of the transmission line ROW as well as reduces the amount and length of access roads. The new transmission line ROW and access roads are shown on Figure 2.

## **2.3 Schedule**

There are no changes to the proposed construction or operation and maintenance schedules.

## **3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT**

This section provides an overview of the existing environment for those environmental components that may be affected by the amended Project footprint.

### **3.1 Surface Water and Fish and Fish Habitat**

The waterbody crossing list included in the Final EA Report (Appendix A) was updated to incorporate the re-alignment of the transmission line to the new TS site. Surface water and fish and fish habitat baseline data were characterized at each new waterbody crossing using methods described in Sections 5.1.5.1 and 6.2.5.1 of the EA.

As a result of the realignment, there are four equipment waterbody crossings from the original route alignment that are no longer present on the Project footprint. Specifically, three waterbody crossings on the 40-m-wide transmission line (crossings 3770.0-WC and 3780.0-WC on Fault Creek and crossing 3790.0-WC on an unnamed watercourse), and one crossing on an access road (crossing 5550.0-WC-R on Fault Creek) are no longer present.

There are a total of seven new waterbody crossings: six waterbody crossings on the 40-m-wide transmission line realignment (crossings 3771.0-WC, 3772.0-WC, 3773.0-WC-P, 3781.0-WC, 3790.01-WC, and 3792.0-WC), and one potential waterbody crossing on a new access road (crossing 5551.0-WC-R) (see Figure 2). A review of the footprint of the TS also identified the potential for an unmapped waterbody to be present in the TS boundary (5630.0-WC-TS) (Figure 2).

Based on aerial imagery and topographic maps, it is unclear if the features on the new access road or within the TS boundary represent waterbodies with defined bed or banks or simply comprise runoff pathways (e.g., drainage feature or other). A site reconnaissance will be completed in the spring or summer to determine the presence/absence of a waterbody at both the crossing 5551.0-WC-R and within the TS boundary. However, as a conservative approach and for the purposes of this technical memorandum, these features have been included herein as waterbodies and are discussed below. The potential waterbody within the TS boundary has been identified in the crossing list for the Project; this is the approach that was used in the Final EA Report, where waterbodies associated with site facilities (i.e., connection facilities, transformer station, temporary laydown areas, and temporary construction camps) are included in the crossing lists for tracking purposes, although they are not technically crossed by the transmission line or access roads.

### 3.1.1 Surface Water

The seven new waterbody crossings represent unnamed watercourses that are conservatively assumed to support permanent flows. These surface water features ultimately drain to Hudson Bay (via the Otokwin River). The surficial geology of the watersheds is dominated by till, while land cover is characterized by mostly forest. Surface water quality conditions in the regional area (based on available data from PWQMN stations) are generally within relevant guideline values (PWQO and other), with the exception of iron, cadmium, and phosphorus

The unnamed watercourse at waterbody crossing 5551.0-WC-R is located downgradient/downstream of a known contaminated site (i.e., tailings management area at a former mine). As such, it is possible that tailings-influenced groundwater from the former mine site may report to this unnamed watercourse at locations upstream of the crossing, meaning that the surface water quality and/or sediment quality in the vicinity of the crossing could include elevated concentrations of one or more chemical constituents (e.g., metals).

### 3.1.2 Fish Habitat Quantity and Quality

The area affected by the re-alignment is located in the Otokwin tertiary watershed in the Southwest Hudson Bay primary watershed and in Fisheries Management Zone (FMZ) 2. All seven of the new waterbody crossings are on watercourses (i.e., none of the new waterbody crossings are on lakes or ponds) and the waterbody within the TS boundary is also potentially a watercourse.

Using data sources identified in Section 6.2 of the Final EA Report, four of the six new equipment waterbody crossings on the 40-m-wide transmission line are on permanent waterbodies (i.e., flows for most of the year but can run dry during drought conditions) and two are classified as unknown (i.e., waterbodies that were not in the LIO database [Government of Ontario 2015]). The equipment waterbody crossing on the new access road also has an unknown flow regime, with bank-full widths less than 1 m. For the purpose of the assessment, waterbodies with an unknown flow regime were classified as “permanent” to be conservative. Bank-full widths range from less than 1 m to 6.8 m and the majority ( $n = 5$ ) of the channels are considered small (i.e., have bank-full widths less than 5 m).

The waterbody within the TS boundary is unmapped, has an unknown flow regime but, to be conservative, is also assumed to be permanent for the purpose of the assessment, and is estimated to have a bank-full width less than 1 m.

All of the seven new waterbody crossings and the potential waterbody in the TS boundary have unclassified thermal regimes and unknown fish habitat.

### 3.1.3 Fish Community

Forty-one of the 54 fish species found in the LSAs, including the four criteria species (Brook Trout [*Salvelinus fontinalis*], Lake Trout [*Salvelinus namaycush*], Walleye [*Sander vitreus*], and Lake Sturgeon [*Acipenser fulvescens*]) have been documented in the Otokwin tertiary watershed (COSEWIC 2006, Eakins 2017, Golder 2011, Government of Ontario 2004, 2011, 2015b, Holm et al. 2010, Marshall 2011, MNRF 2016b, Royal Ontario Museum 2016, Scott and Crossman 1998). Based on known habitat preferences and distribution information and using the same conservative assumptions as in the Final EA Report, 40 of these 41 fish species have potential to occur in the waterbodies crossed by the re-alignment, and potentially the waterbody within the TS boundary.

As with most waterbodies in the former Project footprint, none of the waterbodies crossed by the amended Project footprint have documented fish presence. However, they were considered to have habitat that would support a wide variety of fish species. This is a conservative assumption as it is unlikely that each waterbody at the crossing

location would support every fish species as indicated in Appendix A. However, more site-specific data would be required to determine the distribution of fish species at the waterbodies crossed by the re-alignment and within the TS boundary.

### **Brook Trout**

Based on the information presented in Section 6.2.5.2.5 of the Final EA Report and the desktop review completed for this amendment, Brook Trout were considered to be potentially present in all of the waterbodies crossed by the amended Project footprint in the Otoskwin tertiary watershed.

Compared to the alignment presented in the Final EA Report, the number of waterbody crossings in the re-aligned section with potential for Brook Trout has increased from four to seven (Table 2). However, there is an overall decrease in the area of potential Brook Trout habitat from 1,028 m<sup>2</sup> to 666 m<sup>2</sup> (Table 2). This is a result of the re-aligned route crossing waterbodies with smaller bank-full widths (and thus less area) than those on the previous alignment. Although not a waterbody crossing, the potential waterbody in the TS boundary also has been conservatively assumed to have the potential to support Brook Trout. The available habitat for Brook Trout in the TS boundary is not included in waterbody crossing calculations presented in Table 2, but was calculated to provide a conservative estimate of available habitat within the TS boundary. The length of the potential waterbody within proposed TS boundary footprint is approximately 160 m. The bank-full width of the potential waterbody is estimated to be less than 1 m and therefore the potential waterbody could provide 160 m<sup>2</sup> of potential Brook Trout habitat.

**Table 2: Changes to Criteria Species Habitat Availability from the Re-alignment**

| Criteria Species | Final EA                      |  | Revised Alignment <sup>(a)</sup> |  | Change (+ or -)                    |                                     |
|------------------|-------------------------------|--|----------------------------------|--|------------------------------------|-------------------------------------|
|                  | Number of Waterbody Crossings | Potential Habitat (m <sup>2</sup> ) <sup>(a)</sup> | Number of Waterbody Crossings    | Potential Habitat (m <sup>2</sup> ) <sup>(b)</sup> | Number of Crossings <sup>(a)</sup> | Potential Habitat (m <sup>2</sup> ) |
| Brook Trout      | 4                             | 1,028  | 7                                | 666  | +3                                 | -362                                |
| Lake Trout       | 3                             | 856  | 1                                | 272  | -2                                 | -584                                |
| Walleye          | 4                             | 1,028  | 7                                | 666  | +3                                 | -362                                |
| Lake Sturgeon    | 0                             | 0  | 0                                | 0  | 0                                  | 0                                   |
| <b>Total</b>     | <b>—</b>                      | <b>2,912</b>                                       | <b>—</b>                         | <b>1,604</b>                                       | <b>—</b>                           | <b>-1,308</b>                       |

Notes:

<sup>(a)</sup> Includes waterbody crossings for the 40-m-wide transmission line and access road. The potential waterbody in the TS boundary is not included in the calculations.

<sup>(b)</sup> To provide an estimate of the overall quantity of potential habitat in the Project footprint, the estimated bank-full width at each waterbody crossing with habitat potential for that species was multiplied by a width of 40 m for the transmission line alignment ROW and 6 m for access roads.

### **Lake Trout**

Based on the information presented in Section 6.2.5.2.6 of the Final EA Report and the desktop review completed for this amendment, Lake Trout were considered to be potentially present in lakes and large watercourses (i.e., bank-full width greater than 5 m) crossed by the amended Project footprint in the Otoskwin tertiary watershed. These waterbodies were considered to provide primarily rearing or feeding habitat. In addition, lakes were considered to provide spawning and/or overwintering habitat. Therefore, Lake Trout have the potential to occur at only one of the waterbodies on the re-aligned portion of the 40-m-wide transmission line (3733.0-WC). None of

the waterbodies on the waterbodies crossed by the re-alignment and within the TS boundary were predicted to have potential Lake Trout spawning habitat.

Compared to the alignment presented in the Final EA Report, the number of waterbody crossings in the re-aligned section with potential for Lake Trout has decreased from three to one, and there is a decrease in the area of potential Lake Trout habitat from 856 m<sup>2</sup> to 272 m<sup>2</sup> (Table 2).

### **Walleye**

Based on the information presented in Section 6.2.5.2.7 of the Final EA Report and the desktop review completed for this amendment, Walleye were generally considered to be potentially present in all of the waterbodies crossed by the amended Project footprint in the Otoskwin tertiary watershed.

Compared to the alignment presented in the Final EA Report, the number of waterbody crossings in the re-aligned section with potential for Walleye has increased from four to seven. However, there is an overall decrease in the potential habitat for Walleye from 1,028 m<sup>2</sup> to 666 m<sup>2</sup> (Table 2). This is a result of the re-aligned route crossing waterbodies with smaller bank-full widths (and thus less area) than those on the previous alignment. Although not a waterbody crossing, the potential waterbody in the TS boundary also has been conservatively assumed to have the potential to support Walleye. The available habitat for Walleye in the TS boundary is not included in waterbody crossing calculations presented in Table 2, but was calculated to provide a conservative estimate of available habitat within the TS boundary. The length of the potential waterbody within proposed TS boundary footprint is approximately 160 m. The bank-full width of the potential waterbody is estimated to be less than 1 m and therefore the potential waterbody could provide 160 m<sup>2</sup> of potential Walleye habitat.

### **Lake Sturgeon**

Based on the information presented in Section 6.2.5.2.8 of the Final EA Report and the desktop review completed for this amendment, Lake Sturgeon do not have the potential to occur at any of the waterbodies crossed by the re-alignment or within the TS boundary. The four waterbody crossings removed from the Project footprint also did not have potential for Lake Sturgeon. Therefore, estimates of Lake Sturgeon habitat quantity in the Project footprint are unchanged from the Final EA Report.

## **3.2 Groundwater**

In the Final EA Report, the existing environment for groundwater was described using the groundwater local study area (LSA) defined as the 2-km-wide corridor. Groundwater quantity and quality for the LSA were provided through a review of MOECC water well records and permits to take water. This LSA includes the areas affected by the proposed design changes part of the amended Project footprint. Therefore, no additional baseline information is provided for groundwater.

## **3.3 Noise**

In the Final EA Report, the existing environment for noise was described using the noise LSA defined as a 1.5 km radius around the 2-km-wide corridor. Since noise attenuates with distance, potential noise effects from the Project are expected to be the highest in the LSA, and any measurable noise effects due to the Project are predicted to be generally limited to the LSA.

A desktop review was completed to support the Final EA Report to establish the existing conditions in the LSA. The review of existing conditions of noise included identifying potential Points of Reception (PORs) in the LSA where human activity is expected to occur; and characterizing the existing noise levels in the LSA. The expected existing noise levels in the LSA were characterized using the Health Canada Noise Guidance (Health Canada

2016) and MOECC Noise Pollution Control (NPC) 300 Guideline (MOECC 2013). This LSA includes the areas affected by the proposed design changes described in Section 2.0. Therefore, no additional baseline information is provided for noise.

### 3.4 Vegetation and Wetlands

In the Final EA Report, the existing environment for vegetation and wetlands was described using the vegetation and wetlands local study area (LSA) defined as a 500-m buffer around the 2 km wide corridor and a buffer of 500 m around connection facilities, transformer station, temporary laydown areas, turnaround areas, temporary construction camps, and new and existing access roads. For this amendment, the LSA was shortened around the 7.5 km re-alignment to quantify existing conditions within this revised LSA, and to evaluate differences between the Final EA Report and the re-alignment (Section 4.4). Hereafter “LSA” refers to this reduced or amended LSA.

Within the LSA, there are 1,525 ha of upland ecosystems (53.0% of the LSA; Table 3), 332 ha of wetland ecosystems (11.5% of the LSA; Table 4) and 108 ha of riparian ecosystems (3.7% of the LSA; Table 5).

**Table 3: Upland Ecosystems Availability in the Baseline Characterization Local Study Area around the Amended Project Footprint**

| Upland Type              | Area (ha)    | Percent (%) |
|--------------------------|--------------|-------------|
| Burned                   | 415          | 14.4        |
| Remaining <sup>(a)</sup> | 1,110        | 38.4        |
| <b>Total</b>             | <b>1,525</b> | <b>53.0</b> |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age.

Cutblocks were not identified within the LSA.

a) Remaining = areas not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified in Table 6.1-4 of the Final EA Report [e.g., roads, transmission lines, buildings])

ha = hectare; % = percent.

**Table 4: Wetland Ecosystems Availability in the Baseline Characterization Local Study Area around the Amended Project Footprint**

| Wetland Type             | Area (ha)  | Percent (%) |
|--------------------------|------------|-------------|
| Burned                   | 15         | 0.5         |
| Remaining <sup>(a)</sup> | 318        | 11.0        |
| <b>Total</b>             | <b>332</b> | <b>11.5</b> |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age.

Cutblocks were not identified within the LSA.

a) Remaining = areas not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified in Table 6.1-4 of the Final EA Report [e.g., roads, transmission lines, buildings])

ha = hectare; LSA = local study area; % = percent.

**Table 5: Riparian Ecosystems Availability in the Baseline Characterization Local Study Area around the Amended Project Footprint**

| Riparian Type            | Area (ha)  | Percent (%) |
|--------------------------|------------|-------------|
| Burned                   | 49         | 1.7         |
| Remaining <sup>(a)</sup> | 59         | 2.0         |
| <b>Total</b>             | <b>108</b> | <b>3.7</b>  |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age.

Cutblocks were not identified within the LSA.

a) Remaining = areas not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified in Table 6.1-4 of the Final EA Report [e.g., roads, transmission lines, buildings])

ha = hectare; % = percent.

The LSA was evaluated for the presence of ecological attributes, including rare vegetation communities, Areas of Natural and Scientific Interest (ANSI), Provincially Significant Wetlands (PSWs) and critical landform/vegetation associations (CLVAs). No rare vegetation communities, ANSIs, PSWs or CLVAs were identified within the LSA. However, nine LVA “gaps” (i.e., landform/vegetation associations identified outside of protected areas and that are below the minimum conservation target) covering 7 ha (0.3%) were identified within the LSA.

Forest Resource Inventory (FRI) data were not available for the LSA; therefore, seral stages were not evaluated as part of this amendment.

### 3.5 Wildlife

In the Final EA Report, the LSA for all wildlife species was defined as a 500-m buffer around the 2 km wide corridor and a buffer of 500 m around connection facilities, transformer station, temporary laydown areas, turnaround areas, temporary construction camps, and new and existing access roads. As outlined above for vegetation, for this amendment, the LSA was shortened around the 7.5 km re-alignment to quantify existing conditions within this revised LSA, and to evaluate differences between the Final EA Report and the re-alignment (Section 4.4). Hereafter “LSA” refers to this reduced or amended LSA.

The re-alignment occurs between Dona Lake and Central Patricia, within the Kinloch Range. The proportion of habitats within the 7.5 km length of the LSA at Baseline Characterization is presented in Table 6. Dense coniferous forest is the most common habitat within the 7.5 km length of the LSA, followed by sparse forest and forest depletion - burns habitats (Table 6).

**Table 6: Habitat Availability in the Local Study Area at Baseline Characterization**

| Habitat Type                    | Area (ha) | Percent (%) |
|---------------------------------|-----------|-------------|
| Base Disturbance                | 371.7     | 12.8        |
| Bog - open                      | 1.3       | 0.0         |
| Bog - treed                     | 260.5     | 9.0         |
| Fen - treed                     | 64.6      | 2.2         |
| Forest - dense coniferous       | 833.0     | 28.8        |
| Forest - dense deciduous        | 19.3      | 0.7         |
| Forest - dense mixed            | 110.8     | 3.8         |
| Forest - regenerating depletion | 5.6       | 0.2         |
| Forest - sparse                 | 489.6     | 16.9        |

| Habitat Type             | Area (ha)      | Percent (%)  |
|--------------------------|----------------|--------------|
| Forest Depletion - burns | 468.8          | 16.2         |
| OHN Waterbody            | 223.1          | 7.7          |
| Other - unknown          | 14.3           | 0.5          |
| Water - deep clear       | 30.3           | 1.0          |
| <b>Total Area</b>        | <b>2,893.0</b> | <b>100.0</b> |

### 3.6 Archaeological Resources

In the Final EA Report, the existing environment for archaeological resources was based on the 2-km-wide corridor studied in the Stage 1 archaeological assessment completed for the Preliminary Proposed Corridor. The Stage 1 archaeological assessment identified areas of archaeological potential within the 2-km-wide corridor. This study area included the areas affected by the amended Project footprint described in Section 2.0. As the proposed design changes stay within the limits of the original Stage 1 assessment (2-km-wide corridor), no additional baseline information is provided for archaeological resources.

### 3.7 Heritage Resources

In the Final EA Report, the existing environment for heritage resources was described using the heritage resources local study area (LSA) defined as the 2-km-wide corridor around the 40-m-wide transmission line alignment ROW boundary with a 50-metre (m) buffer outside of the 2-km-wide corridor, and a 500-m buffer from the boundary of access roads, temporary laydown areas, turn-around areas, connection facilities and temporary construction camps. One potential cultural heritage resource site, the Central Patricia mine site (Abandoned Mines Information System Identifier Number 04680), was identified within the LSA north of the TS site. This potential site is located approximately 347 m north of the amended Project footprint (formerly 517 m as discussed in the Final EA Report). The Central Patricia mine site was in operation from 1934 to 1951.

### 3.8 Non-Traditional Land and Resource Use

The non-traditional land and resource use (NTRLU) assessment considered three criteria:

- Parks and protected areas;
- Outdoor tourism and recreation land and resource use; and
- Commercial industry land and resource use.

Parks and protected areas are not considered in this amendment as no parks and protected areas are transected by the Final EA Report Project footprint or the amended Project footprint. Therefore, the indicator of natural, cultural and recreational values is not considered herein. The indicators for land use quantity, land use quality and resource availability were considered as there is potential for the change in Project footprint to affect commercial and recreational land users through these pathways. These indicators were considered in the amendment due to the potential for the amended Project footprint to change the physical and biophysical assessments.

#### 3.8.1 Outdoor Tourism and Recreation

In the Final EA Report, the existing environment for outdoor tourism and recreation was described using the outdoor tourism and recreational land use LSA and the Project footprint. The outdoor tourism and recreational land use LSA was defined as the combined area of the wildlife, fish and fish habitat, vegetation, surface water, air quality, noise and visual quality LSAs. Changes in the outdoor tourism and recreational LSA were not considered

as the effects to wildlife, fish and fish habitat, vegetation, surface water, air quality, noise and visual quality LSAs are anticipated to be minimal. These effects are not anticipated to alter land use for non-Aboriginal communities beyond the Project footprint in the LSA. However, changes to the Project footprint were considered as changes to the Project footprint physically alter land use.

The Final EA Report Project footprint and the amended Project footprint both transect WMU 16A (wildlife management unit), FMZ 2 (fishery management zone), BHA SL104 (bait harvesting area) and trapline SL222. These are the only spatially identified recreation features transected by either Project footprint (MNRF 2016b; NRCan 2016). The changed area transected of these spatial features is equivalent to the reduction of the Project footprint from 33.1 ha to 29.5 ha. In addition, a goose hunting area identified during engagement will no longer be transected by the Project footprint limiting the disruption to existing land uses.

There is also a change in roads transected by the Project footprint supporting recreation. The Final EA Report Project footprint transects Highway 599 for 0.05 km while the amended Project footprint transects Highway 599 for 0.1 km and an unidentified resource/recreation road for 0.01 km. This is a slight change in the amount of access features disturbed by the Project but is very small relative to the 183 roads identified as transected by the Project footprint (MNRF 2016b).

### **3.8.2 Commercial Industry Land and Resource Use**

In the Final EA Report, the study areas for commercial industry land and resource use were the commercial industry land and resource use LSA, a 4-km corridor from the Project footprint boundary, and the Project footprint. Changes to the commercial industry land and resource use LSA beyond the Project footprint are not considered further in this amendment as the movement of the line closer to Highway 599 is not anticipated to impact access and resource availability for commercial features including mining and linear infrastructure features. This is because the use of existing roadways within the commercial industry land and resource use LSA is not anticipated to change.

However, the Project footprint is considered further herein as access to commercial features transected by the Project footprint and the associated availability of those resources is anticipated to change due to the change in Project design. No interactions between the amended Project footprint and forestry<sup>1</sup>, agriculture, water power generation and aggregate production were identified. The previously mentioned industries do not have features transected by the Final EA Report or the amended Project footprints.

Mining and linear infrastructure features may be affected by the change to the Project footprint as there are features in the LSA. As shown in Table 7, the amended Project footprint transects different mining and linear infrastructure features than presented in the Final EA Report. The amended Project footprint transects three fewer mining claims (8.1 ha reduction). However, the amended Project footprint transects two additional active dispositions covering an additional 2.4 ha and transects an additional 0.4 ha of an active withdrawal. Both Project footprints transect approximately 0.1 km of existing hydro transmission line. However, the amended Project footprint transects one less hydro line.

---

<sup>1</sup> The proposed change is not located within a Forestry Management Unit (MNRF 2016b).

**Table 7: Commercial Industry Features**

| Feature                      | Final EA Report        |              | EA Amendment           |              |
|------------------------------|------------------------|--------------|------------------------|--------------|
|                              | Number of Sites/Claims | Area/ Length | Number of Sites/Claims | Area/ Length |
| <b>Mining</b>                |                        |              |                        |              |
| Active Mining Claims         | 6                      | 21.6 ha      | 3                      | 13.5 ha      |
| Active Dispositions          | 6                      | 5.2 ha       | 8                      | 7.6 ha       |
| Active Withdrawals           | 1                      | 2.9 ha       | 1                      | 3.3 ha       |
| <b>Linear Infrastructure</b> |                        |              |                        |              |
| Hydro line                   | 2                      | 0.1 km       | 1                      | 0.1 km       |

Source: MNRF 2016b

### 3.9 Visual Aesthetics

In the Final EA Report, the existing environment for visual aesthetics was described using the visual aesthetics local study area (LSA) defined as a buffer of 5 km around the 2-km-wide study area corridor, the connection facilities, transformer station, laydown areas, construction camps, and new and existing access roads.. This LSA includes the areas affected by the proposed design changes associated with the amended Project footprint described in Section 2.0. As described in Section 7.5.5.2.3.1 (Preliminary Proposed Corridor) of the Final EA Report, the northern portion of the Project footprint is within Ecoregion 3S (Lake St. Joseph). The topography is characterized as gently sloping terrain broken at broad intervals by esker and moraine ridges. Within the LSA, there are several smaller lakes in this unit including Adamhay Lake, Albany Lake, Bamaji Lake, Pickle Lake, and Dona Lake which is located southeast of the former and new transmission line alignment (Figure 2). Land cover consists of coniferous forest with some mixed forest, and sparse forested areas of exposed bedrock and wetlands. The landscape within the LSA is sparsely settled and includes land uses such as forestry, transportation infrastructure (i.e., roadway), utility corridor (i.e., natural gas pipeline, electrical transmission line), and mining and mineral exploration.

A key viewpoint used for the assessment of visual effects within Section 7.5 of the Final EA Report was located near the Transformer Station (Viewpoint 9 – Central Patricia). Characterization of baseline visual quality was conducted that incorporated systematic ratings for dimensions of scenic quality and viewer sensitivity to determine the value of the existing visual quality for key viewpoints. Table 7.5 7 of the Final EA Report summarizes landscape character analysis results for key viewpoints for the Preliminary Proposed Corridor, including Viewpoint 9.

Viewpoint 9 was characterized as offering a ‘Low’ level rating of scenic quality resulting from low lying topographic relief, the absence of distinct landscape features, a predominantly uniform vegetation pattern, and adjacent land uses and/or built elements related to land uses that disrupted the pattern of natural landscape features (e.g., clearings and geometric forms related to roadway and utility corridors).

### 3.10 Aboriginal and Treaty Rights and Interests

In the Final EA Report, the existing environment for Aboriginal and Treaty Rights and Interests section using the local study area includes the 2-km-wide corridor and a buffer of 500 m around the connection facilities, transformer station, temporary laydown areas, temporary construction camps, and new and existing access roads. This LSA includes the areas affected by the proposed design changes described in Section 2.0.

Potential effects to traditional land and resource use by Aboriginal people have the potential to affect Aboriginal and Treaty Rights. Aboriginal Rights have been defined through the Treaties and as described in Section 8.2 of the Final EA Report, and they are interpreted to include access to resources and cultural and spiritual sites that support Aboriginal culture and way of life. Information collected through traditional land and resource use studies, engagement with communities, and publicly available resources such as community-based land and resource use studies was used to identify potential interactions that could result in changes that would affect Aboriginal land and resource use through the following indicators:

- Quantitative changes in preferred harvested species.
- Qualitative changes in, or restrictions on, preferred identified harvesting methods.
- Quantity and quality of identified cultural use locations and access routes where use of or access to those locations is changed.
- Qualitative changes in the experience of lands and resources for cultural purposes.

One potential interaction was identified at a harvesting area within the LSA and was overlapped by the Project footprint. However, information provided by the community was insufficiently detailed to assess effects. Effects to wildlife, fish and fish habitat, vegetation, surface water, air quality, noise and visual quality LSAs are anticipated to be minimal. Since effects to identified harvested species and impacts that may affect the quality of and quantity of cultural use location was not changed effects were not anticipated to alter harvesting for Aboriginal communities. The identified harvesting site will no longer be transected by the Project footprint further limiting the disruption to harvesting.

## **4.0 EFFECTS ASSESSMENT**

This section presents an assessment of potential effects of the amended Project footprint, taking into consideration baseline information discussed in Section 3.0. Section 4.0 (Environmental Effects Assessment Approach) of the Final EA Report outlined the methodology used for the assessment in the EA. This included the identification of potential effects, impact management measures and a net effects assessment to assess the environmental effects of the Project in a systematic and transparent manner. Overall, the potential effects and impact management measures outlined in the Final EA Report effectivity address the proposed design changes.

### **4.1 Surface Water and Fish and Fish Habitat**

#### **4.1.1 Surface Water**

The updated information that has been presented in Section 3.1 this report does not change the results and conclusions of the effects assessment for surface water quantity and quality. The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in Section 5.1.6 and Table 5.1-13 of the Final EA Report, while the potential effects of these proposed design changes are expected to be adequately addressed by the proposed impact management measures described in Section 5.1.7 of the Final EA Report.

As indicated in Section 3.1, the unnamed watercourse at waterbody crossing 5551.0-WC-R is located downgradient/downstream of a known contaminated site (i.e., tailings management area at a former mine). As such, it is possible that tailings-influenced groundwater from the former mine site may report to this unnamed watercourse at locations upstream of the crossing, meaning that the surface water quality and/or sediment quality in the vicinity of the crossing could include elevated concentrations of one or more chemical constituents (e.g., metals). The potential for tailings-influenced surface water and sediment quality conditions to be present at

crossing 5551.0-WC-R is inferred at the time of reporting, and will need to be verified prior to construction (via confirmatory field sampling/testing of bed and bank materials). Regardless of the environmental conditions that are ultimately confirmed at this crossing location, it is expected that the effective implementation of the impact management measures described in Sections 5.1.7.8 through 5.1.7.11 of the Final EA Report will sufficiently minimize the opportunity for changes to erosion and sedimentation processes at the crossing, and in turn, the opportunity for increased rates of sediment to be mobilized to the downstream reach. However, from a precautionary standpoint and assuming that contaminated sediments are identified at crossing 5551.0-WC-R, the following strategy will be implemented to further mitigate any potential changes to surface water quality:

- A clear-span structure will be installed as the primary equipment waterbody crossing structure, recognizing that the installation techniques for this type of structure will avoid the need for any instream works and associated disturbance of the channel. However, a culvert will be used as the contingency crossing method, with consideration for the following:
  - A pipe culvert will be installed under dry or frozen conditions (i.e., in the dry) if possible, or if open water conditions are present at the time of construction, using appropriate isolation works (i.e. dam and pump system with a plan to complete fish salvage activities); or, if technically feasible,
  - An arched culvert will be installed in the overbank areas of the channel (i.e., the culvert will span the channel, with a plan to align the footings on either side of the structure with the corresponding overbank areas). Similar to the approach for the clear-span bridge, the installation of an arched culvert will avoid the need for any instream works and associated disturbance of the channel.
- In the event that a pipe culvert is required, site-specific sediment and erosion control and care of water plans, coupled with targeted surface water monitoring, will be developed in consultation with the regulators (i.e., MNRF, MOECC, and DFO) prior to construction. The sediment and erosion control and care of water plans will include mitigation measures and BMPs that are consistent with the strategies proposed for the installation and removal of all culvert structures on the Project; however, the approach will consider the results of the confirmatory field sampling (identified above), with the understanding that the construction procedure and associated sediment and erosion control measures would be adjusted or further enhanced as needed to limit disturbance and the potential mobilization of bed and bank materials with known contamination. This may include strategies to minimize excavation of channel substrate or to provide additional armouring of disturbed or exposed sediments.
- Vegetation clearing from the riparian zone of the waterbody will be minimized to the extent possible.

For the potential waterbody in the TS boundary and with consideration for the detailed design, it is understood that, where possible, the TS will be located a minimum of 30 m away from the ordinary high water mark of any waterbody. Erosion and sediment control measures will be implemented to minimize the potential for off-site releases of sediment to nearby waterbodies.

#### **4.1.2 Fish and Fish Habitat**

The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in Section 6.2.6 and Table 6.2-13 of the Final EA Report. The potential effects and proposed impact management measures described in Section 6.2.7 of the Final EA Report adequately address the proposed design changes, as described below.

The re-alignment results in the removal of four waterbody crossings from the Project footprint and the addition of seven new waterbody crossings: six along the 40-m-wide transmission line, and one new waterbody crossing along access roads.

### ***Equipment Waterbody Crossing Structures***

As described in the Final EA Report, the key impact management measure of selecting equipment waterbody crossing structures that will not negatively affect the waterbody below the high water mark (e.g., clear-span bridges, ice bridges/snow fills, and/or rig mats) substantially reduces net effects to fish and fish habitat at a local scale. For each new waterbody crossing identified within the re-alignment, a proposed waterbody crossing structure was determined based on bank-full width and if the waterbody was on an existing access road as outlined in Section 6.2.7 of the Final EA Report. Generally, if a waterbody has a bank-full width (measured from aerial imagery) less than or equal to 2.0 m, then a rig mat or ice bridge/snow fill were determined to be appropriate and will not negatively impact fish and fish habitat; if a waterbody has a bank-full width between 2 and 20 m, then a clear-span bridge or ice bridge/snow fill was determined to be appropriate and will not negatively impact fish and fish habitat.

Along the 40-m-wide transmission line, rig mats or ice bridge/snow fills will be installed at three of the new equipment waterbody crossings (3771.0-WC, 3781.0-WC, and 3792.0-WC) and clear span bridges or ice bridge/snow fills will be installed at remaining three waterbody crossings (3772.0-WC, 3773.0-WC, and 3790.1-WC). All equipment waterbody crossings along the 40-m-wide transmission line alignment ROW will be temporary. Along the access roads, a rig mat or ice bridge/snow fill will be installed at the new waterbody crossing (5550.1-WC-R).

A site reconnaissance survey will be completed in the spring or summer to determine the presence/absence of potential waterbodies at the new access road crossing (5551.0-WC-R) and within the TS boundary (5630.0-WC-TS) (Figure 2). The results of these surveys will determine if a waterbody or a drainage feature is present and then appropriate impact management measures and permitting requirements will be identified.

The new access road crosses over an unnamed watercourse at crossing 5551.0-WC-R that is located downgradient/downstream from a known contaminated site (i.e., tailings management area at a former mine). As such, it is possible that tailings influenced groundwater from the former mine site may report to the unnamed watercourse at locations upstream of crossing 5551.0-WC-R. These groundwater inputs could in turn affect the surface water quality and/or sediment quality at the waterbody. With the construction of the waterbody crossing, there is the potential for increased rates of tailings-influenced sediment (if present) to be mobilized to the downstream reach.

The impact management measures described in Section 6.2.7 of the Final EA Report will be implemented, including sediment and erosion control measures, which will reduce or eliminate potential effects to fish and fish habitat and will limit the mobilization of contaminated sediment if present. The additional impact management measures described in Section 4.1.1 above will also be applied. The installation of a clear-span structure or arched culvert at the waterbody crossing will eliminate or reduce bed and bank disturbance and thus reduce increased sediment mobilization during construction and maintenance. If a clear-span structure or arched culvert cannot be installed, the contingency crossing method (i.e., pipe culvert) will be constructed in the dry (or appropriate isolation works) with sediment and erosion control measures in place. As with all instream construction, the culvert installation and post-construction effectiveness will be monitored by a qualified Environmental Inspector (Section 6.2.12 of the Final EA Report).

For the potential waterbody in the TS boundary, the site reconnaissance survey within the TS boundary (5630.0-WC-TS) will determine if a waterbody or drainage feature is present. As described in Section 6.2.7 of the Final EA Report for waterbodies present at Project facilities, the TS will be located a minimum of 30 m away from the ordinary high water mark of a waterbody through detailed design, where possible. Erosion and sediment control measures will be implemented to minimize erosion and associated sediment in runoff from entering nearby waterbodies. If a waterbody is present, but the setback cannot be maintained, then appropriate permitting requirements will be identified and discussed with the regulatory agencies (i.e., MNR and DFO).

The potential effects and proposed impact management measures described above and in Section 6.2.7 of the Final EA Report adequately address the proposed design changes for the waterbody crossings for the 40-m-wide transmission line, access roads, and Project facilities. Therefore, it is predicted that the Project will continue to have net effects of negligible magnitude for fish and fish habitat as stated in Section 6.2.8 (Net Effects Assessment). Therefore, the predicted net effects on fish and fish habitat are still assessed as not significant.

### ***Restricted Activity Timing Windows***

As described in the Final EA Report, timing of in-water work is a key impact management measure to reduce or avoid potential effects to fish at a local scale; therefore, periods when in-water work should be avoided were identified for each waterbody. The proposed restricted activity timing window for each new waterbody crossing was determined using the restricted activity timing windows for each fish species and the potential for each waterbody to provide spawning habitat for each species. As outlined in Section 3.1.3, since each new waterbody crossing was considered to have potential to provide spawning habitat for Brook Trout and Walleye, a restricted activity timing window of September 1 to June 20 was applied to each waterbody. The timing window will be applicable if any work is completed below the high water mark (i.e., installation or removal of fill below the high water mark).

## **4.2 Groundwater**

Dewatering may be required for shallow foundations required for transmission structures. Based on the revised alignment, there are no new MOECC water wells or permits to take water identified within the estimated 120 m radius of influence of dewatering activities for shallow concrete foundations for transmission structures (1.5 m wide by 1.5 m long by 5 m deep). However, sections of the revised alignment are adjacent to an existing electrical transmission line and within approximately 50 m of Highway 599. In these locations, appropriate construction methods should be used to manage temporary groundwater dewatering during installation of transmission structures, as previously outlined in the Final EA Report.

Dewatering may also be required for the installation of shallow foundations (4.5 m wide by 4.5 m long by 2 m deep) if required for the TS. The radius of influence of dewatering for shallow excavations was estimated to extend up to 95 m from the excavation. Although the revised TS boundary is approximately 108 m from the area of tailings contamination, there is the possibility that dewatering of excavations may mobilize existing contamination. In the event that contaminated groundwater is encountered during excavation dewatering activities Wataynikaneyap will manage that water according to applicable rules and regulations. However, in these locations, appropriate construction methods should be used to manage temporary groundwater dewatering during installation of shallow TS foundations, as previously outlined in the Final EA Report.

The centerline of the proposed TS access road passes within 20 m of the area of identified tailings contamination. Establishment of the access road will involve vegetation clearing but no blasting. If contaminated soils are encountered during road construction, then the soils will be handled and disposed of according to applicable regulations as outlined in Table 5.2-11 of the Final EA Report.

The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in Section 5.2.6, Table 5.2-8 of the Final EA Report. The potential effects and proposed impact management measures described in Section 5.3 (Groundwater) of the Final EA Report adequately address for the proposed design changes. Therefore, the predicted net effects on groundwater outlined in Section 5.2 (Groundwater) of the Final EA Report are still assessed as not significant.

### 4.3 Noise

The proposed Pickle Lake TS was quantitatively assessed for the potential effects on the noise environment in the Final EA Report. To consider the potential effects of the new layout on the noise environment, the TS layout considered in the Final EA Report was moved to the new proposed TS footprint (shown on Figure 3). The relative locations of the acoustically substantial noise sources previously assessed in the Final EA Report were maintained.

Table 8 summarizes the new locations of the acoustically substantial noise sources, as well as their respective sound power levels used in the quantitative assessment of the new proposed TS location. Specifics of the acoustically substantial noise sources, including; sound power levels, Project design details, modelling parameters, and methodology, with the exception of the noise source locations, are consistent with those considered in the Final EA Report.

**Table 8: Transformer Station Operation Noise Source Locations and Emissions**

| Source Description              | Source ID | UTM Coordinates<br>(Zone 15; NAD 83) |              | Sound Power Level <sup>(a)</sup><br>(dBA) |
|---------------------------------|-----------|--------------------------------------|--------------|---|
|                                 |           | Easting (m)                          | Northing (m) |   |
| 230/115 kV Transformer          | TF_01     | 697587                               | 5707204      | 98 <sup>(b)</sup>                         |
| CVT Transformer                 | TF_02     | 697569                               | 5707205      | 93 <sup>(b)</sup>                         |
| HVAC                            | TF_03     | 697609                               | 5707215      | 80  |
| SVC Transformer                 | TF_04     | 697596                               | 5707157      | 98 <sup>(b)</sup>                         |
| SVC Transformer                 | TF_05     | 697635                               | 5707198      | 98 <sup>(b)</sup>                         |
| Reactive Compensation Equipment | TF_06     | 697562                               | 5707142      | 93 <sup>(b)</sup>                         |
| Reactive Compensation Equipment | TF_07     | 697647                               | 5707234      | 93 <sup>(b)</sup>                         |

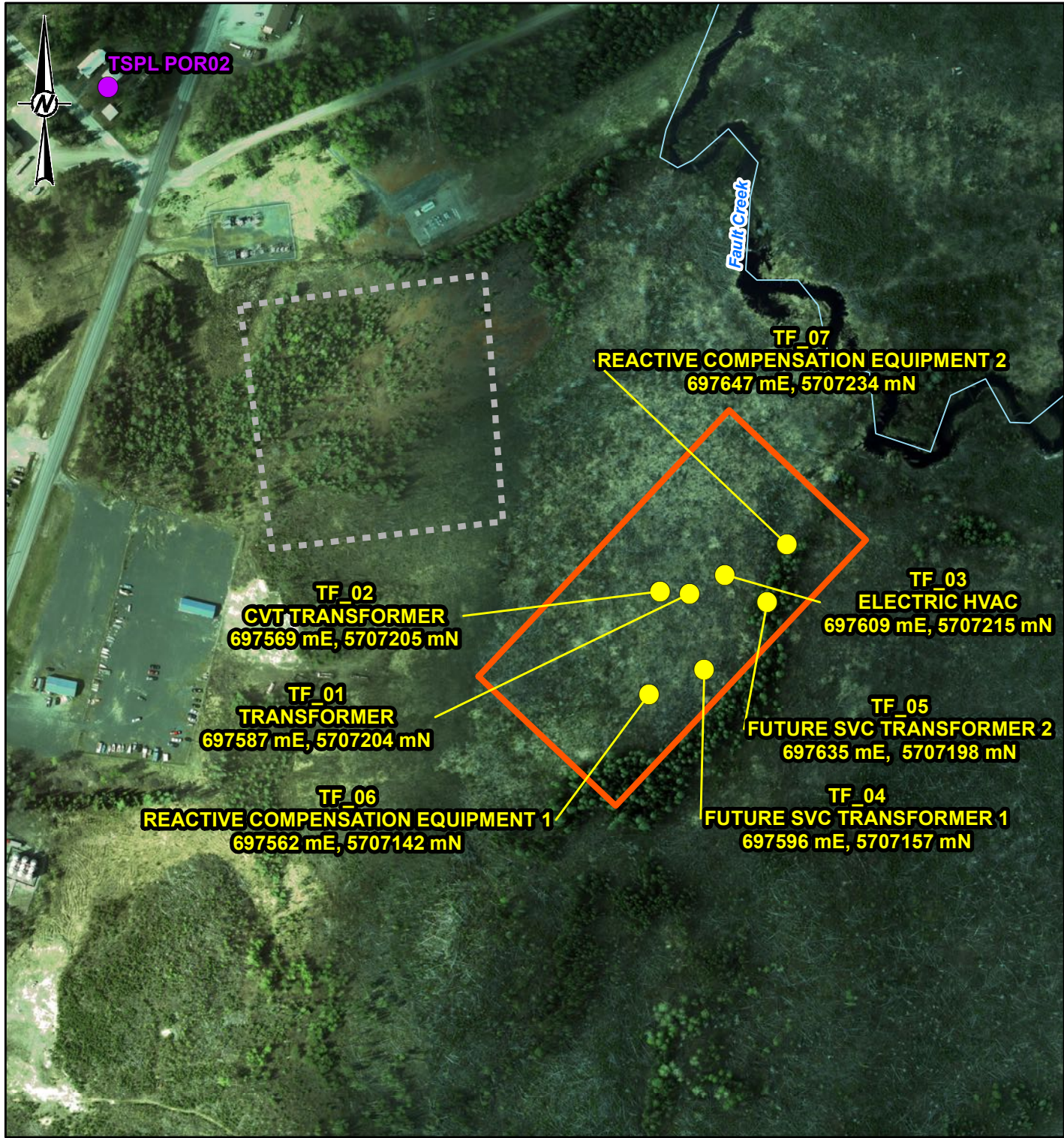
Notes:

a) Estimated maximum sound power levels using the Project design details, Golder's database of similar noise sources, manufacturer's specifications, and publicly available data.






b) Sound Power Level includes a 5 dB tonal penalty

CVT = Capacitor Voltage Transformer; dBA = A-weighted decibels; HVAC = heating, ventilation and air conditioning; kV = Kilovolt; SVC = Static Var Compensator.

Using the same methodology, key assumptions, and potential POR locations considered in the Final EA Report, the noise levels from the operation of the TS, at the new location were predicted. As the closest POR is now further removed from the TS, the noise barrier previously considered in the project design is no longer required as assumed mitigation at this location. The noise prediction results were assessed according to the criteria (i.e., MOECC guidelines) presented in Section 5.5.4 of the Final EA Report and are presented in Table 9 below. It is understood that operations do not vary from daytime to nighttime and therefore, the predicted operation noise levels will be the same for both time periods.



**LEGEND**

-  Watercourse
-  New Transformer Station Area
-  Former EA Transformer Station
-  Points of Reception
-  Source





**NOTES**  
 1. THIS FIGURE IS TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.  
 2. ALL LOCATIONS ARE APPROXIMATE.  
 3. NOT FOR ENGINEERING PURPOSES.

**REFERENCE(S)**  
 1. BASE DATA - MNRF LID AND NTD8, OBTAINED 2015  
 2. PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES. © QUEEN'S PRINTER 2008  
 3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 15

CLIENT  
 WATAYNIKANEYAP POWER L.P.

PROJECT  
 PHASE 1 NEW TRANSMISSION LINE TO PICKLE LAKE PROJECT

TITLE  
**NOISE ASSESSMENT SITE LAYOUT PLAN**

| CONSULTANT  | YYYY-MM-DD | 2018-04-13 |
|---|------------|------------|
|   | DESIGNED   | JMC        |
|  | PREPARED   | JMC        |
|   | REVIEWED   | CS         |
|   | APPROVED   | AE         |

PROJECT NO. 1771849 CONTROL - REV. A FIGURE 3

In addition to assessing compliance with MOECC guidelines, the change relative to existing noise levels within the noise LSA was evaluated. Table 9 provides a comparison of the predicted operation overall noise levels from the amended TS location along with the corresponding change from existing noise levels.

**Table 9: Operation Noise Levels at Potential Points of Reception in the Vicinity of the Transformer Station**

| POR Identification | Existing Noise Levels (dBA) |       | Operation Noise Level (dBA) <sup>(a)</sup> | Meets MOECC Noise Guidelines | Predicted Project + Existing Noise Levels (dBA) |       | Change in Existing Noise Levels (dB) |       |
|--------------------|-----------------------------|-------|--|------------------------------|---|-------|--------------------------------------|-------|
|                    | Day                         | Night | Day/Night                                  | Yes/No                       | Day   | Night | Day                                  | Night |
| TSPL POR01         | 45                          | 40    | 35   | Yes                          | 45  | 41    | 0                                    | 1     |
| TSPL POR02         | 45                          | 40    | 39   | Yes                          | 46  | 42    | 1                                    | 2     |

Notes:

As per Table 5.5-9 in the Final EA Report, there are no potential PORs within 3,000 m in certain cardinal directions for certain facilities.

a) It is understood that operations do not vary from one hour to daytime to nighttime. Therefore, predicted operation noise levels will be the same for Leq 1-hour, Leq Day and Leq Nighttime time periods

b) Day – Daytime period (07:00 – 19:00)

c) Night – Nighttime period (19:00 – 07:00).

POR = Point of Reception; dBA = A-weighted decibels; dB = decibels.

The operation noise levels for the new proposed TS location are predicted to be below the MOECC noise level limit of 40 dBA at all identified PORs. Therefore, these Project activities are expected to be in compliance with MOECC guidelines specified in NPC-300 at all identified representative PORs.

By implementing the impact management measures identified in Table 5.5-16 of the Final EA Report (with the elimination of the noise barrier) and in the Noise Management Plan (Section 9.3.1.3) of the Final EA Report, noise emissions from the Project during the operation of the TS at the new proposed location are expected to be within the noise level limits at PORs, and the change in existing noise levels is less than or equal to 3 dB. Therefore, the net effect of noise emissions from the operation of the TS at the new proposed location associated with the Project on daytime ( $L_{eq,day}$ ), nighttime ( $L_{eq,night}$ ) and one-hour equivalent noise levels ( $L_{eq,1-hour}$ ) is predicted to result in no net effect.

#### 4.4 Vegetation and Wetlands

The predicted changes to upland, wetland and riparian ecosystems availability were quantified to compare the differences between the project Footprint in the Final EA Report and the amended Project footprint (Tables 10, 11 and 12). The re-alignment results in a decrease of 6.5 ha to the Project footprint and will decrease the loss of wetland and riparian ecosystems (Tables 11 and 12) and habitat fragmentation effects relative to the Final EA Report. The re-alignment will result in a small additional losses to upland ecosystems and LVA gaps, relative the Final EA Report; there will be an estimated additional loss of 6 ha to upland ecosystems (i.e., removal of 17 ha for the Project footprint in the Final EA Report and 23 ha for the amended Project footprint) and an estimated additional loss of <0.1 ha (i.e., 200 m<sup>2</sup>) to LVA gaps (i.e., removal of 400 m<sup>2</sup> for the Project footprint in the Final EA Report and 600 m<sup>2</sup> for the amended Project footprint). However, because of the small changes between corridors, the re-alignment is not predicted to result in an ecologically measurable change relative to that predicted in the Final EA Report for upland, wetland and riparian ecosystems.

**Table 10: Predicted Changes to Upland Ecosystem Availability in the Net Effects Assessment by Corridor within the Local Study Area**

| Upland Type  | Original Project Footprint |                  |                     |                    | Amended Project Footprint |                  |                     |                    |
|--------------|----------------------------|------------------|---------------------|--------------------|---------------------------|------------------|---------------------|--------------------|
|              | Baseline (ha)              | Net Effects (ha) | Change in Area (ha) | Percent Change (%) | Baseline (ha)             | Net Effects (ha) | Change in Area (ha) | Percent Change (%) |
| Burned       | 415                        | 410              | -5                  | 1.3                | 415                       | 409              | -6                  | -1.4               |
| Remaining    | 1,110                      | 1,098            | -12                 | -1.1               | 1,110                     | 1,093            | -17                 | -1.6               |
| <b>Total</b> | <b>1,525</b>               | <b>1,508</b>     | <b>-17</b>          | <b>-1.1</b>        | <b>1,525</b>              | <b>1,502</b>     | <b>-23</b>          | <b>-1.5</b>        |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age. Cutblocks were not identified within the LSA. Remaining areas are not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified [e.g., roads, transmission lines, buildings]).

ha = hectare; % = percent.

**Table 11: Predicted Changes to Wetland Ecosystem Availability in the Net Effects Assessment by Corridor within the Local Study Area**

| Wetland Type             | Original Project Footprint |                  |                     |                    | Amended Project Footprint |                  |                     |                    |
|--------------------------|----------------------------|------------------|---------------------|--------------------|---------------------------|------------------|---------------------|--------------------|
|                          | Baseline (ha)              | Net Effects (ha) | Change in Area (ha) | Percent Change (%) | Baseline (ha)             | Net Effects (ha) | Change in Area (ha) | Percent Change (%) |
| Burned                   | 15                         | 15               | 0                   | 0.0                | 15                        | 15               | 0                   | 0.0                |
| Remaining <sup>(a)</sup> | 318                        | 317              | -1                  | -0.4               | 318                       | 318              | 0                   | 0.0                |
| <b>Total</b>             | <b>332</b>                 | <b>331</b>       | <b>-1</b>           | <b>-0.4</b>        | <b>332</b>                | <b>332</b>       | <b>0</b>            | <b>0.0</b>         |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age. Cutblocks were not identified within the LSA. Remaining areas are not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified [e.g., roads, transmission lines, buildings]).

ha = hectare; % = percent.

**Table 12: Predicted Changes to Riparian Ecosystem Availability in the Net Effects Assessment by Corridor within the Local Study Area**

| Riparian Type            | Original Project Footprint |                  |                     |                    | Amended Project Footprint |                  |                     |                    |
|--------------------------|----------------------------|------------------|---------------------|--------------------|---------------------------|------------------|---------------------|--------------------|
|                          | Baseline (ha)              | Net Effects (ha) | Change in Area (ha) | Percent Change (%) | Baseline (ha)             | Net Effects (ha) | Change in Area (ha) | Percent Change (%) |
| Burned                   | 49                         | 48               | 0                   | 0.6                | 49                        | 49               | 0                   | 0.0                |
| Remaining <sup>(a)</sup> | 59                         | 58               | -1                  | -1.0               | 59                        | 59               | 0                   | 0.0                |
| <b>Total</b>             | <b>108</b>                 | <b>107</b>       | <b>-1</b>           | <b>-0.9</b>        | <b>108</b>                | <b>108</b>       | <b>0</b>            | <b>0.0</b>         |

Notes: Some numbers are rounded for presentation purposes. Therefore, it may appear that the totals do not equal the sum of the individual values. Burns are less than or equal to 40 years of age. Cutblocks were not identified within the LSA. Remaining areas are not disturbed by forestry or fire that are greater than 40 years of age (may include patches of other types of human disturbance identified [e.g., roads, transmission lines, buildings]).

ha = hectare; % = percent.

The predicted net effects on vegetation and wetlands described in Section 6.1.8 of the Final EA Report were not anticipated to result in a change to the criteria that will alter the sustainability of the criterion beyond a manageable level. The re-alignment is not anticipated to introduce any additional Project-environmental interactions beyond those identified in Section 6.1.8 of the Final EA Report; therefore, the predicted net effects on vegetation are still assessed as not significant.

#### 4.5 Wildlife

Wildlife criteria assessed in the Final EA Report were woodland caribou, moose, wolverine, little brown myotis, bald eagle, Canada warbler, common nighthawk, eastern whip-poor-will, and olive-sided flycatcher.

Woodland caribou habitat potentially affected by the re-alignment consists entirely of Category 3 habitat; the original alignment was also routed solely in Category 3 habitat. The area of habitat removed by the adjusted Project footprint is similar to the footprint assessed in the Final EA Report. The re-alignment results in a decrease of 3.6 ha relative to the overall Project footprint assessed in the Final EA Report, including a 1.0 ha decrease in the area removed by access roads (Table 13). The proposed change also increases the proportion of the 40 m wide right-of-way that is within 500 m of an existing permanent disturbance.

The re-alignment is not predicted to result in an ecologically measurable change to that predicted in the Final EA Report for all wildlife criteria (Table 13). Habitat loss due to the revised alignment and the original alignment differ by less than 2.3 ha for each habitat type, except for forest depletion – burns habitat; the revised alignment is predicted to remove 5.8 ha more forest depletion – burns habitat than the original alignment (Table 13).

The proposed re-alignment is considered more beneficial to wildlife species than the original alignment. The re-alignment is closer to Highway 599, has a smaller overall footprint, has fewer access roads, and is 800 m shorter than the original alignment; these factors will further limit habitat loss and fragmentation effects on wildlife species. The conclusions regarding the significance of predicted net effects to wildlife criteria in the Final EA Report do not change with revised alignment.

**Table 13: Predicted Changes to Habitat Availability in the Net Effects Assessment by Corridor within 7.5 km Local Study Area.**

| Habitat Type              | Baseline  | Original Project Footprint |                     |                    | Amended Project Footprint |                     |                    |
|---------------------------|-----------|----------------------------|---------------------|--------------------|---------------------------|---------------------|--------------------|
|                           | Area (ha) | Net Effects Area (ha)      | Change in Area (ha) | Percent Change (%) | Net Effects Area (ha)     | Change in Area (ha) | Percent Change (%) |
| Base Disturbance          | 371.7     | 367.9                      | -3.8                | -1.0               | 365.7                     | -6.1                | -1.6               |
| Bog - open                | 1.3       | 1.3                        | 0.0                 | 0.0                | 1.3                       | 0.0                 | 0.0                |
| Bog - treed               | 260.5     | 260.2                      | -0.4                | -0.1               | 259.5                     | -1.1                | -0.4               |
| Fen - treed               | 64.6      | 64.6                       | 0.0                 | 0.0                | 64.6                      | 0.0                 | 0.0                |
| Forest - dense coniferous | 833.0     | 821.0                      | -12.0               | -1.4               | 822.0                     | -11.0               | -1.3               |
| Forest - dense deciduous  | 19.3      | 18.4                       | -0.9                | -4.5               | 18.4                      | -0.9                | -4.7               |
| Forest - dense mixed      | 110.8     | 106.9                      | -3.9                | -3.5               | 108.9                     | -1.9                | -1.7               |

| Habitat Type                    | Baseline       | Original Project Footprint |                     |                    | Amended Project Footprint |                     |                    |
|---------------------------------|----------------|----------------------------|---------------------|--------------------|---------------------------|---------------------|--------------------|
|                                 | Area (ha)      | Net Effects Area (ha)      | Change in Area (ha) | Percent Change (%) | Net Effects Area (ha)     | Change in Area (ha) | Percent Change (%) |
| Forest - regenerating depletion | 5.6            | 5.6                        | 0.0                 | 0.0                | 5.6                       | 0.0                 | 0.0                |
| Forest - sparse                 | 489.6          | 484.4                      | -5.2                | -1.1               | 486.6                     | -3.0                | -0.6               |
| Forest Depletion - burns        | 468.8          | 465.4                      | -3.4                | -0.7               | 460.1                     | -8.7                | -1.8               |
| OHN Waterbody                   | 223.1          | 223.1                      | 0.0                 | 0.0                | 223.1                     | 0.0                 | 0.0                |
| Other - unknown                 | 14.3           | 14.2                       | 0.0                 | -0.2               | 14.2                      | 0.0                 | -0.2               |
| Water - deep clear              | 30.3           | 30.3                       | 0.0                 | 0.0                | 29.9                      | -0.4                | -1.4               |
| <b>Overall</b>                  | <b>2,893.0</b> | <b>2,863.5</b>             | <b>-29.5</b>        | <b>-1.0</b>        | <b>2,859.9</b>            | <b>-33.1</b>        | <b>-1.1</b>        |

Notes: Percent change (%) may not be exact due to rounding errors.

#### 4.6 Archaeological Resources

As described in Section 3.7, the proposed design changes do not cross any new areas of archaeological potential that fall outside of the original Stage 1 limits. Further, as described in Section 7.1.7.1 (7.1.7.1 Loss of, or Damage to, an Archaeological Resource from Construction Activities) in the Final EA Report, Stage 2 archaeological assessments will be completed in areas of archaeological potential to identify archaeological resources and to develop a strategy to mitigate potential direct effects of the Project on these archaeological resources. Should notable archaeological sites be identified then a Stage 3, and possibly Stage 4, may be required depending on whether the site will be affected during construction.

The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in Section 7.1.6, Table 7.1-6 of the Final EA Report. The potential effects and proposed impact management measures described in Section 7.1 (Archaeological Resources) of the Final EA Report adequately address the proposed design changes. Therefore, it is predicated that the Project will continue to have no net effects for archaeological resources as stated in Section 7.1.8 (Net Effects Assessment).

#### 4.7 Heritage Resources

As currently mapped, none of the potential heritage resources are within 60 m of the amended Project footprint, however there is uncertainty around the exact locations of the potential resources. As described in Section 7.2.7 (Potential Effects, Impact Management Measures and Net Effects) of the Final EA Report, field survey, research, and evaluation as part of a Cultural Heritage Evaluation Report (CHER) will be completed to determine if any of the identified potential heritage resources are of cultural heritage value or interest and if other, not previously documented heritage resources are present in the heritage resources LSA. The CHER will characterize the potential heritage resources and also confirm the geographic extent of the potential resources in the LSA that could be affected, for example there may be additional features related to the resources that could be affected by the Project that are not documented and are closer to the Project footprint than currently documented. If any potential heritage resources are evaluated as being of cultural heritage value or interest, a Heritage Impact Assessment (HIA) will be required to identify the specific effects the Project may have on the heritage attributes of newly identified built heritage resources or cultural heritage landscapes, and recommend impact management

measures to make sure the heritage attributes of the resources are conserved. The CHER (and HIA, if necessary) will be submitted to the Ministry of Tourism, Culture and Sport (MTCS) for approval. A compliance letter for the Project under the *Ontario Heritage Act* will be obtained from the MTCS prior to construction, and the impact management measures specified in the compliance letter will be adhered to.

The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in Section 7.2.6, Table 7.2-6 of the Final EA Report. The potential effects and proposed impact management measures described in Section 7.2 (Heritage Resources) of the Final EA Report adequately address the proposed design changes. Therefore, the predicted net effects on heritage resources outlined in Section 7.2 (Heritage Resources) of the Final EA Report are still assessed as not significant.

## **4.8 Non-Traditional Land and Resource Use**

The amended Project footprint does not require any additional NTLRU mitigation. As result, the mitigation in Table 7.4-62 of the Final EA Report remains applicable. Additionally, it should be noted that the changes to all criteria and indicators are very small and do not change the net effects characterizations described in the Final EA Report. The characterization of these effects is still applicable following the change to the Project footprint (Section 7.4.8 of the Final EA Report). This assessment considers the change to net effects of the Project based on the differences between the Final EA Report Project footprint and the amended Project footprint.

### **4.8.1 Outdoor Tourism and Recreation Land and Resource Use**

#### ***Quantity of Land Available for Outdoor Tourism and Recreational Use (i.e., Changes to Access)***

During construction, the change in the Project footprint is anticipated to reduce the length of new access roads required and the length of the transmission line. Therefore, the Project will disturb less land and, as result, will have fewer access restrictions. As described in Section 3.8, similar features are transected by the Final EA Report Project footprint and the amended Project footprint. The amended Project footprint will have a 3.6 ha smaller footprint in the same recreation areas and will transect 0.06 km of additional roadways. These changes are small considering the overall disturbance of the transmission line and the associated infrastructure.

During operation, Project features such as access roads and the transmission line ROW will provide new access opportunities in previously undisturbed areas. The amended Project footprint will create less new access than the Final EA Report Project footprint as there are fewer access roads and the length of the ROW will be 1.7 km shorter. Additionally, the Final EA Report ROW in this portion of the line was aligned with existing corridors<sup>2</sup> for 34% of its length while the amended ROW will be aligned with existing corridors for 100% of its length. Therefore, less greenfield disturbance is created.

Therefore, changes to access will be slightly reduced relative to the Final EA Report, which is considered to be positive as access will be more similar to the current conditions. Snowmobilers, hunters and anglers would perceive the reduction in new access negatively while other users who value the remote setting would be likely to perceive the amended changes positively. This change does not change the net effects characterization described in Section 7.4.8 of the Final EA Report.

---

<sup>2</sup> Aligned with existing corridors is defined as parallel when the proposed Project is within 500m of railways, roads, and/or utility lines as defined by the MNR LIO (Land Information Ontario) data sets including the Ontario Road Network, MNR Road Segment, ORWN Track and the Utility Line layers.

### ***Quality of Available Lands for Outdoor Tourism and Recreational Activities Due to Changes in Environmental Conditions***

No change to the Final EA Report effects assessment for outdoor tourism and recreational activities is anticipated as no changes are expected to the net effects to surface water (Section 4.1.1), fish and fish habitat (Section 4.1.2), noise (Section 4.3), vegetation and wetlands (Section 4.4), wildlife (Section 4.5) and visual aesthetics (Section 4.9). While minimal changes may occur, the magnitude of these changes is insufficient to change to the environmental conditions anticipated by the Final EA Report.

### ***Resource Availability, Consequently Affecting Harvest Levels***

Project activities may result in changes to environmental conditions that have the potential to disturb wildlife, wildlife habitat, fish or fish habitat. Changes to access and environmental conditions can indirectly affect resource availability (i.e., the abundance or distribution of wildlife and fish). In turn, these changes in resource availability could indirectly affect levels of fish and wildlife harvesting.

The effects to fish and fish habitat (Section 4.1.2) are not anticipated to differ from the effects included in the Final EA Report. Changes to the effects to wildlife (Section 4.5) are anticipated to be small and beneficial as the re-alignment is closer to Highway 599, has a smaller overall footprint, has fewer access roads, and is 800 m shorter than the original alignment. These factors will further limit habitat loss and fragmentation effects on wildlife species. Changes in access may have minimal effects on resource harvest as hunters and anglers gain opportunities to use the land differently through disturbances including additional trails and shooting corridors. The amended Project footprint will result in less new access being created and a shorter transmission line corridor. Transmission line corridors are used for hunting as they provide shooting corridors. Additionally, an existing goose hunting area will no longer be overlapped by the Project footprint. Overall, the amended Project footprint is less likely to disrupt existing resource harvest. This change does not change the net effects characterization described in Section 7.4.8 of the Final EA Report.

## **4.8.2 Commercial Industry Land and Resource Use**

### ***Quantity of Lands and Access to Conduct Commercial Industry Land and Resource Use Activities***

Commercial industry resource uses cannot be conducted in the same area as Project construction activities to protect worker and land user safety. Therefore, existing commercial industry land users are expected to be displaced during construction temporarily and only at the site of construction. The amended Project footprint displaces 5.3 ha less existing land with commercial industry tenures, relative to that assessed in the Final EA Report.

Access to existing mining and utility operations in the Project footprint may also be temporarily affected by Project-related increases in traffic and potential temporary road restrictions during the construction stage, should the timing of construction activities and these commercial land use activities overlap. However, no change in the use of existing roadways is anticipated. Therefore, no change to commercial industry access is anticipated due to the change in Project footprint.

Overall, there is a positive change to land use quantity as fewer commercial industry lands will be transected by the Project footprint. There is also no anticipated change to commercial industry land access. This change does not change the net effects characterization described in Section 7.4.8 of the Final EA Report.

### ***Availability of Commercial Industry Land and Resource Use***

Extraction or other commercial activities may be disrupted or forgone during the construction stage, and the removal of the Project footprint from the commercial industry land base has the potential to eliminate future yields

of in this area. The establishment and maintenance of the Project footprint could potentially affect existing linear infrastructure access and mineral production during the construction stage and during the operation and maintenance stages. The amended Project footprint disrupts a smaller portion of tenured land as described above. Therefore, the amended Project footprint is less likely to disrupt commercial industry resource availability. This change does not change the net effects characterization described in Section 7.4.8 of the Final EA Report.

#### **4.9 Visual Aesthetics**

Based on the results from the visibility analysis, landscape modelling and desktop observations described in Section 7.5.7.2.2 (Preliminary Proposed Corridor) of the Final EA Report, at most viewing locations the Project components would be partially or fully obstructed by landforms and vegetation screening. Where visible, effects to the existing visual quality are predicated to result in a minor level of disturbance. In the limited locations where views of the ROW related vegetation clearing and transmission structures and conductors are unobstructed and/or viewers are located adjacent to the visible Project components, the Project is predicted to be more visually prominent within the landscape and result in a more evident level of disturbance.

For the transmission line re-alignment, the transmission structures and conductors are expected to be more visually prominent along Highway 599 in areas where the transmission line will be located in close proximity to the highway (see Figure 2). Based on desktop review of the transmission line re-alignment and surrounding landscape context, Figure 7.5-25 of the Final EA Report provides a visual simulation of the proposed transmission line adjacent to a road that would be analogous to the predicted visual effect experienced by viewers along Highway 599 where intermittent tree screening would be present. The viewing distance along Highway 599 would range between approximately 50 m and 300 m and consequentially, Project structures would likely be more visually prominent at closer viewing distances.

Viewpoint 9 was identified as a key viewpoint for visual analysis in Section 7.5 of the Final EA Report. Simulated views of the visual effects from Viewpoint 9 are illustrated in Figure 7.5-27. This viewing opportunity is located near the transformer station and connecting 40-m-wide transmission line alignment ROW, and provides views with a discernible amount of visible detail where Project components are likely to be visually evident from these locations. With the relocation of the transformer station to the southeast, the resulting visual effects are expected to produce a smaller degree of visual change to the landscape from that assessed for this location in the Final EA Report. Based on desktop review of the transmission line re-alignment and new TS site, the surrounding landscape context, and visibility analysis, it is predicted that existing vegetation will provide screening of the clearing for the ROW and the TS site reducing the visibility of Project components. The visual impact to the existing visual quality would be negligible at this location.

Overall, the Final EA Report predicted that the visual impact of the Project is expected to be low and would likely to result in minimal disturbance to most viewing opportunities within the LSA which is expected to retain the existing visual character. This conclusion does not change as a result of the proposed design changes. Further, the potential effects and proposed impact management measures described in Section 7.5 (Visual Aesthetics) of the Final EA Report adequately address the proposed design changes. Therefore, the predicted net effects on visual aesthetics outlined in Section 7.5 (Visual Aesthetics) of the Final EA Report are still assessed as not significant.

#### **4.10 Aboriginal and Treaty Rights and Interests**

The amended Project footprint does not require any additional mitigation measures beyond those identified in the Final EA Report in Section 8.12. The mitigation identified includes engagement and efforts to identify traditional land and resource use with Mishkeegogamang First Nation, Ojibway Nation of Saugeen, Eabametoong First

Nation and the Métis Nation of Ontario. Wataynikaneyap will continue to engage with these communities as the EA process continues, and will consider and incorporate any further information received, as appropriate.

Additionally, it should be noted that the changes to all criteria and indicators are very small and do not change the net effects characterizations described in the Final EA Report. The characterization of these effects is still applicable following the change to the Project footprint (Section 8.10.1 of the Final EA Report). This assessment considers the change to net effects of the Project based on the differences between the Final EA Report Project footprint and the amended Project footprint.

### ***Quantity of Location and Access Routes***

During construction, the change in the Project footprint is anticipated to reduce the number of new access roads and the length of the transmission line. Therefore, the Project will disturb less land and, as result, will have fewer access restrictions.

During operation, Project features such as access roads and the transmission line ROW will provide new access opportunities in previously undisturbed areas. The amended Project footprint will create less new access than the Final EA Project footprint as there are fewer access roads and the length of the ROW will be 0.8 km shorter. Additionally, the Final EA Report ROW was aligned with existing corridors for 34% of its length while the amended ROW will be aligned with existing corridors for 100% of its length. Therefore, less greenfield disturbance is created.

Overall, the amended Project footprint disturbs less land, generates fewer access roads, reduces the length of the ROW and is more closely aligned with existing corridors. Therefore, the change generated by the transmission line will be reduced, which is considered to be positive as access will be more similar to the current conditions. Aboriginal land and resource users are likely to see the reduction in new access from the amended changes positively since it maintains the natural character of the land and is unlikely to create more competition for resources from non-Aboriginal users. The harvesting area previously identified is no longer transected by the Project footprint.

Overall, the Final EA Report predicted that the effect to Aboriginal and Treaty Rights was negligible. For the Aboriginal and Treaty Rights criterion, net effect on quantity and location of access routes, the magnitude is predicted to be moderate, but does not fall outside the system's capacity to respond. The assessment of the proposed amended Project footprint resulted in an overall positive change relative to the Final EA Report and the conclusion of negligible effects does not change. The assessment of net effects was evaluated as not significant in Section 8.11.2 and this conclusion also does not change.

## **5.0 CONCLUSIONS**

A Final EA Report for the Project was submitted to the MOECC on November 3, 2017. Various ministries have provided comments on the Final EA Report and Wataynikaneyap is currently working on responses. Subsequent to this submission, Wataynikaneyap has modified the location of the Pickle Lake TS to reduce the potential for effects associated with existing contamination. Related to this change, the movement of the TS site also requires a corresponding realignment of the transmission line as well as changes to the associated access roads.

This technical memorandum provides an overview of the proposed design changes and an update to the baseline characterization and effects assessment included in the Final EA Report related to the adjustment to the location of the TS site and the realignment of the transmission line. This included the identification of potential effects, impact management measures and a net effects assessment to assess the environmental effects relative to that considered in the Final EA Report.

Overall, the potential effects and impact management measures outlined in the Final EA Report effectivity address the proposed design changes. The updated information that has been presented herein do not change the results and conclusions of the effects assessment. The proposed design changes do not introduce any additional project-environment interactions beyond those outlined in the Final EA Report, as the potential effects of these proposed design changes are expected to be adequately addressed by the proposed impact management measures described in the Final EA Report. In many cases, the proposed re-alignment is considered more beneficial than the original alignment. The re-alignment is closer to Highway 599, has a smaller overall footprint, has fewer access roads, and is 800 m shorter than the original alignment.

## 6.0 REFERENCES

- COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2006. *COSEWIC Status Report on the Lake Sturgeon Acipenser fulvescens in Canada*. Committee on the Status of Endangered Wildlife in Canada. Ottawa. 32 pp.
- Eakins, R.J. 2017. *Ontario Freshwater Fishes Life History Database*. Accessed April 2018.  
<http://www.ontariofishes.ca/home.htm>
- Golder 2011. *Recovery Strategy for Lake Sturgeon (Acipenser fulvescens) – Northwestern Ontario, Great Lakes-Upper St. Lawrence River and Southern Hudson Bay-James Bay populations in Ontario*. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario.vii + 77 pp.
- Government of Ontario. 2004. *Atlas of Walleye Streams and Rivers in Ontario*. Fish and Wildlife Branch. 51 pp.
- Government of Ontario. 2011. *Ontario Hydro Network*. Database. Ontario Ministry of Natural Resources & Forestry. Queens Printer 2016.
- Government of Ontario. 2015. *Aquatic Resource Area (ARA), Land Information Ontario (LIO)*. Ontario Ministry of Natural Resources & Forestry. Queens Printer 2015.
- Health Canada. 2016. *Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise*. Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario. July 2016.
- Holm, E., N.E. Mandrak, M.E. Burrigde. 2010. *The ROM field guide to Freshwater Fishes of Ontario*. Royal Ontario Museum. Toronto, Ontario.
- Marshall, T. R. 2011. *Aquatic Ecosystems of the Far North of Ontario; State of Knowledge*. Ministry of Natural Resources. Queen's Printer for Ontario. ISBN 978-1-4435-6513-4. 52 pp.
- MNRF. 2016. *Fish On-Line*. Accessed November 2016 to January 2017.  
[http://www.web2.mnr.gov.on.ca/fish\\_online/fishing/fishingExplorer\\_en.html](http://www.web2.mnr.gov.on.ca/fish_online/fishing/fishingExplorer_en.html).
- MNRF. 2016b. *Land Information Ontario Database*. Available at:  
<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home>. Accessed September 1, 2016.
- MOECC (Ontario Ministry of the Environment and Climate Change). 2013. *Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning, Publication NPC-300 (NPC-300)*. Dated August 2013. PIBS 9588e.

Natural Resources Canada (NRCan). 2016. *Earth Sciences Sector, GeoGratis, CanVec Data Product*. Available at: <http://www.geogatis.gc.ca>. Accessed September 1, 2016.

Royal Ontario Museum. 2016. *Global Biodiversity Information Facility IPT, Ichthyology Collection – Royal Ontario Museum*. Darwin Core Archive (DwC-A). Accessed April 2018. <http://gbif.rom.on.ca:8180/ipt/resource.do?r=fishes#versions>.

Scott, W.B. and Crossman, E.J. 1998. *Freshwater Fishes of Canada*. Galt House Publications Ltd., Oakville, Ontario. 966 pp.

[https://capws.golder.com/sites/wataynikaneyappowernewphase1transmissionlinetopiclakenorthernontario/ea-report/ts\\_site\\_amendment/phase1\\_transformer\\_station\\_amendment\\_18april13.docx](https://capws.golder.com/sites/wataynikaneyappowernewphase1transmissionlinetopiclakenorthernontario/ea-report/ts_site_amendment/phase1_transformer_station_amendment_18april13.docx)